UNDP Project Document

Government of the Maldives

United Nations Development Programme

Project Title:

Atoll Ecosystem-Based Conservation of Globally Significant Biological Diversity in the Maldives' Baa Atoll (MDV/02/G31)

The objective of this project is the conservation and sustainable use of globally significant biological diversity in the Maldives' Baa Atoll. In the Maldives, atoll ecosystems literally provide the basis for the country's existence as well as life-supporting services such as shoreline protection and goods upon which the economy entirely depends such as fish and tourism. However, social and economic change is altering consumptive behavior and livelihood strategies, outpacing institutional capacity and sectoral programs to adequately manage it. This in turn is threatening the natural endowment that is essential to maintaining the structure and function of atoll ecosystems, the viability of globally significant biological diversity, and the livelihoods and environmental security of the people.

Most important policy decisions affecting biodiversity are taken at the level of individual sectors, such as infrastructure, fisheries, and tourism. Government initiatives to manage change and mitigate the impacts caused by it are rooted in sector-by-sector approaches, resulting in narrow, sectoral institutions, policies, and interventions. The project's three-pronged strategy is to 1) mainstream biodiversity conservation objectives into sectoral policies and programs and reinforce multi-sectoral institutional fora; 2) conserve biodiversity "in the water" and "on the ground" by establishing protected areas and managing them through innovative national-local and public-private partnerships in Baa Atoll; and 3) relieve livelihood-related pressure on biodiversity by enhancing reef fishery property rights and enabling local people to pursue more sustainable, alternative livelihoods.

By the end of the project, modified sectoral policies and programs will enable institutions to more effectively manage biodiversity. Government, local communities, and the private sector will be partnering to secure the long-term conservation of three protected areas in Baa Atoll. And, local people will be applying new knowledge and accessing new sources of financing in pursuit of alternative livelihoods.

Part Ia Situation Analysis

The project will conserve and sustainably utilize marine and coastal biological diversity in Maldives' Baa Atoll. A detailed description of the problem to be addressed is provided in the Baseline Section (paragraphs 24-34) of the attached project brief. The relevant outcome in the Country Programme is;
SAS 1.3.1 Social cohesion through development planning and other decision-making processes at the sub-national level

Outcome: Island planning and project implementation enhanced and reformed to incorporate community level perspectives and aspirations, particularly women', reflecting a sustainable ecosystem approach and
SAS 3.1.2. Institutional framework for sustainable environmental management and energy development
Outcome: Maldives maintains the high quality of its fragile environment vis-à-vis the economic and social demands through conducive policies.

The national institutional and legal framework is described in the Baseline Section (paragraphs 36-61) of the attached project brief. A description of lessons learned that have influenced project design is provided in Paragraphs 114-117 of the project brief. An independent review of the project design is provided in Annex C of the project brief.

Part Ib Strategy

The Maldives' approach to sustainable development while **"conserving biodiversity"** and its national commitment to these goals are described in the Baseline Section and Paragraph 96 of the project brief. UNDP's programme has generated support for the sustainable development baseline and livelihood development in the atolls (paragraph 92-94). The specific activities undertaken through this project in support of policy development are described in Output/Outcome 1. The strengthening of national capacities is an emphasis found throughout each of the three project's three Outcomes and their associated activities.

Part II. Results Framework

Intended Outcome as stated in the Country Results Framework:
Outcome 1: Maldives maintains the high quality of its fragile environment vis-à-vis the economic and social demands through conducive policies.
Outcome 2: Island planning and project implementation enhanced and reformed to incorporate community level perspectives and aspirations, particularly women', reflecting a sustainable ecosystem approach

Outcome indicator as stated in the Country Programme Results and Resources Framework, including baseline and target.
1. Outcome (1) indicator: Policy implementation for environment and energy conservation. Effective coordination mechanisms and innovative partnerships; joint management regimes at local level, multi-sectoral committees, private sector participation
   Baseline: Economic and social change altering consumptive behaviour and livelihood strategies, outpacing institutional capacity and sectoral programmes to adequately manage. In turn threatening livelihood and environmental security. Policy implementation weak.

2. Outcome (2) indicator: Island and atoll plans incorporate views of women and youth and prioritized environmental problems.
   Baseline: Island development planning workshops and environment action planning held in some islands

Applicable Strategic Area of Support:
Goal G3: Environmentally sustainable development to reduce poverty
SubGoal G3-SGN1: Sustainable environmental management and energy development to improve the livelihoods and security of the poor
SAS 3.1.2. Institutional framework for sustainable environmental management and energy development

Goal G1 **Creating an enabling environment for sustainable human development**
Sub Goal G1-SGN 3 Increased social cohesion based on participatory local governance and stronger local communities and institutions
SAS 1.3.1: Social cohesion through development planning and other decision-making processes at the sub-national level

Partnership Strategy:
UNDP builds strong stakeholder coalitions to allow participatory implementation of environment protection and management programmes on a sustainable basis. Such partnerships include UN Agencies, international funds, bilateral and multilateral organizations, Maldives's national, regional, and local government bodies, national and international environmental NGOs, academic institutions and universities, local population and private sector. In doing so, the CO launched donor meetings on environment and continues to act as an informal secretariat for these meetings. On the programme level UNDP leads partnerships through Steering Committee meetings, stakeholder consultations, joint missions, etc.

For the purpose of this project the main partners are the Ministry of Home Affairs, Housing and the Environment, Baa Atoll and the Ministry of Atolls, and the private resort community in Baa Atoll.

Project title: "Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives' Baa Atoll"
Project #:

Intended Outputs	Output targets	Indicative Activities	**Inputs** to produce **Outputs**:
OUTCOME 1 BIODIVERSITY IS MAINSTREAMED INTO SECTORAL INSTITUTIONS AND POLICIES.	1.: Promote effective linkages among government agencies 2: Enable technical staff to integrate biodiversity and ecosystem management objectives into productive sector programs 3: Integrate biodiversity into existing sectoral policies and clarify and strengthen implementation procedures and enforcement. 4: Conduct targeted research to quantify values and benefits of biodiversity and ecosystem health 5: Strengthen the constituency for biodiversity conservation.	**1.1** Reinforce multi-sectoral institutional fora **1.2** Strengthen linkages among government departments responsible for economic development and environment 2.1 Reinforce the ability of institutions to access and analyze information on biodiversity and ecosystem health 2.2 MoFaMR's Resources Management Section and other relevant sections within MoFaMR will be trained in how to analyze and integrate information on fish catch, biodiversity, socio-economic conditions and policy 2.3: Provide advance-level training opportunities to enhance technical capacity for biodiversity conservation and ecosystem management 3.1: Formulate integrated marine resource management and biodiversity conservation policy & clear implementation procedures 3.2. Strengthen the effect of existing environmental policy on coastal development practice 3.3. Formulate & adopt clear guide lines and codes of practice for integrating biodiversity into sectoral policies and programs. 3 4: Orient policy/regulatory mechanisms to provide incentives to support conservation & ecosystem management 3.5 Strengthen enforcement of reef resource management actions. 4.1 Conduct workshops on environmental economics and its principles for decision makers at the national and atoll levels.	**Output 1.** Co-funding[1]: BL: 1-9; Staff time, MPA, PSC, and UNDP. GEF funding, BL 11,17.01; 32.05;32.06 **Output 2:** Staff time from PWG and UNDP. GEF funding, BL 11; 17.1; 31.01; 32.01; 32.02; 32.05; 32.06 **Output 3** Co-funding BL: 1-9; Staff time from PWG, PSC, and UNDP. GEF funding, BL 11; 11.03; 17.01, 32.05; 32.06; 53.01. **Output 4:** Co-funding BL:2,3,5; Staff time from: PWG, MOFAMR, ERC. GEF funding BL: 11.01; 11.02; 16.01; 17.07,17.09; 53.01. **Output 5.** Co-funding BL:1,6,9,10; Staff time from: MoE. GEF funding BL: 17.06; 21.l04; 21.05.

[1] BL refers to Budget Line in the Co-funding Budget.

Intended Outputs	Output targets	Indicative Activities	**Inputs** to produce **Outputs**:
		4.2 Conduct targeted research to bring these principles to life and make them more relevant by quantifying benefits and values of biodiversity and ecosystem health. 5.1 Build a youth constituency for atoll ecosystem conservation by helping local schools to teach children about their own Maldivian environment 5.2 Strengthen the capacity of local associations and environmental NGOs to raise awareness 5.3: Generate awareness for and appreciation of coral reef and atoll ecology among resort operators and staff and tourists 5.4: Awareness for and appreciation of coral reef and atoll ecology generated among fishermen.	
OUTCOME 2: STAKEHOLDERS ESTABLISH MODEL SUSTAINABLE BIODIVERSITY CONSERVATION PRACTICES IN BAA ATOLL.	1: Complete and maintain a useful baseline of information on biodiversity and ecosystem health through surveys, targeted research, and monitoring. 2: Stakeholders develop a biodiversity conservation plan for Baa Atoll 3: Stakeholders establish up to three marine/coastal protected or specially managed areas in Baa Atoll. 4.Pilot a long-term financing mechanisms for biodiversity conservation in Baa Atoll. 5: Project activities and outputs	1.1 Complete Block B-initiated baseline assessments as the basis for ongoing survey, research and monitoring. 1.2: Conduct biodiversity surveys and targeted research to support proactive management 1.3: Monitor atoll biodiversity and ecosystem condition. 1.4 Upgrade information management and geographic information system (GIS). 2.1 Conduct two-way planning process with consultations in Male' and each of 10 inhabited islands of Baa Atoll. 2.2Map relevant information on species assemblages, habitats, in a participatory process with community input. 2.3 Prioritize terrestrial and marine habitats for conservation. 3.1 Establish protected areas. 3.2 Develop conservation agreements and build	**Output 1:** Co-funding BL:2,3,5; Staff time from: MOFAMR, MRC, ERC. GEF funding BL: 11.01; 11.02; 16.01; 53.01. **Output 2:** Co-funding BL2,3,5; Staff time from: PWG; Baa Atoll Office; UNDP; Resort Partners; MoT. GEF funding BL: 11.01; 11.02; 16.01; 17.04; 17.08; 17.09; 32.02; 41.01; 53.01. **Output 3**. Co-funding BL:2,3; Staff time from: PWG, ADC/IDCs, MOFAMR/MRC, MoHAHE. GEF funding BL: 11.02; 16.01; 17.07; 17.09; 53.01.

Intended Outputs	Output targets	Indicative Activities	**Inputs** to produce **Outputs**:
	are monitored, evaluated and lessons learned are disseminated within the atoll, nationally, and internationally.	local capacity 3.3: Stakeholders implement Atoll species conservation & management plans 4.1. Consultation, Design, and Establishment of the Baa Atoll Conservation Fund (BACF) 4.2: Capitalization of the BACF	**Output 4**. Co-funding BL:2,3,5,8; Staff time from: PWG, MOF;MoT. GEF funding BL: 11.08; 11.09; 16.01; 17.02; 17.05; 21.04; 32.01; 32.02; 53.01. **Output 5.** Co-funding BL:2,3,5; Staff time from: PWG. GEF funding BL: 11; 11.08; 16.01; 17.01; 17.02; 32.05; 53.01.
OUTCOME 3: STAKEHOLDERS PILOT SUSTAINABLE NATURAL RESOURCE MANAGEMENT & LIVELIHOOD DEVELOPMENT PRACTICES IN BAA ATOLL	1: Stakeholders forge an Atoll Development and Environment Plan for Baa Atoll. 2: Stakeholders pursue new livelihoods by upgrading their skills and generating their own seed capital. 3: Developing a more sustainable tuna fishery: pilot model bait fish aggregation devices in Baa Atoll 4. Piloting community-based integrated reef resource management 5: Island-level stakeholders pilot solid waste management (SWM) solutions. 6: Demonstrate low-impact shoreline development practices in two sites in Baa atoll.	1.1 Forge Atoll Development and Environment Plan (ADEP) 1.2. Develop Atoll Ecosystem Management Component of ADEP 2.1: Strengthen social capital among local stakeholders in Baa Atoll. 2.2: Set up Atoll Development Fund in Baa Atoll 2.3: Assist mariculture livelihood development 2.4: Generate tourism skills among local people, guidance to resorts on supply chains in food and services from local communities, and tourism policy recommendations to maximize local employment and procurement benefits resort operation and development 3.1 FiDex designs and positions bait fish aggregation devices BFAD in collaboration with fishermen from 3 fishing islands of Baa Atoll. 3.2 Secure agreement with local fishermen on maintenance and monitoring of BFAD performance 3.3 Participatory BFAD monitoring to	**Output 1:** Co-funding BL 1,13,14; Staff time from: PWG, MoAA; MOFAMR, GEF funding BL: 11.01; 11.02; 16.01; 17.01; 17.07; 17.08; 17.09. **Output 2:** Co-funding BL: 16; Staff time from: MoAA. GEF funding BL: 16.01; 17.02; 17.09. **Output 3:** Co-funding BL: 3,17; Staff time from: PWG, MOFAMR. GEF funding BL: 11.05; 16.01; 17.1; 45.02. **Output 4**. Co-funding BL: 3,10,13; Staff time from: PWG, MOFAMR, MoAA. GEF funding BL: 11.02; 11.05; 11.08; 16.01; 17.02; 17.08; 17.1; 32.02; 32.05. . **Output 5.** Co-funding BL: 16;

Intended Outputs	Output targets	Indicative Activities	**Inputs** to produce **Outputs**:
		learn/refine design. 4.1 Develop community-based reef resource management program. 4.2 Develop management action plans for each commercially exploited reef species with key stakeholder groups. 4.3 Develop policy to strengthen reef resource property rights for local communities. 4.4 Implement community-driven reef fisheries enforcement program. 5.1: Principles developed for guiding SWM in the Maldivian context 5.2 Stakeholders pilot island community SWM programs on at least two islands in Baa Atoll. 6.1 Devise and test simple, practical guidelines to integrate conservation objectives into shoreline modification, harbor dredging, and other coastal modification.	Staff time from: PWG, MOFAMR, ERC. GEF funding BL: 11.06; 17.02; 17.09. **Output 6.** Co-funding BL:16; Staff time from: PWG, MoAA; MoCPW. GEF funding BL: 11; 11.06; 16.01; 17.02; 17.09;53.01.

Intended Outputs	Output targets	Indicative Activities	**Inputs** to produce **Outputs**:
PROJECT IMPLEMENTATION & ADAPTIVE MANAGEMENT:	1. Regular PSC meetings and guidance 2. Report on Inception report 3. Annual Project Report (APR) 4. Annual Tripartite Reviews (TPR) 5. Annual review of project's work experiences and assessment of best practices.	1. Conduct regular steering committee meetings; 2. Report on project progress per UNDP requirements; 3. Prepare an Inception report; 4. Prepare Annual Project Report (APR); 5. Conduct annual Tripartite Reviews (TPR); 6. Prepare Project Implementation Review (PIR) reports prior to Mid-term and Final evaluation; 7. Ongoing review and analysis of project's work and experiences to develop best practices; 8. Organize round table discussions;	**Output 1.** Co-funding BL: 20; Staff time from PWG, PSC, UNDP. GEF funding per attached budget, BL: 11.08; 17.01; **Output 2, 3, 4.** Co-funding BL: 20; Staff time from UNDP. GEF funding per attached budget, BL 11.08; 17.01. **Output 5, 6:** Co-funding BL: 20; Staff time from PSC members; GEF funding per attached budget, BL 11.08; 17.01;.32.05; 32.07.

Part III Management Arrangements

Government's Role: The project will be executed by the Government of the Maldives' Ministry of Home Affairs, Housing and the Environment in partnership with the MoFaMR, MoT, and MoAA and MoPND. Project execution will adhere to UNDP nationally executed project requirements. The administration of project funds will be the joint responsibility of the UNDP and the MoHAHE. The MoHAHE's responsibilities overall will be one of facilitating the involvement of the other four main ministries in this groundbreaking cross-sectoral project. More specifically, MoHAHE's project finance and management responsibilities will include: 1) certifying expenditures under approved budgets and work plans; 2) tracking and reporting on procurement and outputs; 3) coordinating the financing from UNDP and GEF with that from other sources; 4) assisting in preparing Terms of Reference for contractors and required tender documentation; and 5) chairing the Project Steering Committee. Funds for the activities in which partner line ministries have primary responsibilities will be devolved to them in lump sum, under approved annual work plans and budgets. Each line ministry will then be responsible for certifying their own expenditures under approved budgets and workplans.

UNDP's Role: The UNDP Country Office will support project implementation by being responsible for maintaining project budget and project expenditures, recruiting and contracting project personnel and consultant services, subcontracting, procuring equipment in excess of $10,000, and providing other assistance upon request of the MoHAHE. Project implementation arrangements will streamline and decentralize UNDP's normal service delivery procedures in the interest of cost-effective and time-efficient project management. The UNDP Country Office will also monitor project implementation and achievement of the project outputs and ensure the proper use of UNDP/GEF funds. Financial transactions, reporting and auditing will be carried out in compliance with national regulations and UNDP rules and procedures for national execution. The UNDP Country Office will carry out its day-to-day management and monitoring functions through an assigned Project Officer in Male', who will be also responsible for the day-to-day coordination with the project team.

Project Steering Committee (PSC): A PSC will be established and will meet semi-annually to provide overall strategic policy and implementation guidance and support. The PSC will consist of one member from each of the following organizations: MoHAHE, MoT, MoFaMR, MoAA, Department of External Resources, Baa Atoll Chief, UNDP, MoPND, MoFT, MoE, one resort owner from Baa Atoll represented in MATI, an Atoll Development Committee member, a representative of a Baa fisher folk association and Baa Atoll NGO. The PSC will monitor the project's implementation to ensure timely progress in attaining the desired results, and efficient coordination with other projects. Members of the PSC are responsible for directing the implementation of project activities in their respective organizations and ensuring that cooperative activities are implemented in a timely manner.

100. The PSC's role will be comprised of four main responsibilities: First, when required, the PSC will serve as a forum for stakeholder input and discussion. Second, the PSC will oversee project implementation, meeting on an annual basis to review project progress. Any major changes in project plans or programs will require approval from the PSC in order to take effect. And thirdly, the PSC will resolve any conflicts or disagreements that arise w/respect to project activities that cannot be resolved by the project-working group. Fourth, PSC members will facilitate the integration of project-inspired activities into existing programs and practices.

National Project Director (NPD): The Minister for Home Affairs, Housing and the Environment will be the NPD and will chair the PSC. The NPD will be responsible for ensuring the proper implementation of the project on behalf of the Government. In doing so the NPD will be responsible for overseeing proper project implementation for the Government of the Maldives.

Project Working Group: On a day-to-day level, the project will rely upon the more frequent and "informal" input of a project-working group (PWG), comprised of officials from the PSC institutions and other institutions when appropriate. The PWG's role will be much more "hands-on." It will meet frequently to catalyze the cross-agency coordination and collaboration by working out the details of how this will be done with respect to specific project activities in Male' and in the atolls. The project manager will chair the PWG. A proactive PWG will be crucial to the project's successful outcome. Over the longer term, it is envisioned that the PWG will facilitate the integration of project-inspired activities into existing programs and practices.

Project Management Unit: All staff will be hired in an open and fair competitive basis following UNDP standard hiring procedures. A Chief Partnership Builder/Project Manager, an Atoll Partnership Builder, two administrative and accounts people, and a boat captain and assistant will staff the project. Two modest offices will be established for the project – one in Male' and one in Baa. The project manager will be based in Male', but will spend a significant amount of his/her time in Baa Atoll. The main project office will be established in Malé, where the project manager will work when in Male' and where the bulk of the administrative and accounting support for the project will be done; the local project office will be located in Edyafushi Island, Baa Atoll. An atoll activities manager/stakeholder enabler will staff the Baa office and four support staff (an administrative person, a boat captain and his assistant). Three technical international volunteer positions, and their local counterparts will be based in Baa Atoll as well. Student interns from local schools will also contribute to the project team on a seasonal basis.

Key Atoll-level Institutions: Project implementation at the atoll level will complement the existing atoll administrative structure. The project office will be located in Edyafushi, the capital island of Baa Atoll. Project-inspired activities will be implemented at the atoll level through the relevant NGOs and/or the Atoll Development Committee for atoll-wide activities and directly with Island Development Committees and Women's Development Committees for Island-level consultations and activities. The ADC provides a atoll-level forum for stakeholders to express and discuss views on atoll ecosystem management issues and facilitate the implementation of project activities. The IDC serves the same purpose at the island level. Both will serve as conduits for the two-way flow of information from the project to island communities and *vice versa*. If appropriate and needed, an Atoll Working Group could be formed, comprised of the leaders who emerge from the various IDCs and WDCs during the first year of the project's implementation.

Part IV Legal Context

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of **Maldives** and the United Nations Development Programme, signed by the parties on 25 January 1978. The host country-implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

The following types of revisions may be brought to the project document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

a) Revisions in, or addition of, any of the annexes of the document;
b) Revisions which do not involve significant changes in the immediate objectives, outputs, or activities of the project, but caused by the rearrangement of inputs already agreed to or by cost increases due to inflation; and

c) Mandatory annual revisions, which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

UNDP acts in this Project as Implementing Agency of the Global Environment Facility (GEF), and all rights and privileges pertaining to UNDP as per the terms of the SBAA shall be extended *mutatis mutandis* to GEF.

The UNDP Resident Representative in Maldives is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

a) Revision of, or addition to, any of the annexes to the Project Document;
b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

Project Budget

Atoll Ecosyste m-based Conservation of Biological Diversity

BL	DESCRIPTION	w/m	Total	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
10	**PROJECT PERSONNEL**								
11	**International Consultants**								
11.01	Coral Reef Ecologist/Management Advisor	7.5	98000	98000	24500	24500	24500	12250	12250
11.02	MPA Management Specialist	6	80000	80000	10,500	14,000	22,500	22,500	10,500
11.03	Environmental Economist	2	28000	28000		14000	14000		
11.04	GIS Specialist	1	14000	14000		14000			
11.05	Fisheries Management Advisor	4	56000	56000	14000	14000	14000	14000	
11.06	Coastal Processes Specialist	2	28000	28000			14000	14000	
11.07	Environmental Media Trainer	2	28000	28000	7000	7000	7000	7000	
11.08	Adaptive Management Advisor	5	80000	80,000	16000	16000	16000	16000	16000
11.09	Ecosystem Management Advisor	1.5	21000	21,000		10,500	10,500		
11.1	Trust Fund Specialist	3	42000	42000			14000	14000	14000
15	**Monitoring and evaluation**								
15.01	Mid-term		25000	25000			25000		
15.02	Final Evaluation		35000	35000					35000
16	**Travel**								
16.01	Local transport		130000	130000	26000	26000	26000	26000	26000
a.	Biodiversity Surveys		38000	38000	7600	7600	7600	7600	7600
b.	Bait FAD monitoring		20000	20000				10000	10000
c	Targeted research		35000	35000	7000	7000	7000	7000	7000
17	**National**								
17.01	Project Manager	60	90000	90000	18000	18000	18000	18000	18000
17.02	Atoll manager	60	45000	45000	9000	9000	9000	9000	9000
17.03	Project staff (4)	240	120000	120000	24000	24000	24000	24000	24000
17.04	Conservation trainees	120	24000	24000		8000	8000	8000	
17.05	Miscellaneous consultants	30	45000	45000	9000	9000	9000	9000	9000
	International volunteers								
17.06	Environmental Educator (VSO)	24	24000	24000	24000				
17.07	Coral Reef Ecologist/Management Volunteer	24	72000	72000	36000	36000			
17.08	Marine Protected Area Volunteer	24	36000	36000		18000	18000		
17.09	Community mobilization (UNDP)	24							
17.1	Fisheries statistics	12	36000	36000		36000			
17.11	Environmental Health (VSO)	24							
19	**PERSONNEL SUBTOTAL**		1250000	**1250000**	**232600**	**312600**	**288100**	**218350**	**198350**

20	**SUB-CONTRACTS**								
21.01	Targeted research		40000	40000		15,000	15,000	10000	
21.02	Interactive Educational Exhibit Designed and Built		55000	55000				30000	25000
21.03	Awareness activities & materials		50000	50000	12500	12500	12500	12500	
21.04	Conduct training in field monitoring		48000	48000	12000	12000	12000	12,000	
21.05	Office & accommodation rental in Baa		35000	35000	7000	7000	7000	7000	7000
21.06	Acquiring aerial and satellite images		30000	30000	10000		10000		10000
21.07	Trust Fund Capitalization Contract		250000	250000					250000
	Subtotal		508000	508000	41500	46500	56500	71500	**292000**
30	**TRAINING & FELLOWSHIPS**								
31	**Study Tours**								
31.01	Regional study tours		40000	40000		20000	20000		
32	**Training/Workshops**								
32.01	Local seminars in Malé		25000	25000	5000	5000	5000	5000	5000
32.02	Local seminars in Baa		20000	20000	1000	6000	6000	6000	1000
32.03	Training		104000	104000	54000	26000	19000	5000	
32.04	Conservation internships		20000	20000	4000	4000	4000	4000	4000
32.05	Lessons learned workshops/round tables		25000	25000	5000	5000	5000	5000	5000
32.06	Cross project learning		30000	30000		7,500	7,500	7500	7,500
32.07	Project Steering Committee Meetings		20000	20000	4000	4000	4000	4000	4000
	TRAINING SUBTOTAL		284000	**284000**	**73000**	**77500**	**70500**	**36500**	**26500**
40	**EQUIPMENT**								
45.01	**Expendable Equipment**								
a	Computers (3)		9000	9000	9000				
b	Printer (1), Photocopier (1)		6000	6000	6000				
c	General equipment		53000	53000	29150	23850			
45.02	**Non-expendable equipment**								
a	Boats	1	60000	60000	6000	24000	15000	15000	
b	Boat running & maintenance		29100	29100	6000	12000	5550	5550	
c	Water quality sampling equipment		10000	10000		10000			
d	Bait Fish Aggregation Device deployment		50000	50000				50000	
e	Survey equipment		25000	25000	15000	10000			
f	GIS Equipment		26000	26000			26000		
	EQUIPMENT SUBTOTAL		268100	**268100**	**71150**	**79850**	**46550**	**70550**	**0**
50	**MISCELLANEOUS**								
52	**Reporting Costs**								
52.01	Acquiring published information		10000	10000		10000			
52.02	Printing lessons learned and best practices		10000	10000					10000

53	**Sundries**								
53.01	Miscellaneous		40000	40000	8000	8000	8000	8000	8000
	MISCELLANEOUS SUBTOTAL		60000	**60000**	**8000**	**18000**	**8000**	**8000**	**18000**
99	**BUDGET TOTAL**		2370100	**2370100**	**426250**	**534450**	**469650**	**404900**	**534850**

SIGNATURE PAGE

Number:	**MDV/02/G31**
PIMS No:	1044
Duration:	**Five years**
Countries:	**Republic of the Maldives**
ACC/UNDP (Sub) Sector:	G3: Environment
GEF Focal Area:	**Biodiversity**
GEF Operational Programme:	**OP 2: Coastal, Marine, and Freshwater Ecosystems**
GEF Implementing Agency:	United Nations Development Programme
Executing Agency:	Ministry of Home Affairs, Housing and the Environment
Estimated Starting Date:	**November** 2003

UNDP and Cost-Sharing Financing (US$):	
UNDP/GEF:	
GEF:	2,370,100
PDF-B	335,000
PDF-A	25,000
Sub-total UNDP/GEF:	**2,730,100**
Co-financing; committed:	
Gov't of Maldives	$3,010,000
Private Sector: Resorts.	$74,370
UNDP	$1,295,000
Japan-ADB/MFAMR	$87,000
FAO/MFAMR	$142,000
PDF Co-financing	45,000
Sub-total co-financing:	**$4,653,370**
Anticipated leveraging:	**$1,314,580**
Sub-total: leveraged and Co-funding:	**$5,967,950**
GRAND TOTAL:	**$8,698,050**

On behalf of	**Signature**	**Date**	**Name/Title**
Government:		31/03/04	Mr. Hussain Shihab, Deputy Minister, Ministry of Foreign Affairs.
UNDP:		Mar 31, 04	Mr. Minh H. Pham, Resident Representative, UNDP.

Annexes to Section 1

ANNEX 1.1 TERMS OF REFERENCE

Terms of Reference
National Project Steering Committee (PSC)

Duration: Five years

Background:
A Project Steering Committee will be established to provide overall guidance and support to project implementation activities, and to serve as a forum for stakeholder input and discussion.
The Government of Maldives and the United Nations Development Programme will establish the PSC upon the signing of the project document. The PSC will meet for the first time once the Project Manager/Chief Partnership Builder (PM/CPB) has been hired and workplans prepared for the first year of operation. The PSC will meet annually to provide overall strategic policy and implementation guidance and support. At least three of the five annual meetings will be held in Baa Atoll. If required, any extra meetings will be held in Male'.

The membership of the PSC will be comprised of one representative from each of the following institutions:

1. Ministry of Home Affairs, Housing and the Environment
2. Ministry of Fisheries Agriculture and Marine Resources
3. Ministry of Tourism
4. Ministry of Atolls Administration
5. Baa Atoll Resort owner Represented in MATI
6. Baa Atoll Fisherfolk Association
7. Ministry of Planning and National Development
8. Ministry of Finance and Treasury
9. Ministry of Education
10. United Nations Development Programme
11. Atoll Development Committee member
12. Baa Atoll Chief
13. Baa Atoll NGO
14. Department of External Resources

The responsibilities of the PSC as a whole and the individual members are to:

⇒ Provide key policy guidance to the CPB/Project Manager and to project implementation;
⇒ Facilitate project work within each member's respective institution and ensure that cooperative activities are implemented in a timely manner;
⇒ Facilitate the integration of project-inspired activities into existing programs and practices.
⇒ Annually review and approve the work plan and updated budgets of the Project and its activities;
⇒ Provide strategic direction on the work plan and approve annual work plans prepared by the PMU.
⇒ Support the cross-sectoral approach of the project by creating mechanisms for interaction with NGOs and other stakeholders; and,
⇒ Continue to seek additional funding to support the outputs and activities of the Project beyond the lifespan of GEF funding.
⇒ Annually review and assess the progress of the Project and its components and monitor the project's implementation to ensure timely progress in attaining the desired results, and efficient coordination with other projects.
⇒ Approve any major changes in project plans or programs prior to the changes taking effect.
⇒ Resolve any conflicts or disagreements that arise w/respect to project activities that cannot be resolved by the project-working group.

In addition to the above, the PSC members shall serve with UNDP representatives on a selection committee for the appointment of the Chief Partnership Builder/Project Manager.

Terms of Reference
Project Working Group

On a day-to-day level, the project will rely upon the more frequent and "informal" interaction with the Project Working Group (PWG), comprised of officials from the PSC institutions and other institutions when appropriate. The CPB will chair the PWG. The PWG's role will be much more "hands-on" in that it's members will:

a. serve as the project's/CPB's main partners in each respective ministry; and
b. effect on a daily basis the Steering Committee's responsibilities described above.

The CBP will convene the PWG meeting in the month following the first PSC meeting. At that meeting, members can decide how frequently they should meet. It is encouraged here that they meet at least once per month.

Other key points about the PWG:

⇒ The PWG will meet frequently to catalyze the cross-agency coordination and collaboration by working out the details of how this will be done with respect to specific project activities in Male' and in Baa atoll.

⇒ A proactive PWG will be crucial to the project's successful outcome. Over the longer term, it is envisioned that the PWG will facilitate the integration of project-inspired activities into existing programs and practices.

⇒ The CPB will work with his/her colleagues in the PWG to finalize the project's detailed implementation workplan, so that each PWG member is an "owner" of the workplan as well.

⇒ Members of the PWG will also be key to the project's ability to catalyze cross-sectoral learning and adaptive management. For example, under Activity 1.2, the project will bring in technical experts to work with colleagues in MOFAMR, MOT and MOHAHE to identify key insertion points for biodiversity objectives and ecosystem-oriented cost and benefit information into the national development planning process, thereby facilitating the integration of biodiversity considerations into the planning process, and strengthening the institutional linkages among the Ministry of Planning and National Development (MPND),MoFaMR, MoT, and MoHAHE. The success of this activity will depend in large part upon the active support/involvement of PWG members and of course their fellow colleagues from the relevant departments in their respective ministries. The same is true for nearly every other activity in the project.

Terms of Reference
Atoll Committees

Project implementation at the atoll level will complement the structure of atoll civil society. The project office will be located in Edyafushi, the capital island of Baa Atoll, and will work closely with the Atoll Office and the respective Island Offices.

Project-inspired activities will be implemented at the atoll level through the Atoll Development Committee (ADC) for atoll-wide activities and directly with Island Development Committees (IDC) and Women's Development Committees (WDC) for Island-level consultations and activities.

The ADC provides an atoll-level forum for stakeholders to express and discuss views on conservation and natural resource management issues and facilitate the implementation of project activities. The IDC serves the same purpose at the island level. Both will serve as conduits for the two-way flow of information from the project to island communities and *vice versa*. The Baa Atoll Development Committee (ADC) and the relevant Island Development Committees will facilitate project work in local areas. The BADC will approve the workplan developed by the CPB/PWG for their Baa Atoll.

Terms of Reference

UNDP-Male' Country Office:
UNDP Country Office Terms of Reference – Full Project Implementation.

Under its agreement with the Global Environment Facility, UNDP (and the Designated Institution, which is MOHAHE in this case) provide a core set of services for each UNDP/GEF project. The following ToR provide a basic description of these services to be carried out in accordance with UNDP's and the designated institution's operational policies and procedures. This includes UNDP applying its standard due diligence requirements related to financial, economic, legal, environmental, social, and technical aspects.

Two UNDP environment program staff in UNDP-Maldives 'Male' office will also support the project: the Cluster Manager, Environment & Energy and a junior officer. The staff will work closely with the NPD and the PMU in MoHAHE. This unit will provide project coordination and oversight functions at the national level.

I. Project Approval and Start-up

- Undertake due-diligence to confirm that the DI has the necessary capacity to implement the project: The CO will:
  - Review and assess the DI's capacity to manage the project, including its UNDP project history and its experience with other international projects.
  - Confirm that the DI's financial management and reporting systems and its Accounts Department are compatible with UNDP requirements and that accounts are administered in English or that required reports can be easily generated in English;
  - Assess capacity of the DI's Accounts Department to meet UNDP requirements, and assess whether the DI Accounts Department is able to undertake international procurement.
- Build minimum required administrative capacity for interactive effectively with UNDP procedures; conduct basic training course for DI staff in the process and requirements for requesting a cash advance, for example. This could be done through a project start-up workshop.
- Assist designated institution (DI) and project office to draft TORs and select experts for implementation.
- Program Officer in charge of project for UNDP establishes an agreement or understanding with the UNDP-CO Business Center or Management Support Unit to ensure seamless oversight and monitoring of project substance and financial expenditures.
- Assist project proponent to establish project management structure in country.
- Prepare legal and other documentation for approval by IA approval authority.

Outputs:
⇒ Project Document for Signature by Country.
⇒ Strengthened capacity of DI for project implementation.
⇒ Project Initiation Report.

II. Implementation Supervision/Management Oversight

A. Day-to-day implementation support:

Recruitment of Consultants (International and National)
- Assist in conducting search for suitable candidates (advertisement, website, rosters)
- Assist in preparing TORs and be involved in interviewing candidates

- Assist in issuing contract (when necessary)
- Authorize salary/consultancy fee/missions
- Supervise consultant's work, review and approve outputs

Sub-Contracts
- Assist in identifying suitable subcontractors (advertisement, website, rosters)
- Assist in preparing/finalizing TORs and evaluating bids
- Assist in issuing contract (when necessary)
- Supervise sub-contractors' work, ensuring inputs as per contract TORs
- Ensure payments are made accordingly and that milestones are met
- Provide critical review of sub-contractors performance

Project Co-ordination/cross-project learning
- Monthly meetings with project implementing agency to ensure smooth project implementation
- Participate in Steering Committee meeting to ensure smooth project implementation
- Participate in Technical Committee meeting to ensure smooth project implementation
- Keeping clear communications and taking necessary interventions to ensure co-ordination between different co-financiers in implementing and completing project activities
- Facilitate cross-sectoral work of the project and the CPB by lending UNDP's support to these activities and this goal.
- Encourage and enable cross-project learning among the project and UNDP's other projects in the Maldives;
- Lend UNDP's support to and take part in project round tables and workshops
- Maintain contacts with other environmental and development projects in Maldives supported by various donors and cultivate cooperative ties with this project.
- Strengthen project's relationships with the private sector by lending UNDP's support, prestige to project efforts in this regard.

Training/Workshop
- Making appropriate arrangements for the logistical and technical support of the training and workshop activities

Awareness
- Disseminate relevant information to host/other countries in the region through UNDP COs
- Share project best practices with other UNDP offices with project interest on energy portfolio
- Share training materials from training workshops for other similar workshops organized by the UNDP CO
- Disseminating information through website created under the project
- Create links between this project and other GEF projects, and linking up national and international scientific communities that are addressing similar issues
- Working with media and journalists to publicize project activities.

Equipment/Office premises:
- Review & approve specifications
- Identify suppliers of goods and services
- Assist in evaluating contract and awarding contract (when necessary)
- Undertake Customs clearance
- Assist with procurement of services (furniture in setting-up office, telephone etc.)
- Authorize budgets for rent and payment.

B. Project implementation supervision:

- Participate in every steering committee meeting
- Mount at least one supervision mission per year, including briefing operational focal points on project progress.
- Provide technical guidance, as necessary, for project implementation.
- Field Visits: Ensuring visits to the project at its site at least once a year; preparing and circulating reports no later than two weeks after the end of the visit.
- Provide technical backstopping when needed and play and ongoing trouble shooting role
- Ensure any project document revisions are done properly and in-line with GEF requirements by consulting UNDP-GEF colleagues.
- Review, edit, respond to project reports
- Conduct policy negotiations when required.

C. Financial Management and Accountability

- Make direct payments and ensure flow of funds for project activities;
- Pay advances to the Executing Agency and review financial reports.
- Training of staff of implementing agency on financial disbursement and reporting
- Oversee financial monitoring, record keeping, and reporting.
- Make budget revisions in cooperation with Executing Agency.
  - 1st. revision within two months of the signing of the project document to reflect the actual starting date and to enable the preparation of a realistic plan for the provision of inputs for the first full year.
  - Annual revision approved by 10 June of each year to reflect the final expenditures for the preceding year and to enable the preparation of a realistic plan for the provision of inputs for the current year.
- Ensure annual audits of NEX projects are completed and the audited financial statements together with the audit report reach UNDP headquarters (Office of Audit and Performance Review) no later than 30th April.
- Continue ongoing fundraising efforts for the project's LTFM.

III. Reporting, Monitoring, Evaluation:

A. Technical Reporting

- Prepare annual project implementation reports for submission to GEFME
- Monitor the implementation of the workplan and timetable
- Ensure progress reports are prepared and submitted timely
- Ensure Annual Programme Report (APR) are prepared and submitted to UNDP CO
- Ensure their annual preparation of APRs & their completion by the due date, two weeks before the TPR to UNDP-GEF.
- Prepare and participate in Project Implementation Reviews (PIR) and ensure their preparation submission by the due date.

B. Monitoring and Evaluation

- Undertake project monitoring/site visits
- Organize TPR meeting, participate and ensure that decisions are taken on important issues.
- Contribute to preparation of TPR reports
- Ensure the development of clear guidelines for assessing project progress and impact, for improving monitoring, and for identifying lessons learned and including them in the following years' workplans
- Undertake mid-term review, including possible project restructuring. Send copy to GEFME
- Prepare and finalize TOR for evaluation (mid-term and final evaluation)
- Make appropriate logistical and technical arrangements for the evaluation team and mission.

C. Completion

- Prepare Project Completion Report/Terminal Evaluation, and submit the report to GEFME.
- Operational completion activities. Determining when the project is operationally complete and advising all interested parties accordingly.
- Prepare project closing documents
- Ensure projects are financially completed no more than 12 months after operational completion by ensuring the final budget revision is promptly prepared and approved.

Output:

⇒ Mid-term Review Report
⇒ Annual Project Implementation Reports
⇒ Independent evaluation reports
⇒ Project Completion/Terminal Evaluation Report

Terms of Reference
National Project Director (NPD)

NPD is a state employee designated by the Ministry of Home Affairs, Housing and the Environment and entrusted with providing overall guidance and coordination of the project implementation. It is an unpaid position covered by the Government as an in-kind contribution to the project. The NPD is accountable to the National Executing Agency for the production of the project outputs. On behalf of the Executing Agency, the NPD is accountable to the UNDP for the appropriate use of the project resources provided by GEF and other donors, and coordination of the UNDP/GEF project with other programmes and projects implemented in Maldives in the area of coastal diversity management and conservation.

In particular the NDP will:

- Approve project work plans, budget revisions and if necessary project revisions;
- Chair the project Steering Committee;
- In consultations with UNDP (and MHAHE) assign implementing agencies for the project components and coordinate their work (through the project manager);
- Ensure that Maldivian legislation, rules and procedures are fully met in the course of the project implementation;
- Approve terms of references, selection of project staff and reports produced by the project manager and the key experts/contractors;
- Approve procurement actions;
- Certify financial reports including reports on the advances and reports on the annual disbursements;
- Approve/certify project monitoring reports (APRs), audit reports evaluation reports;
- Facilitate liaison and cooperation with the federal Government authorities in the course of the project implementation;
- Report to the National Executing Agency, UNDP/GEF and SC on the use of the project resources and achievement of the project outputs.

The CPB/PM and the UNDP office will support the work of the NPD. If appropriate, the NPD may partially delegate his responsibilities to the project manager or UNDP office per existing agreements.

TERMS OF REFERENCE
PROJECT MANAGEMENT UNIT (PMU)

A project management unit will be formed in the Male office of MoHAHE. All staff will be hired in an open and fair competitive basis following UNDP standard hiring procedures. A Chief Partnership Builder/Project Manager will head the PMU. The PMU will ensure project implementation proceeds smoothly through well-written workplans and well-oiled administrative arrangements that meet UNDP's requirements.

Project Management Unit will be comprised of:
1. Chief Partnership Builder/Project Manager (CPB/PM)
2. Atoll Partnership Builder/Site Manager (APB/SM)
3. Office Manager/Administration & Accounts – Male'
4. Office Manager/Admin and Accounts - Baa

Two other positions will support the PMU. An international volunteer will be recruited to bolster the capacity of the project office. An Adaptive Management Advisor will play a supportive role throughout the project's implementation period. See the ToR in the pages following.

Terms of Reference

Chief Partnership Builder/Project Manager (CPB/PM)

Duty station: Male'/Baa Atoll, with travel to other locations as needed.

Background:

The project manager is responsible for overall day-to-day project implementation. But the most important work a "project manager" can do is not to manage the project per se, but to build and manage relationships and partnerships crucial to the project's success. Thus, the name of this position is "Chief Partnership Builder/Project Manager" to emphasize this point.

This project is a partnership among GoM, the UNDP, the private sector, and the GEF. The project seeks to conserve globally significant biological diversity by implementing a cross-sectoral program of integrated activities that generate specific and meaningful results on the ground. To do this, the project will need to create and to follow successfully a path of coordinated action among four Government Ministries, the private resort community, local islanders, and atoll administrators. The chief partnership builder will be responsible for ensuring that this happens in an effective and lasting manner.

The CPB will be a full time employee of the project and will report to the NPD and UNDP.

Description of Specific Responsibilities:

The CPB shall:

1. Serve as an ex-officio member of the PSC and be responsible for the follow-up necessary to the effective conduct of PSC business; Liaise directly with designated officials of the PSC, and others as deemed appropriate and necessary.

2. Supervise all project staff in the PMU as well as the project budget.

3. Coordinate all aspects of the GEF Project; oversee day-to-day project implementation and management of project activities.

4. Organize and oversee consultant input, prepare Terms of Reference for consultants and contractors in collaboration with UNDP colleagues/AMA, and confirm the quality of the project's outputs.

5. Build effective working relationships with members of the PWG to ensure that project-inspired activities proceed on schedule within each partner Ministry and non-governmental organization.

6. Support the work of the APB to build effective working relationships with the Baa Atoll Office and respective Island offices.

7. Contribute substantive technical input per his/her area of relevant expertise.

8. Prepare and submit quarterly narrative reports to the NPD and UNDP.

9. Produce an Annual Project Report (APR) to support the annual Tripartite Review (TPR) meeting – the highest policy-level meeting of the parties directly involved in the implementation of a project.

10. Develop annual and/or semi-annual workplans in close consultation with UNDP, NPD and the PWG to ensure that specified tasks undertaken in as organized and planned manner as possible.

11. Be responsible to the PSC for implementation of the Work Plan.

12. Work with UNDP colleagues and the AMA, to inculcate project staff, PWG, and Ministry partners with a results oriented approach. Work with project staff members, ADCs, IDCs, and consultants to help each one utilize a practical and simple method for helping to determine the impact of project activities – of training activities, of workshops (what have people learned and how have their practices changed as a result?), the process of developing new laws and policies (how are people changing the way they think and/or work?).

13. Work with co-funding partners to ensure that their activities/programs are integrated and complementary with those of the GEF project.

14. Submit quarterly reports of relevant project progress and problems to the PSC and work with UNDP to prepare all necessary project implementation reports and organize all necessary project evaluations and review missions.

15. Serve as a fundraiser and lobbyist for activities included in the project but in need of funding from other partners.

16. Oversee an effective ongoing project monitoring program and development of a process whereby the project assesses best practices as it gains experience. This will include encouraging an atmosphere of adaptive management in the project, (*i.e.* organizing round table discussions on project successes and failures) where people focus on meaningful results "on the ground", rather than generating reports.

17. To identify, analyze and communicate lessons learned that may be useful in design and implementation of similar projects. The duty of identifying and analyzing lessons learned is an on-going one, and the duty to communicate those lessons is on an as-needed basis, but not less frequently once every six months according to a reporting format, and system for categorizing of lessons to be provided by UNDP/GEF. This to be done in collaboration with the AMA.

18. To ensure that TOR for consultants recruited under the project incorporate mechanisms to capture and share lessons learned through their inputs to the project, and to ensure that the results are reflected in relevant reporting systems. This to be done in collaboration with the AMA.

19. Develop and disseminate lessons learned/best practices handbook derived from the project's experience in, for example: 1) establishment and operation of MPAs, 2) the establishment of sustainable financing mechanisms; 3) the introduction of participatory management practices where none existed before;

Qualifications/Requirements:

⇒ Extraordinary interpersonal skills in the Maldivian context.
⇒ Extensive experience and graduate degree in field(s) related to the assignment.
⇒ Extensive experience as a senior project manager.
⇒ Excellent inter-personal, communication and negotiating skills;
⇒ Familiarity with the goals and procedures of international organizations.
⇒ Well developed English speaking and writing capability;
⇒ Previous work experience in the country on issues relevant to the project;
⇒ Ability and willingness to travel; and,
⇒ Demonstrable skills in office computer use - word processing, spread sheets.

Reporting requirements:
The CPB will submit quarterly progress reports to the NPD and UNDP/GEF Programme Coordinator. The CPB will be also responsible for preparation of the APR and contribute to the annual GEF Project Implementation Review.

Terms of Reference
Atoll Partnership Builder/Site Manager (APB/SM)

Duty station: Baa Atoll, with travel to Male' as needed.

Background:

The site manager is responsible for overall day-to-day project implementation. But the most important work a "site manager" can do is not to manage the site level activities per se, but to build and manage relationships and partnerships at the site level that are crucial to the project's success. Thus, the name of this position is "Atoll Partnership Builder/Site Manager" to emphasize this point.

This project is a partnership among GoM, the UNDP, the private sector, and the GEF. The project seeks to conserve globally significant biological diversity by implementing a cross-sectoral program of integrated activities that generate specific and meaningful results on the ground. To do this, the project will need to create and to follow successfully a path of coordinated action among four Government Ministries, the private resort community, local islanders, and atoll administrators. The chief partnership builder will be responsible for ensuring that this happens in an effective and lasting manner.

The APB will be a full time employee of the project and will report to the NPD and UNDP.

Description of Specific Responsibilities:

The APB shall:

1. Coordinate all aspects of the GEF Project in Baa Atoll; oversee day-to-day project implementation and management of project activities in Baa Atoll.

2. Organize and facilitate project partner and consultant input and work in Baa Atoll.

3. Build effective working relationships with the project's key partners at the atoll level: 1) the Atoll Chief's Office to ensure that project-inspired activities proceed with the full support and involvement of Atoll stakeholders; 2) Island chiefs and other island institutions/groups; and 3) resort owners and managers and stakeholders like dive shop owners.

4. Contribute substantive technical input per his/her area of relevant expertise.

5. Work with CPB and project office to prepare atoll managerial and financial reports.

6. Take part in the development of annual and/or semi-annual workplans that specify tasks undertaken in the atoll and ensure that key stakeholders at atoll and island level are fully consulted.

7. Be responsible to CPB for implementation of the work plan in the atoll.

8. Emphasize the project's results oriented approach in all activities undertaken in Baa Atoll. Work with project staff members, ADCs, IDCs, and consultants to help each one utilize a practical and simple method for helping to determine the impact of project activities – of training activities, of workshops (what have people learned and how have their practices changed as a result?), the process of developing new laws and policies (how are people changing the way they think or the way they do their jobs?).

9. Work with the resort community to ensure that their activities/programs are integrated and complementary with those of the GEF project.

10. Submit quarterly reports of relevant project progress and problems to the CPB.

11. Ensure project has an effective ongoing monitoring program in Baa atoll. And contribute to the project assessment of best practices as it gains experience. This will include encouraging an atmosphere of adaptive management in the project, (*i.e*. organizing round table discussions on project successes and failures) where people focus on meaningful results "on the ground", rather than generating reports.

12. Develop and disseminate lessons learned/best practices handbook derived from the project's experience in, for example: 1) establishment and operation of MPAs, 2) the establishment of sustainable financing mechanisms; 3) the introduction of participatory management practices where none existed before.

<u>Qualifications/ requirements</u>

⇒ An advanced degree in a related discipline or commensurate experience in working with communities and community groups/community mobilization.
⇒ Should be fluent in Dhivehi and English.
⇒ Capable of interacting and working well with a wide range of stakeholders from Atoll and Island Chiefs to resort managers, to UNVs and international consultants.

Terms of Reference
Office Manager, Administration, & Accounts (one in Male and one in Baa)

Location: Male' City & Baa Atoll, Maldives.

Description of Responsibilities:

Under the supervision of the CPB, the Office Manager will:
1. Manage the day-to-day operations of their respective project office;
2. Assist the CPB in ensuring that the proper UNDP procedures are utilized when communicating with UNDP so as not to lose time in unnecessary delays.
3. Learn UNDP administrative procedures, processes, and requirements and provide administrative support to project staff;
4. Maintain the project's financial books Assure that necessary financial, procurement, disbursement and personnel matters are effectively addressed.
5. Prepare internal and external correspondence for the Project Office, maintain files and assist in the preparation of documentation for meetings;
6. Co-ordinate and assist in travel arrangements of project personnel;
7. Assist in the preparation of press releases, statements and speeches on the project's activities;
8. Support the CPB in preparing project reports and related documentation.
9. Assist the CPB to ensure smooth information sharing among PSC members and UNDP.
10. Undertake such other duties as may be assigned by the NPD and CPB.

Skills and Experience Required:
- Significant office environment work experience
- Experience with larger budgets and demonstrable, working knowledge of international accounting standards;
- Proficiency in office software/computer use.
- Some experience would be helpful working with international organizations/agencies, governmental offices, research organizations.
- Speaking and writing proficiency in English an advantage;
- Excellent inter-personal skills and obvious ability to work well with others
- Reliability, initiative, thoroughness and attention to detail.
- Self-starting and ability to work independently under general guidance.
- Willingness to work substantial periods of overtime upon short notice.
- Ability to work under pressure

Terms of Reference
Int'l Volunteer/JPO

ToR to be developed during the first six months of the project based upon what will best complement the strengths and weaknesses of the CPB and the APB.

Terms of Reference

Adaptive Management Advisor (AMA)

The position is a key to ensuring ongoing learning and adaptation on the part of the project during its implementation. It will also ensure the ongoing adaptation and application by the project of relevant lessons learned elsewhere, and enable the capturing, and dissemination to others, of lessons learned by the project.

There are multiple purposes for this position – 1) to provide "cradle-to-grave" support for adaptive management, best practice assessment and implementation support for the project; 2) to enable the project to maintain strategic direction during implementation by helping project management remain focussed on overall results the quality of those results, in addition to the day-to-day implementation concerns; 3) to ensure that the project is an active member of a broader learning network of similar or related projects (GEF and otherwise); 4) to sharpen the project's focus on quality outputs, and 5) to emphasize a learning and adaptive approach to project management and implementation.

Description of work responsibilities:

1. Provide support to the project manager in implementing adaptive management by working with CPB/PM to facilitate effective monitoring of project activities and an ongoing, reflective evaluation of the project's work. This will include facilitating learning and taking an adaptive approach to project management and implementation by asking questions of key project personnel, including: "What are we learning and how are we incorporating it into our project implementation process?" "Are we meeting our indicators of success?"

2. Lead annual project review exercise.

3. Cultivate cross-project learning environment and help the CPB/PM establish cross-project linkages, where this project can learn and share lessons effectively from/with other GEF and other initiatives worldwide.

4. Support and facilitate reflective practice on the part of project staff and Government partners by taking part in and contributing to workshops/round table discussions that cultivate lessons learned and adaptive management.

5. Be on call via email and telephone to answer queries from the project office regarding project strategy, implementation, success indicators, and so on.

6. Serve as a conduit for GEF and other best practice input to project implementation, monitoring and evaluation.

7. Facilitate quality and timely project implementation, by integrating best practices as they emerge from UNDP-GEF's portfolio into revised ToR for positions as they come up for hire during project implementation. Also ensure that the TOR incorporate mechanisms to capture and share lessons learned through their inputs, and to ensure that the results are reflected in relevant reporting systems.

8. Work with the Trust Fund expert(s) to ensure a viable trust fund structure is developed and funded, including assist with fund raising to the extent needed.

9. Assist CPB/PM with the management of the collaborative group of co-funders that is key to the project's success.

10. Provide support to the CPB/PM and UNDP-Maldives colleagues in solving project management challenges;

11. Work with the CPB/PM to develop and disseminate lessons learned/best practices handbook derived from the project's experience in, for example: 1) establishment and operation participatory MPAs, 2) piloting community-based reef management; 3) establishing sustainable financing mechanisms; 3) and introducing participatory management practices

12. Develop and administer practical training program for key staff from four Ministerial advisory bodies on adaptive management and how to draw upon information to support decision-making as well as ecosystem management principles. Knowledge testing administered before and after training sessions will assess training results.

13. Identify, analyze and communicate lessons learned that may be useful in design and implementation of similar projects. The duty of identifying and analyzing lessons learned is an on-going one, and the duty to communicate those lessons is on an as-needed basis, approximately every six months according to a reporting format, and system for categorizing of lessons to be provided by UNDP/GEF.

Qualification/Requirements:

1. Graduate degree in related discipline.
2. Detailed knowledge of this project's history, strategic thinking, and design rationale;
3. Familiarity and experience with project stakeholders and their institutions;
4. Proven ability to work well with a cross section of Maldivian partners;
5. The ability to apply this background to a macro, strategic perspective on project implementation.
6. Well developed leadership, inter-personal, communication and negotiating skills, as well as a proven ability to work effectively in groups;
7. 4 weeks of time per year with at least one annual in-country visit.

International Volunteers and/or JPOs

1. Environmental Educator (VSO)

An environmental educator volunteer with take the lead on the project's activities as described under Activity 1.5. He/she could work either primarily in Male' with many trips to Baa Atoll Schools or vice-versa, whichever is most appropriate and efficacious.
The volunteer would work closely with the Ministry of Education and would report to UNDP-Maldives.

The following are the main activities the volunteer will be working to implement:

Build a youth constituency for atoll ecosystem conservation by helping local schools to teach children about their own Maldivian environment.

1. Cultivate and establish contacts with local schools and teachers and develop a biological diversity curriculum for use by middle and high school teachers and students.

2. Review and revise syllabi and course materials for elementary and secondary grades in Environmental Studies;

3. Test new learning and teaching materials tested in Baa atoll schools.

4. Train teachers in using these new materials.

5. Initiate pilot efforts to introduce practical and field work in Environmental Science by supporting programs to enable teachers and school children to learn how to snorkel and dive in order to experience the marine environment first-hand. At least two television documentaries targeted at young audiences will be produced, highlighting young Maldivians working to conserve biodiversity.

6. Incorporate the issues of participatory natural resource management techniques, ecosystem management principles, and decision-making processes into the Island Administration Training Program run by the Faculty of Management and Computing of the College of Higher Education.

Position Requirements:

- University degree in environmental education, communication, or a directly related field;
- Proven experience in the development of environmental education materials.

2. Coral Reef Ecology/Reef fisheries Volunteer (UNV)

An conservation, reef fisheries and protected area volunteer will work with key Government, Atoll, and Island stakeholders to implement activities under the project related to as described primarily under Activity 2.1 and 2.2, as well as training activities under Outcomes 1 and 3. He/she will be based in Baa Atoll. The position would include a significant amount of snorkeling and diving work as well as time spent in the islands.

The volunteer will be recruited to start towards the latter half of the first year of project operation. The volunteer would work closely with the MoFAMR and MoHAHE and would report to UNDP-Maldives.

1. The volunteer would focus on enabling partnerships within the atoll among the national Ministries and atoll and island stakeholders and partnerships among the resort community and atoll and island stakeholders.

2. Work closely with the Coral Reef Advisor and the MPA advisor on implementing practical training program for atoll-level and island-level stakeholders in participatory techniques, ecosystem management principles, and decision-making processes. See Activity 1.1. Project counterparts on this activity: MPA/Coral Reef/CPB.

3. Work with Government colleagues and key advisors to complete Block B-initiated baseline assessments as the basis for ongoing survey, research and monitoring. This will involve conducting assessments during the first 18 months of the project utilizing aerial photographs and satellite imagery to achieve basic coverage of Baa Atoll; and published and unpublished information on biodiversity, resource use, and fisheries to the extent possible.

4. Work with MRC, ERC, and NGO colleagues to organize, plan, and initiate priority biodiversity surveys and targeted research to support proactive management.

5. Surveys of priority species and habitats will be conducted over the lifetime of the project to build on the information baseline.

6. Work with MRC, ERC, NGOs, local communities to develop sustainable monitoring program for atoll biodiversity and ecosystem condition. The technologically appropriate, low-cost "Reef Check" community-based monitoring protocol of the Global Coral Reef Monitoring Network (GCRMN) provides the basis for the project's monitoring activities. The MRC and the ERC will carry out the monitoring around designated coastal and marine areas in Baa Atoll in partnership with local communities and schools with the intention of providing data on the field survey priorities.

Requirements:

1. University degree in coral reef ecology, marine sciences, or related discipline required.
2. Ability to live and work in an isolated, small tropical island environment.
3. Physical ability to snorkel and to dive a must; experience the two beneficial.
4. The willingness to work long hours;
5. Ability to work well among a wide range of colleagues and with a healthy dose of uncertainty and ambiguity.
6. Must be a self-starter who is able to work with little supervision.

3. Marine Protected Area Volunteer

A marine protected area volunteer will work with key Government, Atoll, and Island stakeholders to implement activities under the project related to as described primarily under Activities 2.2 and 2.3. He/she will be based in Baa Atoll. The position would include a significant amount of snorkeling and diving work as well as time spent in the islands.

The volunteer will be recruited to start towards the latter half of the second year of project operation so as to overlap with the CR volunteer one year. The volunteer would work closely with the MoFAMR and MoHAHE, especially the protected areas unit of the MoHAHE's Environment Section.

The volunteer would:

1. Play a leading role in enabling the conservation planning activities to be conducted in the participatory manner in Baa Atoll as described under Activity 2.2. This would include facilitating the two-way flow of information from the atoll to Male' and vice-versa.

2. Conduct training with community groups in conservation planning;

3. Enable stakeholders to rank habitats by way of importance, setting the state for the establishment of priority MPAs in Baa Atoll.

4. Work with colleagues from MoFAMR and MoHAHE as well as the MPASP to secure approval of the conservation plan by the National Commission for the Protection of the Environment and its member Ministries.

5. Contribute to the process of proposing the highest priority sites as MPAs.

6. Work closely with the APB in establishing the community conservation partnerships that will be essential to the ability to manage these MPAs.

7. Enable the people-to-people sharing of lessons learned in the atoll and among atolls.

8. Enable key stakeholder partners to implement species conservation plans by developing practical, appropriate guidelines for species conservation.

Requirements:

7. University degree in conservation, marine sciences, community-based natural resource management or related discipline required.
8. Ability to live and work in an isolated, small tropical island environment.
9. Physical ability to snorkel and to dive a must; licensed diver beneficial.
10. The willingness to work long hours;
11. Ability to work well among a wide range of colleagues and with a healthy dose of uncertainty and ambiguity.
12. Must be a self-starter who is able to work with little supervision.

4. Community mobilization (UNDP)

This position will be a national consultant and will be applied to Baa Atoll from UNDP's cadre of community mobilizer(s) in other atolls around the Maldives. The community mobilizer(s) will be based in Baa Atoll and will work closely with the Atoll Office, the Atoll Partnership Builder (APB), the CPB, and private sector partners in Baa.

1. The community mobilizer will provide crucial input to the project's effort to build effective local capacity to adequately manage natural resources at the local level, including protected areas, reef fisheries and the like.

2. The community mobilizer will help to train atoll-level and island-level stakeholders in participatory techniques, ecosystem management principles, and decision-making processes.

3. The community mobilizer will work with MRC, ERC, NGOs, local communities to develop sustainable monitoring program for atoll biodiversity and ecosystem condition. The MRC and the ERC will carry out the monitoring around designated coastal and marine areas in Baa Atoll in partnership with local communities and schools with the intention of providing data on the field survey priorities. The community mobilizer will help to make this happen by empowering stakeholders to form effective local action groups. See Activity 2.1

Requirements:

1. Training in community mobilization and proven ability to do so and to live and work in an isolated, small tropical island environment.
2. The willingness to work long hours;
3. Ability to work well among a wide range of colleagues and with a healthy dose of uncertainty and ambiguity.
4. Must be a self-starter who is able to work with little supervision.

5. Fisheries statistics (UNV)

The purpose of this position is to help MOFAMR strengthen its fisheries statistics program, especially it's baseline of information on the existing reef fishery, beginning with Baa Atoll.

This position will be concerned largely with activities 1.2 The person would work largely with MOFAMR and its relevant sections to strengthen data management and use in the Maldives's fisheries (especially the reef fishery) programs.

1. Train MoFaMR's Resources Management Section, Statistics Section and other relevant sections within MoFaMR in how to analyze and integrate information on fish catch, biodiversity, socio-economic conditions and policy, and apply it to the ecosystem-management of fisheries resources.

2. Train the staff of Fisheries Development and Extension Service Section (FiDEx) in how to educate fishing communities in resource management and its capacity strengthened to promote community participation in ecosystem management of fisheries resources.

3. Teach the fishing community how to record or report reef fisheries/species use statistics.

4. Strengthen the capacity of the Statistics and Economics Sections of MoFaMR to apply new data gathering and analysis techniques and to collect, compile and analyze data on reef fisheries.

Requirements:

1. University degree in fishery science, with some background in applied fishery conservation issues required.
2. Ability to live and work in a crowded small tropical island environment.
3. Experience in working with communities to develop community-based reef resource management arrangements.
4. Physical ability to snorkel and to dive a must; certified diver beneficial.
5. The willingness to work long hours;
6. Ability to work well among a wide range of colleagues and with a healthy dose of uncertainty and ambiguity.
7. Must be a self-starter who is able to work with little supervision.

Short-Term National Consultants Terms of Reference

National Consultants will be recruited from qualified candidates at the national and regional levels. National Consultants will play an important role in project implementation providing technical support/input at important times and places along the project's implementation pathway.

National Consultants will be recruited to undertake project work in the following areas of required expertise:

- Web site design
- Law and Policy and Legal Capacity Building
- Financing Mechanism Development
- Demonstration of Sustainable Fishing Techniques/Methodologies.
- Community-based marine resource management.

The more detailed Terms of References for each required consultancy will be prepared by the CPB/AMA on an ongoing basis during project implementation.

Terms of Reference

1. Web Site Designer.
Duration: 6 months, and then periodic input for maintenance.

Location: Male' & Baa Atoll

Description of Responsibilities:

Working closely with the CPB, the web page builder will be responsible for constructing a web page for the project.

1. He/she will be responsible for designing the project's web page per international standards.
2. He she will work closely with and take guidance from the CPB and the education and awareness expert as to the content of the web site.
3. He/she will design a web site that accommodates both Dhivehi and English.
4. He/she will work out of the Male office.
5. Undertake such other duties as may be assigned by the NPD and CPB.

Skills and Experience Required:

- Proven experience designing high-quality, user-friendly web sites.
- Some experience working with international organizations/agencies, governmental offices or educational organizations helpful.
- Proficiency in English (speaking and writing) advantageous.
- Excellent inter-personal skills
- Reliability, initiative, thoroughness and attention to detail.
- Ability to work independently.
- Willingness to work periods of overtime at short notice.

Terms of Reference

2. Development of Financing Mechanism.
Duration: One year.

Location: Male', Baa Atoll.

As envisioned by the project brief, an innovative, groundbreaking mechanism in Maldives will be piloted in Baa Atoll and will require someone with particularly good skills of communication, marketing and persuasion to help make it a reality.

This position would provide input to all of the activities and achieving the results described under Activity 2.4 of the project brief. This position would report to the Trust Fund Specialist and the CPB.

Description of Responsibilities:

1. Review, update, and summarize existing assessments of relevant laws, policies and regulations regarding sustainable financing needs of the MPA.

2. Work closely with Trust Fund Specialist, the CPB, and AMA.

3. Conduct stakeholder consultations on fund purpose, design, structure and secure agreement upon the particular structure of the fund.

4. Build good working relationship with key potential funders/stakeholders.

5. Conduct "willingness to pay" surveys to determine appropriate user fees (park entrance fees, diver fees, sport fishing fees, etc.) and assess various options for funding mechanisms.

6. Develop sustainable and appropriate financing mechanisms to support MPA operations in Baa Atoll.

7. Hold roundtable discussions and workshops to introduce these instruments to decision makers.

Qualification Requirements:

⇒ Particular attention to detail;
⇒ A solid and well-respected history of good work in the Maldives;
⇒ Ability to work and communicate well with a diverse group of stakeholders;
⇒ Proven ability to design practical funding mechanisms that become viable, effective institutions;

INTERNATIONAL CONSULTANTS – TERMS OF REFERENCE

Terms of Reference

Coral Reef Conservation Biologist Specialist (CRCBS)
Duration: 160 working days/ 8 months

This position is designed to take the lead in enabling Government, community and private sector stakeholders to establish model biodiversity conservation practices in Baa Atoll. The project dedicates more resources to this position than any other international position because coral reef ecology/conservation biology lie at the heart of this interdisciplinary project. Although the position is meant to focus on the "science" side of the project, it is applied in its orientation. Given this fact, this position will contribute to, but not be primarily responsible for, many "non-science" types of activities and issues such as policy work and protected area management.

The purpose of the specialist's input is twofold: First, to ground the conservation practice in Baa Atoll in up-to-date ecological science and conservation practice; and 2) to transfer this know-how in the areas of coral reef ecology and conservation biology and impart knowledge of scientific and applied conservation practice to government and community counterparts.

In all activities undertaken by the specialist, he/she will work closely with his/her counterparts in Government at MoFAMR, MoHAHE, MOAA, and so on. He/she will also work closely with the volunteers assigned to the same issues, in order for them to help carry out the myriad project activities and produce the desired outputs.

More specifically, the specialist will:

1) Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy. Work with the CPB and AMA on this. Key training issues for your position: Biodiversity assessment/field survey practice; Data storage, management & basic analysis; Basic techniques for accessing and applying information in daily atoll management and resource use planning; and species/habitat conservation planning.

2) Conduct field surveys of biodiversity as needed and train partner institution staff in the process. Work with colleagues in MRC and ERC to complete Block B baseline assessments as the basis for ongoing survey, research and monitoring, utilizing when appropriate aerial photographs and satellite imagery to and published and unpublished information on biodiversity, resource use, and fisheries in order to achieve basic coverage of Baa Atoll. See Activity 2.1.

3) Work with MRC, ERC, and NGO colleagues to organize, plan, and initiate surveys of priority species and habitats and targeted research to support proactive management to build on the information baseline. This will be conducted over the lifetime of the project. See Activity 2.1.

4) Work with MRC, ERC, NGOs, local communities to develop sustainable monitoring program for atoll biodiversity and ecosystem condition. See Activity 2.1.3.

5) Organize and provide guidance to targeted research designed to quantify values and benefits of biodiversity and ecosystem health. See Activity 2.1

6) Data management: Synthesize data and store it in manageable database. Strengthen GIS capacity within host institution and, if appropriate, atoll offices; Digitize base maps if needed for area; Link GIS framework to biodiversity database; Analyze data using GIS;

7) Reinforce the ability of institutions and key decision makers to access, analyze, and apply this information to support management plan development through hands-on practical demonstrations with working groups. Assess before and after capacity. See Activity 1.2. Counterparts, CPB, All Int'l Advisors, AMA.

8) Provide input to the GIS expert in how to upgrade information management and geographic information system (GIS). See Activity 2.1.4.

9) Formulate and adopt clear guidelines and basic codes of practice for incorporating biological diversity objectives and the ecosystem approach into sectoral atoll development programs. Activity 1.3

10) Conduct at least two round table discussions or workshops to work with 1) ERC staff and 2) colleagues in MOFAMR, MOT and MOHAHE in helping them to 1) integrate biodiversity and ecosystem health objectives into their coastal development oversight and 2) identify key insertion points for biodiversity objectives and ecosystem-oriented cost and benefit information into the national development planning process. See Activity 1.1 in project brief. Primary colleagues on this activity: Fisheries Expert, and the CPB, CR Volunteer.

11) Give presentations and interactive workshop(s) atoll and island officials in order to strengthen their ability of to integrate conservation and development practice in Baa Atoll. This will help to build a strong institutional environment for biodiversity conservation by strengthening capacity at local atoll level. Develop practical training program for atoll-level and island-level stakeholders in participatory techniques, ecosystem management principles, and decision-making processes. See Activity 1.1. Project counterparts on this activity: Volunteers/CPB.

12) Advise on appropriate advanced level training opportunities for candidates to pursue.

13) Work with the MRC in preparing atoll-level species conservation plans and implementing conservation measures for migratory species, including: turtles, birds and cetaceans. Working closely with MRC, develop one of these plans and establish a workplan with MRC for the remaining plans to be finalized over the course of the project. Design these measures in collaboration with local communities so that they rely largely upon local capacity to implement community-based management of natural resources in partnership with Government. For example, voluntary guidelines will be developed for not disturbing nesting areas during certain times of the year. See Activity 2.3.3.

14) Work with key Stakeholders to develop a biodiversity conservation plan for Baa Atoll. See Activity 2.2. Note: this should also serve as the scientific framework to help guide the project's/MPA Advisor's work on progressing from this atoll biodiversity conservation plan to the designation of MPAs in Baa Atoll.

15) Contribute to the work done by the EMS on an ecosystem management component of ADEP. See Activity 3.1.2.

16) Contribute insights and recommendations to the education volunteer's work of incorporating participatory techniques, ecosystem management principles, and decision-making processes into the Island Administration Training Program run by the Faculty of Management and Computing of the College of Higher Education. See Activity 1.2.

17) Highlight policies and regulations that contribute to ecosystem decline by providing incentives for destructive behavior or policies that provide disincentives for constructive behavior. See Activity 1.3. Environmental economist the lead.

Qualifications/Requirements:

1. Post-graduate degree in coral reef/marine ecology or conservation biology or related discipline
2. Solid knowledge of applied conservation practice and experience in conducting training or short courses.
3. Familiarity with project stakeholders and their institutions of special value;
4. Proven ability to work well with a cross section of Maldivian partners or in similar SIDS circumstances of special value;
5. Ability to work with cross-section of international colleagues with a healthy dose of uncertainty and ambiguity.
6. Must be a self-starter who is able to work with little supervision.

Terms of Reference

Marine Protected Area Specialist (MPAS)
Duration: 120 working days/6 months

This position was created to assist project staff and stakeholders in piloting new MPA management practices adapted to the Maldivian context in the 21st century.

The purpose of the position is two-fold: 1) to introduce the latest in community based MPA and natural resource management practices from around the world; 2) and o enable stakeholders to establish community partnerships for MPA management in Baa Atoll. The position will encourage government and community partnering in resource management and monitoring. The position will contribute primarily to Activities 2.2 and 2.3 under Outcome 2, with some overlap with Outcome 1 and Outcome 3.

The position will work in close collaboration with CPB, UNDP officer, the CRCB Specialist, relevant technical institute personnel, the protected area unit of the Environment Section, and local people.

More specifically, the specialist will:

1. Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy. Work with the CPB and AMA on this. Key training issues for your position: PA planning; Participatory management; Partnership building; Partnership management.

2. Contribute to the finalization of the biodiversity conservation plan for Baa Atoll by the CRCB Specialist and his/her team. The MPAS will contribute to this because it will lay the groundwork for establishing MPAs.

3. Implement a conservation planning process that will lead directly to the establishment of at least three specially managed areas by MOHAHE and MOFAMR and the development of participatory protected area management agreements. See Activity 2.3.

4. Establish effective community conservation partnerships among Baa Atoll civil society by: a) serving as the catalyst for this ground-breaking work and bringing the disparate groups together for trust building exercises and building capacity of the key actors to collaborate effectively in the long-term; b) Developing & implementing cooperative management agreements and plans with user groups; c) Developing community-based enforcement regimes and providing necessary training to local stakeholders and MPA managers; d) Developing conservation agreements and building local capacity. See Activity 2.3.

5. Work with local stakeholders, national officials to progressively phase in management of protected areas as appropriate, based on the progress in developing local stakeholder conservation agreements. Train stakeholders in the preparation and implementation of management plans for reef and other biodiversity resources in these areas. See Activity 2.3

6. Develop practical training program for atoll-level and island-level stakeholders in participatory techniques, and decision-making processes. See Activity 1.1. Project counterparts on this activity: Volunteers, Coral Reef, CPB.

7. Organize two interactive workshop(s) with atoll and island officials to present and discuss the ways that MPAs have contributed to economic development in other areas of the world and how they might contribute to integrating conservation and development practice in Baa Atoll.

8. Contribute to the Education volunteers work in incorporating participatory techniques, ecosystem management principles, and decision-making processes into the Island Administration Training Program run by the Faculty of Management and Computing. See Activity 1.2.

9. Train MPA managers in participatory & community-based management. Develop training materials MPA management, conservation biology, and conduct the training using the following general steps or a modified version.
   ⇒ Conduct consultations on what diversity management means for an MPA and a coastal area and secure consensus on the main points among key stakeholders.
   ⇒ Identify and describe key MPA actors in need of training
   ⇒ Develop simple, practical training materials for these key actors
   ⇒ Conduct training for up to 30 individuals per year beginning in year 3.

10. Determine survey, monitoring and data requirements for science-based protected area management.

11. Build capacity at the atoll and island levels for conservation and natural resource management. Focus capacity building resources on people-to-people sharing lessons learned and best practices. Build upon UNDP's ongoing success with this kind of work, and help CPB to organize regional study tours for national and local leaders on participatory management and conservation.

12. Enable local stakeholders to prepare simple, practical "state of the MPA" reports covering environmental, resource use, and socio-economic conditions.

13. Contribute to ecosystem management component of ADEP. See Activity 3.1.2.

Qualification Requirements:

1. Post-graduate degree in related discipline.
2. Solid knowledge of and 10 years experience with applied conservation practice;
3. Proven experience developing effective partnerships for protected area or special management area partnerships;
4. Familiarity with marine stakeholders and their institutions helpful;
5. Ability to work well among a wide range of colleagues and with a healthy dose of uncertainty and ambiguity.

Terms of Reference

Ecosystem Management Advisor (EMA)
Duration: 36 working days/1.5 months

In the Maldives, atoll ecosystems literally provide the basis for the country's existence as well as life-supporting services such as shoreline protection and goods upon which the economy entirely depends such as fish and tourism. Given these facts, the project has been designed to demonstrate how economic development and good stewardship of the atoll ecosystem go hand-in-hand. It is envisaged that this position will "demystify" the phrase "ecosystem management" and, by implementing activity 3.1.2, enable stakeholders to develop and apply their own version of practical, ecosystem management approaches in Baa Atoll.

The position will involve teaching, a listening and enabling. The position will involve working closely with members of atoll and island civil society, with key staff from partner Ministries, and with nearly all of its international consultant counterparts, especially the environmental economist.

More specifically, this position will entail:

1) Assess the relevance of ecosystem management to the project's Maldivian context and develop and give a series of workshops or interactive presentations on ecosystem management and what it means for the work of MoFAMR, MoHAHE, and MOAA, among others for example.

2) Take the lead on developing the ecosystem management component of Atoll Development and Environment Plan comprised of: 1) ecosystem health parameters and specific goals, 2) model island ecosystem management plans for two islands in Baa Atoll, and 3) simple guidelines and codes of practice for applying ecosystem management at the atoll and island levels in the Maldives. See Activity 3.1.2.

3) Work with colleagues in MOFAMR, MOT and MOHAHE to identify key insertion points for MPA cost and benefit information into the national development planning process. See Activity 1.2.

4) Work with the environmental economist and to make recommendations for re-orienting policy and regulatory mechanisms to provide incentives to support conservation and ecosystem management. Develop and propose options through counterpart institutions for changing these policies so they create incentives for biodiversity conservation. See Activity 1.3.

Qualification Requirements:

⇒ Graduate degree in related discipline;
⇒ Experience with applying ecosystem management to practical conservation & development issues;
⇒ Proven understanding and experience in thinking about and explaining ecosystem management (history of publications, work, etc.).
⇒ Ability to work and communicate well with a diverse group of stakeholders with a healthy dose of uncertainty and ambiguity.
⇒ Proven experience with teaching/training and imparting knowledge;

Terms of Reference

Environmental Economist
Duration: 50 working days/2.5 months

This position is responsible for conducting all of the activities and achieving the results described under Activities 1.3 and 1.4 in the project brief. This person's role in the project is crucial because his/her work will help people to change the way they view the environment and its value and thus how people assess costs and benefits when considering new conservation and development policies and programs.

The position will report to the NPD and the UNDP. The position will work closely with the members of the Project Working Group, CPB, the APB, the AMA, and the Trust Fund Specialist.

Description of Responsibilities:

1. Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy. Work with the CPB and AMA on this.

2. Conduct workshops with key decision makers to introduce the principles of environmental economics and examples of applying these principles.

3. Make recommendations on integrating elements of environmental economics into an integrated marine resource management and biodiversity conservation policy. See Activity 1.3

4. Assess how to use regulatory incentives to promote conservation and recommend specific measures. Consult with counterparts in partner ministries, UNDP, and among the project staff and group of advisors in order to highlight policies and regulations that contribute to ecosystem decline by providing incentives for destructive behavior or disincentives for constructive behavior. See Activity 1.3

5. Make recommendations for re-orienting policy and regulatory mechanisms to provide incentives to support conservation and ecosystem management. Develop and propose options through counterpart institutions for changing these policies so they create incentives for biodiversity conservation. See Activity 1.3.

6. Consider key questions in the Maldives w/respect to values and services provided by coral reefs/coastal ecosystems. Advise colleagues in MoHAHE, MoFAMR, MOF, and the NGO community on relevant targeted research work to quantify values and benefits of biodiversity and ecosystem health. This activity is designed to support the policy and decision-making processes by providing a clearer understanding of ecosystem goods and services and their associated values.

7. Based upon your work and insights gained while in the Maldives, make recommendations on developing an appropriate design for a sustainable financing mechanism for long-term reserve management. Advise Trust Fund specialist on appropriate, politically feasible funding mechanisms (fees, tax incentives/disincentives, penalties/fines) for long-term conservation.

Qualification Requirements:

⇒ Post-graduate degree in economics;
⇒ Experience with applying economics to practical conservation issues;

⇒ Proven understanding and experience in working with quantifying environmental costs and benefits/ecosystem benefits.
⇒ Ability to work and communicate well with a diverse group of stakeholders and with a healthy dose of uncertainty and ambiguity.
⇒ Proven experience with teaching/training and imparting knowledge;
⇒ Must be a self-starter who is able to work with little supervision.

Terms of Reference

GIS Specialist
Duration: 30 working days/1.5 months

Good, basic data management is crucial to an institution's ability to access the information to inform decision-making processes. These ToR to be finalized with input from other consultants as to the specific needs of a new strengthened data management system.

Notes on work to be conducted by the GIS Specialist:

1. On-the-job training: Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy. Work with the CPB and AMA on this.

2. Listening to needs of the conservation program (GIS specialist's visit should be coordinated with that of the CRE and the MPA specialists).

3. Guide the upgrading of information management and geographic information system (GIS) to support model biodiversity conservation practice in the Maldives.

4. Support stakeholders in standardizing and incrementally upgrading existing databases and GIS software, linking them to a central GIS system over time and ensuring that they are adequate to manage data gathered by survey and monitoring efforts and are compatible with the international GCRMN database. See Activity 2.1.4

Qualification Requirements:

⇒ Proven knowledge and experience in setting up GIS hardware and software and applying it to practical natural resource problems.
⇒ Particular attention to detail.
⇒ Graduate degree in related discipline
⇒ Ability to work and communicate well with a diverse group of stakeholders;

Terms of Reference

Fisheries Management Specialist
Total time: 40 working days (2 months)

The Fisheries Management Position was created to help MoFAMR strengthen its coral reef fisheries management program/approach by devising new policies, strengthening the capacity of staff within MoFAMR and their range of knowledge tools, and piloting new approaches in Baa Atoll. The position will report to the NPD/UNDP and work directly with MoFAMR and the CPB.

The Specialist will:

1. Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy. Work with the CPB & MOFAMR on this.

2. Strengthen the capacity of the Statistics and Economics Sections of MoFaMR to collect, compile and analyze data on reef fisheries by introducing a series of new data gathering and analysis to the Sections over the period of your consultancy.

3. Train staff of Fisheries Development and Extension Service Section (FiDEx) to educate fishing communities in resource management and its capacity strengthened to promote community participation in ecosystem management of fisheries resources. See Activity 1.2:

4. Formulate and adopt guidelines and basic codes of practice for incorporating biological diversity objectives and the ecosystem approach into fishery sectoral programs and work with Gov't colleagues to incorporate into fisheries management. See Activity 1.3.

5. Make recommendations on key elements of an integrated marine resource management and biodiversity conservation policy and how to keep implementation procedures as simple and clear as possible. Contribute to stakeholder's efforts to formulate and adopt an integrated marine resource management policy that will harmonize the different government Ministries' policies on marine resource use and management. See Activity 1.3

6. Contribute to MoFAMR's work in developing a pilot participatory reef resources management program with the Baa Atoll fishing community, MoAA, MoHAHE, and the private sector. Work with MoFAMR to prepare management action plans for each of the major reef fisheries in Baa atoll will be prepared. See Activity -. - For details.

7. A fisheries enforcement plan will be developed as part of the program. Because this activity will involve local stakeholders as partners, it will address many of the enforcement difficulties that hamper current "top-down" efforts to manage reef resources. This includes high costs of monitoring large, highly scattered marine areas.

8. Produce recommendations on strengthening enforcement of reef species fishing restrictions. See Activity 1.3.5

9. Work with colleagues in the Ministry of Fishery's FiDEx Section to contribute to their design and positioning of bait-fish aggregation devices (BFADs) in collaboration with fishermen on the three primary tuna fishing islands in Baa atoll. See Activity 3.3 for details.

10. Advise FiDEx, if needed, on the construction and deployment of the pilot BFADs. And on the establishment of a participatory monitoring program with them with the fishermen. See related activity description in project brief.

Qualification Requirements:

⇒ Graduate degree in related discipline.
⇒ Ability to work and communicate well with a diverse group of stakeholders;
⇒ Proven knowledge and experience in tropical fisheries like that of the Maldives
⇒ Familiarity with Maldivian situation and proven ability to work effectively in it helpful
⇒ Particular attention to detail.

11. **Terms of Reference**

Coastal Processes Specialist
Duration: 40 working days; 2 months

Destructive shoreline modification practices are a proximate cause of habitat destruction in the atolls. The purpose of this consultancy is to develop simple, clear guidelines to enable key Gov't and community stakeholders to address these threats.

More specifically, the Specialist will:

1. Consult with atoll and island communities and resort operators to define gaps in knowledge and experience with respect to knowledge of and ability to apply proper coastal erosion mitigation techniques.

2. Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy.

3. Produce simple, practical guidelines with colleagues at the ERC that effectively integrate biodiversity conservation and ecosystem management objectives into shoreline modification, harbor dredging, and other coastal modification activities will be devised and tested.

4. Pilot the application of these guidelines in the course of their normal development review function and monitor whether these result in a more "biodiversity-friendly" practice, minimizing sedimentation of globally important coral reef ecosystems and maintaining water quality of near shore waters.

5. Specifically, this activity will contribute to Activity 1.3, formulating guidelines and codes of practice for low-impact shoreline modification, coral & sand mining, harbors, channels, jetties, land reclamation.

6. Strengthen the effect of existing environmental policy on coastal development practice. Consider and recommend how to integrate biodiversity conservation and public participation objectives into the coastal development and the environmental impact assessment (EIA) process. See Activity 1.3.2.

7. Formulate and adopt clear guidelines and basic codes of practice for incorporating biological diversity objectives and the ecosystem approach into atoll development planning and management and shoreline development and environmental impact assessment practice, and tourism development. See Activity 1.3.3.

Qualification Requirements:

⇒ Particular attention to detail.
⇒ Ability to work and communicate well with a diverse group of stakeholders;
⇒ Proven knowledge and ability of tropical fisheries like that of the Maldives
⇒ Familiarity with Maldivian situation and proven ability to work effectively in it helpful
⇒ Detailed knowledge of the international donor/funding arena;

Terms of Reference

Environmental Media Trainer
Duration: 40 working days; two months.

The Environmental Media Trainer will work closely with the Ministry of Information, Arts and Culture, the Environmental Education Volunteer, as well as the main project advisors either in Male'.

This position will focus mostly on activities described under Output 1.5. Those are:

1. Develop his/her consultancy-wide plan for on-the-job training and the conducting of information workshops or round table discussions as one of his/her first steps in this consultancy.

2. Train trainers (stakeholders: Government/private or NGOs) and produce at least two documentaries targeted at young audiences, highlighting young Maldivians working to conserve biodiversity in interesting, new ways.

3. Awareness for and appreciation of coral reef and atoll ecology generated among resort operators and staff and tourists. In coordination with MoT and MATI, design and distribute a manual and video promoting responsible tourism practices and guest awareness of biodiversity conservation to resort management staff in Baa. This will include the design and distribution of "best practices" guide and 'crib sheets' for dive and safari boat operators, as well as guidelines for responsible reef fish purchasing.

4. Awareness for and appreciation of coral reef and atoll ecology generated among fishermen. Radio documentaries will be produced to publicize marine conservation issues and proactive reef resource management to solve these problems. These documentaries will be targeted at fishermen and will be designed to be entertaining, yet educational as well, emphasizing that sustainable fisheries and biodiversity conservation are in the fisherman's interest.

Qualification Requirements:

⇒ Proven professional experience in producing and shooting documentaries.
⇒ Ability to work and communicate well with a diverse group of stakeholders;
⇒ Experience in working with tropical environments like that of the Maldives;

Terms of Reference

Trust Fund Specialist
Duration: 60 working days; 3 months

Sustainable, long-term conservation requires sustainable long-term funding support. In most countries, funding for conservation is not sufficient.

The purpose of the position is two-fold: to introduce the latest in conservation funding mechanism best practice from around the world; 2) and to enable stakeholders to design a funding mechanism that is most appropriate for the Maldives/Baa Atoll. The goal is not to develop a large fund, but to devise a relatively small, appropriate funding mechanism that is capable of generating revenue on a continuous basis.

Project resources will support extensive consultations to establish the BACF's operational structure, procedures, board composition, asset management arrangements, by-laws, and funding priorities to fit the atoll context. The BACF will be designed as a revolving fund mechanism financed primarily by government and resort resources in Baa Atoll with supplementary one-time financing from GEF, UNDP, the GoM and the private sector. In accordance with GEF's 'best practices' for conservation trust funds, the Fund will be established as a non-profit legal entity outside of government. The BACF will be open and participatory in its design and operation, governed by a board of directors comprised of 50% non-governmental members from the resort community, NGOs and local community fishers or women's groups.

The position will involve working closely with the key Government Ministries, the CPB, the UNDP, local civility society, including private resort owners and managers, and counterpart international advisors.

More specifically, the funding mechanism advisor (FMA) will:

Prior to coming to the Maldives,

1) Develop his/her consultancy-wide plan for on-the-job training;

Once in the Maldives:

2) Consult with key stakeholder groups and civil society representatives, including Ministry of Tourism officers; Min of Finance; MPA managers, PSC members, and resort managers/owners to assess the current mood regarding funding mechanisms for conservation and ecosystem management;

3) Conduct information workshops or round table discussions to explain what funding mechanisms are, the different options; the weaknesses and strengths; their successful application in other parts of the world; the potential value of them for promoting eco-tourism, etc…

4) Conduct stakeholder consultations on fund purpose, design, structure.

5) Devise detailed structure of fund and circulate for review. Develop the BACF operational structure, eligibility criteria for grantees, disbursement procedures, reporting requirements, asset management arrangements, appointment of board members and good fiduciary management (disbursement procedures, reporting requirements, fund procurement mechanisms, and auditing procedures) in an open, trust-building way, drawing upon recommendations from the GEF Evaluation of Conservation Trust Funds and relevant "best practices" from the reference documents below.

6) Work with local Fund structure designed/approved.

Reference documents:

- Issues and Options in the Design of GEF Supported Trust Funds for Biodiversity Conservation" by Kathleen Mikitin, Paper 011, Biodiversity Series, Environment Department Papers, The World Bank, April 1995.
- The IPG Handbook on Environmental Funds: A Resource Book for the Design and Operation of Environmental Funds: By the Interagency Planning Group on Environmental Funds (IPG): [http://www.undp.org/bpsp/global_links/pubs.htm]
- Global Environment Facility's *Evaluation Report 1-99: Experience with Conservation Trust Funds*, which is available on line at: www.gefweb.org , under the section titled "Monitoring and Evaluation"
- UNDP-GEF's Check-list for Environmental Funds and Annotated GEF Trust Fund Grant Agreement.

Qualification Requirements:

⇒ A proven professional record of establishing successful trust funds and long term funding mechanisms.

⇒ Particular attention to detail.

⇒ Ability to work and communicate well with a diverse group of stakeholders;

⇒ Detailed knowledge of the international donor/funding arena;

Monitoring and Evaluation (M&E) Plan

This project is designed to integrate M&E into the fabric of project implementation. M&E is a crucial part of the project's emphasis on knowledge management/adaptive management, as well as its emphasis on lessons learned through the many round table discussions and workshops to be held to discuss and reflect upon lessons being learned.

A detailed Monitoring & Evaluation work plan will be fleshed out at the inception of the project, which will allow for a critical assessment of project performance by showing the schedule of related activities, their cost and the expected outputs and achievements according to the established benchmarks and milestones. The work plan will be the main tool for monitoring and evaluating the progress of the project.

Background on Monitoring, Evaluating and Reporting: Monitoring and evaluation should be interactive and mutually supportive activities. Monitoring is a continuous process of collecting and analyzing information to measure the progress of a project toward expected results. Monitoring provides managers and participants with regular feedback that can help determine whether a project is progressing as planned. Formal evaluations are periodic assessments of project performance and impact. Evaluations also document what lessons are being learned from experience. Generally, individuals involved in managing a project are charged with monitoring. By contrast, individuals independent of project operations conduct evaluations.

Reporting is the systematic and timely provision of essential information. It is an integral part of the monitoring and evaluation function. Monitoring, reporting and evaluation are management functions that could also be described as observing project progress (monitoring), documenting the observed information (reporting) and assessing on the basis of the above (evaluating).

Monitoring. This project has a comprehensive monitoring and evaluation program included in its overall design. An information baseline on the level and extent of threats to biodiversity in each site will be established during the first year of the project to provide a basis for future monitoring and evaluation. Project progress will be informally monitored on a continuous basis and annually through an organized review of progress towards milestones. Indicators of success are included in the project's Logical Framework and will be utilized on a continuous basis as the project monitors and evaluates its progress. These indicators will be bolstered during the first year of the project when more specific indicators of: 1) threat reduction and coastal ecosystem/biodiversity health will be developed based upon baseline surveys. Baseline surveys will: 1) determine the nature and extent of threats in each site to be reduced; 2) conduct ecological surveys within the site areas to determine specific health and size of key habitats and richness of habitat mosaic; 3) conduct attitude and awareness level surveys of key stakeholder groups, from top-level policy makers to local village level stakeholders; and 4) conduct economic surveys of local communities around site areas to quantify their use of marine resources and their current income levels.

Monitoring will be ongoing, involving data collection and assessment of the project's field implementation and will involve key project staff meeting annually to review operations and field implementation and assessing whether new priorities require a shift in project implementation. In addition to this the project will be subject to standard UNDP/GEF monitoring requirements.

The NPM will prepare and submit quarterly narrative reports to the NPD and UNDP. The project manager will be required to produce an Annual Project Report (APR). The report is designed to obtain the independent views of the main stakeholders of a project on its relevance, performance and the likelihood of its success. The APR then supports an annual Tripartite Review (TPR) meeting of the parties directly involved in the implementation of a project. Decisions and recommendations of the TPR will be presented to the PSC.

Terms of Reference & Monitoring and Evaluation Plan

Two evaluations: Mid-term and final project evaluation

Two external independent evaluations are scheduled in the project's five-year lifespan, one in month 30, one in month 54. These independent evaluations of project performance will match project progress against predetermined success/threat reduction indicators. Each evaluation of the project will document lessons learned, identify challenges, and provide recommendations to improve performance.

Evaluation #1:
The first evaluation will be conducted in the middle of year three. This evaluation will assess progress in achieving threat reduction, identify any difficulties in project implementation and their causes, and recommend corrective courses of action. It will also seek to consolidate the lessons learned during the first two and a half years of the project and recommend the most successful for replication. Effective action to rectify any identified issues hindering implementation will be a requirement prior to determining whether implementation should proceed.

A crucial milestone to be reviewed during this evaluation will be ----. .

Project performance will be measured in each of the two evaluations based on the quantitative and qualitative indicators to be finalized during the first year of project implementation as part of the project's work to establish an information baseline. Many of these indicators will relate to the reduction of the key threats to biodiversity in Baa Atoll.

Other indicators to be considered are defined in the Logical Framework and the Results Framework of the Project Document. The logical framework for this project sets out a range of impact/implementation indicators that will be used to gauge impact. Success and failure will be determined in part by monitoring relative changes in baseline conditions established during year one of the project. Baseline conditions will be defined with respect to the nature and extent of threats, as well as habitat size and condition, and population size of indicator species to ensure that viable populations of these species are present in perpetuity. Where possible, indicator species that are sensitive to habitat change and indicative of increased pressure will be identified and monitored. If populations of rare or endangered species are shown to be in decline, measures will be taken to identify the reason for the decline, and alternative management strategies will be developed to ensure the long-term health of populations and incorporated into site management.

Evaluation #2:
The focus of this evaluation will be on the effectiveness of the overall project in attaining its objectives, and on describing and quantifying the overall impact of the project and of GEF's incremental investment in the project.

Both evaluations should also assess:

(a) Relevance of the project original problem analysis (approach, objectives, modalities of implementation, etc.) with regard to the prevailing context;
(b) Effectiveness of the approach used to produce these results;
(c) Efficiency of project management, including the delivery of inputs in terms of quality, quantity and timeliness; and the monitoring system;
(d) Transfer of capacity to the provincial institutions;

(e) Views of the direct beneficiaries on the preliminary outcomes and on the consultative process taking place for the project

Particular attention should be paid to assessing the following issues in the context of national execution: 1) capacity built within the assisted institution and its staff, and; capacity built within the end-users including specific groups.

Sustainability of the results needs to be reviewed in light of the following considerations:
(a) Commitment of the host government to the project targets, and
(b) Involvement of the local organizations (participatory process)
(c) Management and organizational factors
(d) Co-funding actually leveraged for replication of best practices in other sites.
(e) Human resources development

Evaluation Expert/Team should inspect the following documents, among others: the Project Document; project files; technical reports; mission reports; monitoring visit reports;
Annual Project Reports; TPR reports; PIRs; and other relevant documents; lessons learned round table discussion records and minutes; maps and databases developed under the project and being used in the sites.

Basing on the analysis of the above documentation as well as on interviews with the project personnel, direct and indirect project beneficiaries and project stakeholders. The Evaluator should provide a fair assessment of the project implementation and present his findings and recommendations in the report.

Reporting: Evaluation team will be requested to submit the following documents to UNDP and the national Executing Agency:

- Project Evaluation Information Sheet (PEIS)
- Evaluation report

iii. Description of Project's Sub-contracts.

This section presents the key substantive elements of the 16 sub-contracts to be awarded by the project.

Finalization of TORs
The draft terms of reference presented below are designed to assist the project team in preparing final, detailed terms of reference for the sub-contracts. They present information on duration and timing, background, oversight and co-ordination, objectives, activities and deliverables of each sub-contract. It will be the responsibility of PMU team members, with support where necessary from national and international consultants, and agreement from project partners, to finalize these TORs. In addition to the information presented below, the final version of each sub-contract will include:

1) The general conditions under which the work will be conducted;
2) Workplan detailing the tasks to be undertaken by the subcontractor and the time at which the main outputs will be delivered to the project;
3) The process for transfer of payment(s);
4) The process for refund of unspent balance, and;
5) Any substantive revisions to the present draft TORs, which may become necessary due to changes in baseline or other circumstances.

Technical proposals and issuing of contracts
Following the finalization of these TORs, and depending on the size of the sub-contract in question, appropriate contracting procedures will be followed in selecting among potential sub-contractors. Technical proposals will need to be prepared by each potential sub-contractor. It is within these technical proposals that the most detailed and up-to-date substantive descriptions of work will be found, as potential sub-contractors describe how they propose to implement the required sub-contract tasks, including inputs, workplan, etc.

It will be extremely important for project partners to have substantive input into the technical proposal process and to ensure that the final technical proposals are clear, comprehensive and have a strong likelihood of meeting the objectives set out in the TORs. This will require active assessment and commenting on all technical proposals. Wherever and to the degree possible, the relevant international consultants should also be involved in this assessment process (see below, Oversight and Co-ordination).

Oversight and co-ordination
Each sub-contract TOR contains a section on oversight and co-ordination. A key theme that is brought out in these sections is the relationship between international consultants and the sub-contracts. As highlighted in the following table, each sub-contractor will receive the attention and support of one or more international consultants. Both sub-contractors and international consultants will be focusing on completing similar or complementary tasks and delivering the same outputs and using their comparative advantages to do so. Thus, for example, the international consultant in Environmental Media will provide substantive support and co-operation to the national sub-contractor in public awareness. This cooperative relationship is described in both the sub-contract TORs as well as in the TORs for the international consultants.

Nevertheless, sub-contractors should have a realistic idea of the extent of support that they can expect from international consultants. This will be necessarily limited by the relatively short duration and infrequency of the international consultant contributions. In addition, national sub-contractors should recognize that the final outputs of each sub-contract ultimately remain their responsibility.

Reporting
All reports by sub-contractors will be prepared in English. Draft and final versions of the reports will then be reviewed by project managers and, as appropriate, relevant technical experts (see oversight section under each TOR).

1. Subcontract 1: Targeted research.
Budget Line 21.01: US$40,000
Workplan output/activity ref: Activity 1.4
Expected duration: 36 months
Expected period: Months 13-48

BACKGROUND
Government and local communities need information to manage biodiversity effectively. Targeted research will be sub-contracted to qualified NGOs and teams of researchers, and/or institutions such as the ERC, MRC. Targeted research will be organized to provide training for young field researchers. The project experts will determine the particular kind of research needed by the end of year one. More detailed ToR for these sub-contracts will be devised at that time.

OVERSIGHT AND CO-ORDINATION
Administrative responsibility for preparation and implementation of this sub-contract will rest with the PMU, in consultation with the AMA.

The sub-contractor(s) will work in close co-operation with the Coral Reef Ecologist, the Environmental Economist Advisor. This international expert(s) will play the following role with respect to the work of the sub-contractor:[2]

- Undertake one or more field visits to the site;
- Advise the sub-contractor on best international practices related to methodologies being employed in the sub-contract work;
- Provide technical input to draft and final reports prepared by the sub-contractor;
- Make substantive contributions to outputs being produced by the sub-contractor.

All activities will be conducted in close coordination with MOHAHE, and MOFAMR staff.

OBJECTIVE
This sub-contract(s) will be designed to support the polic y and decision-making processes by providing a clearer understanding of ecosystem goods and services and their associated values. Project resources will support a modest level of targeted research to highlight the values and benefits of biodiversity and healthy ecosystems. Without this kind of information and understanding, stakeholders are ill-prepared to judge ecosystems' productive capacity, to recognize trade-offs being made as part of the normal decision making process, to assess the long-term consequences of those trade-offs, and to design and implement effective policies to address these issues.

TYPES OF RESEARCH THAT COULD BE CONDUCTED:
Leading potential research topics include:
1. Resource use patterns; ii) gender & resource use; iii) property rights; iv) traditional knowledge
2. Terrestrial & marine habitat condition and extent (hermatypic coral recovery rates);
3. Reef biodiversity in priority areas (e.g. reef shark distribution and abundance);

[2] See also TOR for this expert.

4. Coastal biodiversity, including sea turtle nesting beaches and seabird roosting sites;
5. Hydrographic and sediment dynamics around selected islands;
6. Quantifying "dollar value" of ecosystem goods and services and the full "costs" of activities that degrade them to highlight trade-offs inherent in ecosystem management decision-making.
7. Market attributes & economics of extractive use (e.g. grouper, aquarium species) and non-extractive use; Non-market and non-use values;
8. Impacts of fishing and diving on reef health;
9. Willingness to pay surveys of tourists, divers, snorkelers, and sport fishermen.

Surveys of priority species and habitats, water quality, and other environmental parameters will be conducted over the lifetime of the project to build on the information baseline. Survey work will be conducted or overseen by the MRC and the ERC in collaboration with NGOs and Women's Development Committees (WDCs). The surveys will be designed and conducted in a way that is sustainable in the Maldivian context. Project resources will enable ERC and MRC to devise a survey methodology that is low cost, participatory and that strengthens local capacity.
Surveys will be designed to involve community groups, atoll officials, and resort partners.

DELIVERABLES
Deliverables will in the form of research reports presenting the data and information gathered in an agreed, standardized format and an analysis of that information based upon the hypotheses formulated at the beginning of the study prior to being funded by the project.

2. Subcontract 2. Interactive Exhibit on Atoll Ecosystems Designed and Built

Budget Line 21.02: US$55,000
Workplan output/activity ref: Activity 1.5
Expected duration: 24 months
Expected period: Months 36-60

BACKGROUND:
Although the Maldives is defined by the atoll ecosystem in every respect there is no educational exhibit to inform and educate Maldivians and visitors alike as to the unique attributes of the Maldives' atoll ecosystem. This is crucial to building and maintaining support for ongoing, sustainable conservation initiatives.

OVERSIGHT AND CO-ORDINATION
Administrative responsibility for preparation and implementation of this sub-contract will rest with the PMU, in consultation with the AMA.

The sub-contractor will work in close co-operation with MOHAHE, MOFAMR, MoT, and Ministry of Education staff. In addition, the sub-contractor will meet with the Coral Reef Ecologist, the Fisheries Management Advisor, and the MPA Conservation Biology Advisor, and the AMA. These international experts will play the following role with respect to the work of the sub-contractor:[3]

- Meet with or correspond with the sub-contractor to provide input as to the key topics to be covered in the exhibit;
- Provide technical input to draft and final texts and exhibit designs produced by the sub-contractor.

[3] See also TOR for this expert.

OBJECTIVE:
This subcontract will secure the services of a proven professional interactive educational display expert/organization.

ACTIVITIES:
1. Consult with key technical advisors in order to develop the key elements of interest in atoll ecosystems for the exhibit design.
2. Meet with stakeholders to explain the nature of an educational exhibit and the possibilities for this particular exhibit.
3. Meet with stakeholders to clarify and confirm just what they would like to see included in such an exhibit and yet maintain it's focus on atoll ecosystems, biodiversity, and the like.
4. Foster and establish links with institutions that could serve as a permanent home for the exhibit;
5. Cultivate and establish contacts with local schools and teachers to seek their input on the design of the exhibit.
6. Produce an appropriate interactive educational exhibit on the Maldives' atoll ecosystem.

3. Subcontract -: Implement public awareness program in Male and Baa Atoll/Awareness Materials and Activities.

Budget Line 21.03: US$50,000
Workplan output/activity ref: Activity 1.5
Expected duration: 48 months
Expected period: Months 13-60

BACKGROUND
Public awareness concerning the real value of atoll ecosystem health and related benefits is limited.

OBJECTIVE
This sub-contract is designed to raise awareness of the project's main messages, including: a) the role of the project in securing those benefits for the Maldives by conserving atoll ecosystem integrity and their associate benefits; and b) to strengthen and promote public awareness of biodiversity conservation values and advocacy in support of biodiversity conservation.

OVERSIGHT AND CO-ORDINATION
Administrative responsibility for preparation and implementation of this sub-contract will rest with the PMU.

The sub-contractor will work in close co-operation with the Environmental Media Advisor/Trainer. This international expert will play the following role with respect to the work of the sub-contractor:

- Undertake one or more field visits to the site;
- Advise the sub-contractor on best international practices related to methodologies being employed in the sub-contract work;
- Provide technical inputs to draft and final reports prepared by the sub-contractor;
- Make substantive contributions to outputs being produced by the sub-contractor.

The Adaptive Management Advisor, the MPA Conservation Biology Advisor, the Environmental Economist, and the Ecosystem Management Advisor will also provide comments and support, including field visits, at various points in the process.

All activities will be conducted in close coordination with MPA staff.

ACTIVITIES:
The [persons/organization] shall be responsible for successfully implementing the activities and achieving the educational outputs as described under Targeted Output/Activity1.5 under Outcome 1 in the Results Framework of the Project Document and under Activity 1.5 in the main body of the project brief.

1. Develop a communication strategy for the project that clearly answers the question: "What message does the project want to communicate?" and which will influence the design and implementation of the project's awareness raising, website design, and related activities.

2. Strengthen the capacity of local associations and environmental NGOs to raise awareness. Organize education and awareness courses with women's development committee representatives and school groups in Baa. Utilize a teaching of trainers approach whereby the project will focus on enabling the more promising groups to produce and implement actual courses for other committees. Produce an awareness activity manual will be produced with and distributed by youth organizations. Activities will be monitored and expanded to other islands.

4. Sub-contract 4: Training to key staff and local stakeholders in underwater monitoring

Budget Line 21.04: US$48,000
Workplan output/activity ref: Activity 2.1
Expected duration: 36 months
Expected period: Months 13-48

BACKGROUND:
Monitoring is crucial to any kind of informed, adaptive management and in the Maldives; most of the resources in need of monitoring are underwater. It is therefore crucial for the respective Government organizations, partner NGOs, resort partners, and local community partner organizations (to be determined) to be trained in appropriate, sustainable methods for underwater monitoring. This could include scuba-equipped monitoring. It could also include fishermen gathering basic data as part of their normal underwater activities.

OBJECTIVE:
This sub-contract is intended to utilize the abilities of an organization or individual with proven abilities and effectiveness in conducting underwater monitoring of coral reef ecosystems and training others to do so.

OVERSIGHT:

The sub-contractor will work in close co-operation with the Coral Reef Ecologist and the Fisheries Management Advisor. These international experts will play the following role with respect to the work of the sub-contractor:

- Undertake one or more field visits to the site;
- Advise the sub-contractor on best international practices related to methodologies being employed in the sub-contract work;
- Provide technical inputs to draft and final reports prepared by the sub-contractor;
- Make substantive contributions to outputs being produced by the sub-contractor.

Management Advisor and the MPA/Conservation Biology will also provide comments and support, including field visits, at various points in the process. Reef Check and GCRMN-standardized methods should be utilized in the training program whenever possible.

ACTIVITIES:

1. Confirm agreement among partners in MRC, ERC, ES, and MoT, as well as resort divers and fishermen as to the nature of the monitoring program to be put in place.
2. Develop training plan for each respective monitoring activity and monitoring group – from government to local communities to resort stakeholders.
3. Conduct appropriate underwater monitoring training with each group and carefully monitor extent of learning and capacity built within each target group. This will include conducting a before and after knowledge and ability survey to enable the quantification of training results at the end of the whole process.

5. Subcontract 5: Office & accommodation rental in Baa Atoll
Budget Line 21.05: US$35,000

This will be a simple office and accommodation rental agreement for the life of the project.

6. Subcontract 6. Acquiring aerial and satellite images
Budget line 21.06: US$30,000

The purpose of this sub-contract is to procure aerial and satellite imagery that will facilitate conservation planning and monitoring in Baa Atoll. Purveyors of this imagery will be identified per UNDP's standard procurement procedures and a contract drawn up by the project manager for the purchase of necessary imagery.

7. Subcontract 7: Trust Fund Capitalization Contract
Budget Line 21.07: US$250,000
Workplan output/activity ref: 4.2
Expected duration: 12 Months
Expected period: Months 48-60

OBJECTIVE: Pilot a long-term financing mechanism for biodiversity conservation in Baa Atoll

ACTIVITIES:
The GEF will make a one contribution of US$250,000 to the BACF in year 5 of the project, to supplement the BACFs funding mechanism. The Trust Fund Specialist will devise this sub-contract in detail near the end of the process of develping the funding mechanism itself. This sub-contract will be the contractual mechanism used to transfer GEF funds to the Trust Fund entity itself, once the milestones and pre-requisites included in the project brief are met. This sub-contract will of course be circulated for approval by Government, UNDP & GEF and will include GEF's latest best practice requirements for Trust Fund design and support.

KNOWLEDGE MANAGEMENT APPROACH TO BE TAKEN BY THE PROJECT.

The project will apply an adaptive learning approach to implementation of project activities and the production of project outputs. In order to adaptively learn, project participants must be able to take time to reflect on their work and that of their counterparts and in other projects in the Maldives and indeed around the world. In order to adaptively manage project implementation, participants must be enabled to capture their learning in the form of written best practices and worst practices – in the form of lessons learned. Project stakeholders must manage knowledge

The following are key elements to this knowledge management approach:

One key element to this is devising a communications strategy for the project. Before we begin managing knowledge, we need to know what kind of knowledge, learning, and information we want to cultivate. "What message does the project want to get across?" The answer to this question goes to awareness raising, website design and maintenance;

A second element to knowledge management is annual work planning and monitoring. Stakeholders will develop annual workplans with assistance from the technical advisors, the PMU, the Adaptive Management Advisor, and the UNDP-CO.

A third element to knowledge management is capturing lessons learned. The project will do this through cross-site people exchanges to promote learning; annual "round-table" discussions of lessons learned; formal analysis of lessons learned and reporting of the results; an example of this will be via links established with the Coral Reef and Fisheries Network ensuring replicability both within and outside the Asia Pacific region. This will include emphasizing on the absorption of international best practice through study tours and useful follow-up and promoting effective communication among project participants. And finally publishing and disseminating a lessons learned handbook.

A fourth element of this approach is to schedule regular pauses in project implementation for reflection. This "reflective practice" will be driven by an adaptive management advisor, who will be involved with the project for the life of the project asking questions and keeping knowledge management front and center with project managers and site-level stakeholders. This will be done in many different ways, among them being; forcing cross-project learning by asking questions regarding learning of stakeholders at the site level, facilitating the flow of information from other projects to this project and cross-project learning.

ANNEX 1.2 OUTLINE WORKPLAN

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
OUTCOME 1: BIODIVERSITY IS MAINSTREAMED INTO SECTORAL INSTITUTIONS AND POLICIES											
Output 1. Effective linkages among government agencies											
1.1 Reinforce multi-sectoral institutional fora	CPB, AMA, All Advisors/Specialists	x	x	x	x	x	x	x	x	x	x
1.2 Strengthen linkages among government departments responsible for economic development and environment	PWG, CPB, All advisors	x	x	x	x	x	x	x	x	x	x
Output 2: technical staff integrate biodiversity and ecosystem management objectives into productive sector programs	CPB; PWG										
2.4 Enable institutions to access and analyze information on biodiversity and ecosystem health	MPASP, CRE, Volunteer.	x	x	x	X						
2.2 Train MoFaMR's Resources Management Section and other relevant sections within MoFaMR in how to analyze and integrate information on fish catch, biodiversity, socio-economic conditions and policy	FS, CRE ; Fisheries Volunteer			x	x	x					
2.3: Provide advance-level training opportunities to enhance technical capacity for biodiversity conservation and ecosystem management	NPD, UNDP, CPB					x	x	x	x		
Output 3: Biodiversity integrated into existing sectoral policies and implementation procedures and enforcement measures clarified and strengthened.											

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
3.1: Formulate integrated marine resource management and biodiversity conservation policy & clear implementation procedures	Do we need a policy expert or should CPB and PWG do this?			x	x	x	x			x	x
3.2. Strengthen the effect of environmental policy on coastal development practice	CPS; All advisors/specialists comment; PWG				x	x	x				
3.3. Formulate & adopt clear guidelines and codes of practice	CPS, FS, CRE, MPASP; PWG		x	x	x	x	x				
3 4: Orient policy/regulatory mechanisms to provide incentives to support conservation & ecosystem management	EE; PWG			x	x	x					
3.5 Strengthen enforcement of reef fishing restrictions	MoFAMR					x	x	x	x	x	x
Output 4: Conduct targeted research to quantify values and benefits of biodiversity and ecosystem health											
4.1 Conduct workshops on environmental economics and its principles for decision makers at the national and atoll levels.	EE			x	x	x					
4.2 Conduct targeted research to bring these principles to life and make them more relevant by quantifying benefits and values of biodiversity and ecosystem health.	EE, PWG, MRC, ERC, TBD			x	x	x	x	x	x	x	X
5: Strengthen the constituency for biodiversity conservation.											
5.1 Build a youth constituency for atoll ecosystem conservation by helping local schools to teach children about their own Maldivian environment	APB;CPB; Volunteers			x	x	x	x	x	x	x	x
5.2 Strengthen the capacity of local associations and environmental NGOs to raise awareness.	Sub-contract			x	x	x					

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
5.3: Generate awareness for and appreciation of coral reef and atoll ecology among resort operators and staff and tourists	Sub-contract		x	x	x	x	x	x	x	x	x
5.4: Generate awareness and appreciation of coral reef/atoll ecology among fishermen.	Mobilization Specialist		x	x	x	x	x	x	x	x	x
OUTCOME 2: STAKEHOLDERS ESTABLISH MODEL SUSTAINABLE BIODIVERSITY CONSERVATION PRACTICES IN BAA ATOLL.											
1: Complete and maintain baseline of information on biodiversity and ecosystem health through surveys, targeted research, and monitoring.											
1.1 Complete Block B baseline assessments as the basis for ongoing survey, research and monitoring.	CRE, MRC, PWG	x	x								
1.2: Conduct biodiversity surveys and targeted research to support proactive management	CRE, MRC, Sub-contracts, NGOs		x	x	x	x	x	x	x	x	x
1.3: Monitor atoll biodiversity and ecosystem condition.	MRC, Local communities			x	x	x					
1.4 Upgrade information management and geographic information system (GIS).	GIS specialist; MRC/ERC;										
2: Stakeholders develop a biodiversity conservation plan for Baa Atoll											
2.1 Conduct two-way planning process with consultations in Male' and each of 10 inhabited islands of Baa Atoll.	APB; MPASP; CRE; MRC, Baa Atoll Office;				x	x	x	x			
2.2 Map relevant information on species assemblages, habitats, in a participatory process with community input.	*APB; MPSAP, CRE, Volunteers, Communities; School groups*				x	x					
2.3 Prioritize terrestrial and marine habitats for	CRE; MPASP; APB; Communities					x					

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
conservation											
3: Stakeholders establish up to three marine protected areas in Baa.											
3.2 Establish protected areas.	MoFAMR, MoHAHE, ADC, IDC					x	x	x			
3.2 Develop conservation agreements and build local capacity	MPASP, Volunteer, APB, AD/IDC					x	x	x	x		
3.3: Stakeholders implement Atoll species conservation plans	IDC, private sector						x	x	x	x	x
4. PILOT A LONG-TERM FINANCING MECHANISMS FOR BIODIVERSITY CONSERVATION IN BAA ATOLL.											
4.1. Consultation, Design, and Establishment of the Baa Atoll Conservation Fund	TFA; CPB; AMA					x	x	x	x		
4.2: Capitalization of the Baa Atoll Conservation Fund	UNDP; GoM; TFA; AMA								x	x	x
5: Project monitored, evaluated and lessons learned are disseminated within the atoll, nationally, and internationally.											
OUTCOME 3: STAKEHOLDERS PILOT SUSTAINABLE NATURAL RESOURCE MANAGEMENT & LIVELIHOOD DEVELOPMENT PRACTICES IN BAA ATOLL											
1: Stakeholders forge an Atoll Development and Environment Plan for Baa Atoll.											
1.1 Forge Atoll Development and Environment Plan (ADEP)	UNDP-MoAA; Baa Atoll				x	x					
Develop Atoll Ecosystem Management Component of ADEP	CRE; MPASP; APB; ADC/IDCs					x	x				
2: Stakeholders pursue new livelihoods by upgrading their skills and generating their own seed											

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
capital.											
2.1: Strengthen social capital among local stakeholders in Baa Atoll.	Each Advisor; APB; Mobilizer	x	x	x	x	x	x	x	x	x	x
2.2: Set up Atoll Development Fund in Baa Atoll	UNDP; MoAA				x	x					
2.3: Assist mariculture livelihood development	UNDP; MoAA						x	x	x		
2.4: Generate tourism skills among local people, Guide resorts on sourcing food and services from local communities, and recommend tourism policies to maximize local employment and procurement.	UNDP; MoAA						x	x	x	x	
3: Developing a more sustainable tuna fishery: pilot model bait fish aggregation devices in Vaavu and Baa Atolls											
3.1 FiDex designs and positions bait fish aggregation devices BFAD in collaboration with fishermen from 3 fishing islands of Baa Atoll.	MoFAMR; FE; FV; APB				x	x					
3.2 Secure agreement with local fishermen on maintenance and monitoring of BFAD performance	MoFAMR; FE; FV; APB			x	x	x					
3.3 Participatory BFAD monitoring to learn/refine design.	MoFAMR; FE; FV; APB						x	x	x	x	
4. Piloting community-based integrated reef resource management											

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
4.1 Develop community-based reef resource management program.	MoFAMR; FE; FV; APB; MPASP			x	x						
4. 2 Develop management plans for each major reef fishery with key stakeholders.	MoFAMR; FE/FV; CRE; Volunteer					x	x	x			
4.3 Develop policy to strengthen reef resource property rights for local communities.	MoFAMR; CRE; FE; FV			x	x						
4.4 Implement community-driven reef fisheries enforcement program.	MoFAMR; Atoll Office; IDCs					x	x	x	x	x	x
5: Island-level stakeholders pilot solid waste management (SWM) solutions.											
5.1: Principles developed for guiding SWM in the Maldivian context	UNDP/CPE						x	x			
5.2 Stakeholders pilot island community SWM programs on at least two islands in Baa	UNDP						x	x	x		
6: Demonstrate low-impact shoreline development practices in two sites in Baa atoll.	CPE/UNDP						x	x	x		
6.1 Devise and test simple, practical guidelines to integrate conservation objectives into shoreline modification, harbor dredging, and other coastal modification.	CPE						x	x	x	X	
PROJECT IMPLEMENTATION & ADAPTIVE MANAGEMENT:											
Conduct Annual PSC meetings and guidance	UNDP/NPD	x		x		x		x		x	x
Prepare project inception report	UNDP/CPB	x									
Prepare Annual Project Report (APR)	CPB		x		x		x		x		x
Conduct Annual Tripartite Reviews (TPR)	CPB, UNDP, AMA		x		x		x		x		x
Prepare Project Implementation Review (PIR) reports;	UNDP/NPD										
Annual review of project's work experiences and	AMA, CPB		x		x		x		x		x

Outcomes/Targeted Outputs/Activities	Responsible	Months									
		6	12	18	24	30	36	42	48	54	60
assessment of best practices.											
Ongoing review/analysis of project work and experiences to develop best practice;	AMA, CPB, NPD	x	x	x	x	x	x	x	x	x	x
Organize round table discussions;	CPB/APB										

Annex 1.3: Project Co-funding Budget -

Co-financing officially committed in writing

No	Co-funding Agency	Amount
1	Min of Home Affairs, Housing & Environment	$198,000
2	Min. of Finance and Treasury/ Ministry of Home Affairs, Housing and Environment: BACF	$225,000
3	Min of Home Affairs, Housing & Environment/ Community	$305,000
4	Min of Fisheries, Agriculture & Marine Resources	$1,641,000
5	Min of Planning and National Development	$40,000
6	Min of Tourism	$268,000
7	Min of Information Arts and Culture	$225,000
8	Min of Construction and Public Works	$80,000
9	College of Higher Education	$28,000
10	Private Sector: Resorts	$74,370
11	UNDP/ADP	$350,000
12	UNDP/ADP/Community	$325,000
13	UNDP/ICT	$150,000
14	UNDP/JHRDF/MFAMR	$400,000
15	UNDP: Monitoring and Evaluation	$70,000
16	Japan-ADB/MFAMR	$87,000
17	FAO/MFAMR	$142,000
18	Block-B Preparatory Co-financing	$45,000
	Sub-total co-financing:	**$4,653,370**

***Anticipated Leveraged-financing**

No	Co-funding Agency	Amount
1	Min of Education	$254,750
2	Private Sector: Resorts	$427,830
3	NGO: Ecocare	$135,000
4	Private Sector: BACF	$375,000
5	Other donors: Demonstration of Solid Waste Management	$61,000
6	Other donors: Demonstration of Coastal modifications	$61,000
	Sub-total co-financing:	**$1,314,580**

***Requests have been made for co-financing and initial discussions have been conducted. Input to be secured during implementation*

	Total leveraged and co-financing	**$5,967,950**

Annex 1.4: Response to Council Comments

WORK PROGRAM: COMMENTS FROM COUNCIL MEMBERS
(Reference to GEF/C.20/3 October 14-15, 2002)

Maldives: Atoll Ecosystem-based Conservation of Globally Significant Biological Diversity in the Maldives' Baa Atoll (UNDP); GEF: $2.73 million; Total Project Costs: $8.69 million

Comments from the Constituency of Australia, South Korea, and New Zealand:

The direct benefits of this project in the short term appear likely to affect only the Maldives. However the improved conservation and sustainable use of coral reef ecosystems in general is a very high priority for the Constituency members and the Asia-Pacific region.
There are high levels of similarity between this project proposal and the objectives and information sought by the Coral Reef and Fisheries Network, a Type II initiative announced by Australia at the World Summit on Sustainable Development (WSSD). Many coastal and island states in Asia and the Pacific face similar challenges relating to coral reef management and conservation. This project will have a lot of scope for replicability both within and outside the region.

Access to the results and experiences of the Maldives would be extremely valuable for countries facing similar challenges. This could be achieved through a link with the Coral Reef and Fisheries Network in the latter years of implementation.

Background
Australia, supported by others including New Zealand, Thailand, Indonesia and the Philippines, initiated a Coral Reef and Fisheries Network proposal as a regional partnership project ("Type II initiative") for the World Summit on Sustainable Development. The initiative aims to build an Asia-Pacific region-wide network that provides a forum for collaboration and information exchange to link and build capacity among coastal communities, coral reef organizations and industries, working to ensure long-term sustainable livelihoods from healthy and well managed coral reefs and fisheries. Australia is currently investigating options for sponsorship to establish this network and intends to implement this initiative as soon as appropriate options have been identified.
The contact person/focal point for the Coral Reef and Fisheries Network is:
Mr. Glenn Hurry
Agriculture, Fisheries and Forestry - Australia
GPO Box 858, Canberra, ACT 2601, Australia
Phone: +61 2 6272 5777 Fax: + 61 2 6272 4875 E-mail: glenn.hurry@affa.gov.au

Comments from Germany:

The proposal thoroughly analyses the institutional and legislative framework the project would work in and adapts the activities according to the very local conditions. A sound preparation of the project and strong participation of stakeholders, including explicitely youth and women, will ensure the development of ownership among project officials and different stakeholder groups of Baa Atoll.

The range of activities (inter alia institutional capacity building, alternative livelihood options, scientific research, protected area management and expansion, solid waste and

sewage treatment, coastline conservation, awareness raising) is well balanced and gives hope that the targeted ecosystem approach will be met.

Special attention should be given to the planned Trust Fund on which the financial sustainability of the project will depend. The strong financial participation of relevant ministries and the involvement of their staff in the Project Steering Committee and the Project Working Group stands for the strong political will to make biodiversity conservation a crosscutting issue in Maldives' development strategy.

Recommendation: Given the uniqueness of the Maldives' environment, the fragility of this environment, the direct and heavy dependency of the local population on marine ecosystems, and the possible pilot character of the project, it should be strongly supported.

Response/Action to be taken:

The comment from the Constituency of Australia, South Korea and New Zealand regarding the linkages with the Coral Reef and Fisheries Network is acknowledged and will be shared with the project proponents. It will be adopted as efforts outlining a synergistic approach that could encourage efforts to disseminate lessons and transfer knowledge and best practice sometime in the project life cycle.

The project will also be prompted to give special attention to the planned Trust Fund as requested by Germany.

UNDP Project Document, Section II:

Original Project Brief Approved by the GEF Council in October of 2002

Table of Contents:

PROJECT BRIEF
GOVERNMENT OF THE MALDIVES
GLOBAL ENVIRONMENT FACILITY/UNITED NATIONS DEVELOPMENT PROGRAMME

PROJECT NUMBER:	1044
Title:	ATOLL ECOSYSTEM-BASED CONSERVATION OF GLOBALLY SIGNIFICANT BIOLOGICAL DIVERSITY IN THE MALDIVES' BAA ATOLL.
DURATION:	Five (5) years
IMPLEMENTING AGENCY:	United Nations Development Programme (UNDP)
EXECUTING AGENCY:	Ministry of Home Affairs, Housing and Environment
REQUESTING COUNTRY:	REPUBLIC OF THE MALDIVES
ELIGIBILITY:	Maldives Ratified the CBD on the 28 October 1992.
GEF FOCAL AREA:	Biodiversity
PROGRAMMING FRAMEWORK:	OP 2: Freshwater, Coastal and Marine Biodiversity

SUMMARY:

The objective of this project is the conservation and sustainable use of globally significant biological diversity in the Maldives' Baa Atoll. In the Maldives, atoll ecosystems literally provide the basis for the country's existence as well as life-supporting services such as shoreline protection and goods upon which the economy entirely depends such as fish and tourism. However, social and economic change is altering consumptive behavior and livelihood strategies, outpacing institutional capacity and sectoral programs to adequately manage it. This in turn is threatening the natural endowment that is essential to maintaining the structure and function of atoll ecosystems, the viability of globally significant biological diversity, and the livelihoods and environmental security of the people.

Most important policy decisions affecting biodiversity are taken at the level of individual sectors, such as infrastructure, fisheries, and tourism. Government initiatives to manage change and mitigate the impacts caused by it are rooted in sector-by-sector approaches, resulting in narrow, sectoral institutions, policies, and interventions. The project's three-pronged strategy is to 1) mainstream biodiversity conservation objectives into sectoral policies and programs and reinforce multi-sectoral institutional fora; 2) conserve biodiversity "in the water" and "on the ground" by establishing protected areas and managing them through innovative national-local and public-private partnerships in Baa Atoll; and 3) relieve livelihood-related pressure on biodiversity by enabling local people to pursue more sustainable, alternative livelihoods.

By the end of the project, modified sectoral policies and programs will enable institutions to more effectively manage biodiversity. Government, local communities, and the private sector will be partnering to secure the long-term conservation of three protected areas in Baa Atoll. And, local people will be applying new knowledge and accessing new sources of financing in pursuit of alternative livelihoods.

Costs and Financing (Million US$)

GEF:	Project Brief:	$2,370,100
	Block-A Preparatory Funding	$25,000
	Block-B Preparatory Funding	$335,000
	SUB-TOTAL GEF:	**$2,730,100**
Co-financing:		
Min of Education		$254,750

Min of Home Affairs, Housing & Environment:	$198,000
.	
Min of Fisheries, Agriculture & Marine Resources	$1,641,000
Min of Planning and National Development	$40,000
Min of Tourism	$268,000
Min of Information Arts and Culture	$225,000
Min of Construction and Public Works	$80,000
Min of Finance and Treasury	$225,000
Other government financing	$76,250
College of Higher Education	$28,000
Private Sector: Resorts	$502,200
NGO: Ecocare	$135,000
Communities	$630,000
UNDP	$570,000
UNDP/JHRDF/MFAMR	$400,000
Japan-ADB/MFAMR	$87,000
FAO/MFAMR	$142,000
Private Sector	$375,000
Block-B Preparatory Co-financing	$45,000
SUB-TOTAL CO-FINANCING:	**$5,922,200**

Total Project Cost (excluding Block A & B preparation cost)**$8,247,300**

ASSOCIATED FINANCING (Baseline): Estimated at US$ 15.944 million over five years.

GEF FOCAL POINT ENDORSEMENT

Name: Mohamed Ali, Director, Environment Section, Ministry of Home Affairs, Housing & Environment.
Date: July -, 2002

IMPLEMENTING AGENCY CONTACT:

Tim Clairs, Regional Coordinator, UNDP-GEF, Kuala Lumpur
email: Tim.clairs@undp.org

Acronyms:

ACCU	Asian Cultural Centre of UNESCO
ADC	Atoll Development Committee
ADF	Atoll Development Fund
AusAID	Australian Agency for International Development
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
EDC	Education Development Center
EIA	Environmental Impact Assessment
EM	Ecosystem Management
ERC	Environment Research Centre
FiDEx	Fisheries Development and Extension Services Section
GCRMN	Global Coral Reef Monitoring Network
GEF	Global Environment Facility
GoM	Government of Maldives
IDC	Island Development Committee
IUCN	World Conservation Union
MATI	Maldives Association of Tourism Industries
MoAA	Ministry of Atolls Administration
MoE	Ministry of Education
MoHAHE	Ministry of Home Affairs, Housing and Environment
MoFaMR	Ministry of Fisheries, Agriculture and Marine Resources
MPND	Ministry of Planning and National Development
MCPW	Ministry of Construction and Public Works
MoT	Ministry of Tourism
MYS	Ministry of Youth and Sports
MRC	Marine Research Centre
NBSAP	National Biodiversity Strategy and Action Plan
NCPE	National Commission for the Protection of the Environment
NEAP	National Environmental Action Plan
OP	Operational Program
UNDP	United Nations Development Programme

PROJECT CONTEXT

1. Ecosystem Approach: This project seeks to apply an ecosystem –oriented approach to biodiversity conservation and sustainable development. But, what exactly is an ecosystem approach? To apply an ecosystem approach means to apply a broader, more integrated perspective on conservation and resource management. This perspective considers biological diversity not simply as numbers of species, but communities of species that interact with each other and with the physical setting that they live in. It is the complex, local interaction of the physical environment and the biological community that makes an ecosystem.

2. An ecosystem approach emphasizes the fact that ecosystems yield the goods and services that we cannot do without and attempts to optimize them. From fisheries to tourism to biological diversity and coastal protection, atoll ecosystems provide a wide range of benefits and services. As part of the normal process of resource management decision-making, an ecosystem approach makes trade-offs among these benefits and services in an efficient, transparent and sustainable manner.

3. This project defines an "ecosystem" as an atoll environment, replete with its primary parts: coral reefs, lagoons, and islands. Atolls traditionally define the political and jurisdictional regional boundaries within the Maldives. This concordance of political and ecological boundaries ensures that an ecosystem approach will have a solid practical and conceptual foundation in the Maldives.

Background/Reef and Coastal Biodiversity

4. The Republic of Maldives is a country composed entirely of coral reefs. It comprises 26 atolls, great ring-shaped reef structures rising to the sea's surface from the ocean depths. Constructed over a period of some 55-60 million years, these atolls form unique marine and terrestrial ecosystems. Perched on top of the atoll reefs are some 1200 islands that are little more than tiny vegetated sandbanks. The total land area is less than 300 km^2. The very sand that forms them is derived directly from the coral reefs. The terrestrial flora and fauna are relatively poor, and are largely derived from South India and Sri Lanka, some 600 km to the northeast. Not surprisingly, in contrast to the terrestrial biodiversity, marine biodiversity is extremely rich.

5. The Maldivian atolls are particularly significant because they are by far the largest group of coral reefs in the Indian Ocean. Indeed, the word "atoll" comes from Dhivehi, the Maldivian language. Altogether they have an area in excess of 21,000 km^2, and a total reef area in excess of 3,500 km^2. Furthermore, because of their position along an 860 km north-south axis in the centre of the Indian Ocean, the Maldivian atolls act as a stepping-stone for transport of planktonic larvae of reef organisms from both the western and eastern Indian Ocean (a feature recognized as the Maldives-Chagos Stricture). Maldivian coral reefs are thus believed to play a significant role in the distribution and maintenance of coral reef biodiversity throughout the Indian Ocean.

6. The Maldivian coral reefs not only form the very foundations of the country, but also support globally significant marine biodiversity. This includes over 1,100 species of reef fishes and over 250 species of corals. To put these numbers in some context, the entire Caribbean region has roughly half this number of fish and one-fifth the number of corals. Other groups of reef organisms in the Maldives are known to be highly diverse but have not yet been adequately studied, so even approximate estimates of species diversity are not available. Some reef animals such as sponges and soft corals are important sources of novel bioactive compounds, and many such compounds have been extracted from Maldivian reef organisms in the search for anti-cancer medicines and other potentially useful drugs.

7. Among animal groups occurring in the Maldives that are internationally threatened, are globally significant populations of green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) turtles. The World Conservation Union (IUCN) lists the former as Endangered, and the latter as Critically Endangered. Both are listed by the Convention on International Trade in Endangered Species (CITES) in Appendix I. The Maldives is perhaps the most important feeding area for hawksbill turtles in the

Indian Ocean. Tagging studies have revealed that both green and hawksbill turtles migrate between the Maldives and other countries in the western Indian Ocean. Maldives is also home to globally significant populations of whale shark (*Rhincodon typus*), reef sharks and manta rays (*Manta birostris*). The whale shark is listed as Vulnerable by the IUCN. In addition, the Maldivian atolls provide an important habitat for at least 21 species of whale and dolphin. This is one quarter of the world's total, and includes the blue whale (*Balaenoptera musculus*), listed by IUCN as Endangered. And the Maldives lies at the very heart of the International Whaling Commission's Indian Ocean Sanctuary. Other internationally endangered species that are found on Maldivian coral reefs include the Napoleon wrasse (*Cheilinus undulatus*, IUCN Vulnerable), the Giant Grouper (*Epinephelus lanceolatus*, IUCN vulnerable), the giant clam (*Tridacna squamosa*, IUCN) and black coral (Antipatharia). In addition to coral reefs, the Maldivian atoll ecosystems are comprised of other habitats, including extensive shallow and deep lagoons, deep slopes, and limited mangrove and seagrass areas.

Social and Economic context

8. In over ¼ of the world's countries, natural products such as fisheries and natural beauty provide more to the economy than industrial ones. The Maldives is counted among these countries. Its atoll ecosystem and associated biodiversity support the country's two main industries: fisheries and tourism. The Maldives is a tuna fishing nation. For centuries, local fishers have caught oceanic tunas by the traditional pole and line method. This requires large quantities of small live baitfish, which are caught each morning inside the atolls on the coral reefs before the fishing boats go outside the atolls in search of tuna. Much of the catch is eaten locally, with most of the balance traditionally being exported to Sri Lanka as smoke-dried 'Maldive fish'.

9. The Maldivian population has increased dramatically in recent years, and now stands at some 280,000, which is over three times what it was 50 years ago. The population is scattered among 200 of the 1,200 islands. More than one third of these inhabited islands have less than 500 people. Logistics and lack of economies of scale makes provision of services (including solid waste and sewage disposal) difficult and expensive. At the other extreme, one quarter of the country's population is crowded onto the capital island of Malé. The lure of jobs, education and other services in the capital and in resort islands concentrated in the central atolls, continues to attract people from outlying atolls. This leads to increased waste disposal and resource exploitation problems in the central part of the country.

10. At the same time, recent economic developments in general and tourism development in particular have brought previously unimagined improvements to most people's standard of living. Until the 1960s, life for most Maldivians was little different from that of their ancestors hundreds of years earlier. The tuna fishery dominated island life. Then in the early 1970s, the collapse of the traditional Maldive tuna export market and subsequent switch to other types of fish export, the mechanization of the fishing fleet, and the introduction of tourism all contributed to a socio-economic revolution that has transformed life in the islands.

11. Although tuna fishing remains the largest employer in the islands, tourism is now the largest single sector in the Maldivian economy. In addition to the direct benefits to people involved in the industry, it provides the major source of revenue for government social development programs. Organized tourism only started in 1972 and tourist arrivals have grown dramatically since then, with 467,000 visitors in 2000. About 80 islands have been developed as resorts, and most tourists stay at one of these. A smaller number of tourists stay on live-aboard 'safari boats'. The beautiful atoll environment, replete with reefs, coral sand islands, lagoons and so on, are the main product for the tourism industry in the Maldives. Spectacular reef fishes make diving and snorkeling the most popular activities.

Project site

12. One globally significant atoll has been selected as the primary project site. Stakeholders considered several other possible atoll sites. In an open, participatory process, stakeholders assigned "high, medium, and low" scores to eight different selection criteria: 1) global significance/globally significant biodiversity; 2) national priority/national significance; 3) local commitment; 4) local capacity; 5) potential to address threats to biodiversity; 6) potential for demonstrating sustainable uses; 7) co-funding potential; and logistical practicality. Baa Atoll received the highest combined score.

13. Baa Atoll harbors globally significant biodiversity and is representative of the biodiversity found in the atolls of the Maldives. Located on the west side of the Maldivian atoll chain, it is more strongly affected by the southwest monsoon. This drives seasonal currents and upwelling from the surrounding deep ocean that bring with them significant concentrations of deep water nutrients which in turn draw significant concentrations of whale sharks and manta rays and also contribute to a unique diversity of benthic fauna, including rare pink hydrozoan corals (*Distichopora nitida*), Bryozoans (*Bugula*) and sea slugs (*Tambja olivaria*) that are only recorded from Baa atoll. Baa has a particularly high density of the ring-shaped reef forms called *faroes*, a peculiar reef structure unique to the Maldives, as well as other unique reef forms. The island of *Olhugiri's* unique native vegetation provides one of only two roosting sites in the Maldives for the frigate bird. Baa Atoll also has one of the largest areas of mangroves in the central part of the Maldivian atoll chain.

14. Baa Atoll, to the northwest of Malé, has a total area of approximately 1,200 km^2. See Annex H for maps of the atoll. The atoll is comprised of seventy-five islands; thirteen of these are inhabited with a combined population of approximately 11,000 people. Five islands have been developed as resorts; the remaining 57 islands are uninhabited. Fifty-five of these uninhabited islands are leased by the Government to individuals under the *varuvaa* system managed by MoFaMR. The *varuvaa* system is the traditional system of leasing islands to individuals for a small rent. In the past, this system leased islands mostly to powerful/royal families in Male' or from the area not necessarily from the same atoll. Under this system, the leaseholder is responsible for maintaining the island's environmental quality and natural assets such as soil or timber. Normally people collect wood, coconuts, and other products from these islands and practice small-scale agriculture or fish processing activities. Timber harvesting is also allowed, to the limited extent to which it is even possible in the Maldives; leaseholders are required to replant wherever trees have been cut. In the past, island leases automatically passed down from one generation to the next, but this is not always the case any more. These islands can be taken from the individuals by the government for other uses, *e.g.* for tourism

15. Although fishing activity has declined since the new resorts opened, fishing remains an important activity, with both tuna and reef fishing being carried out. Production of handicrafts and other materials for the tourist industry is also significant.

Institutional, Legal and Policy Framework

16. Since the Maldives adopted its first National Environment Action Plan in 1990, it has taken many steps to strengthen environmental management and maintain the health of atoll ecosystems and their coral reefs. The first legal framework for environmental protection in the Maldives was enacted with the passage of the Environment Protection and Preservation Act in 1993 ("the Environment Law"). The act contains provisions for conservation of biological diversity, protected areas management, environmental impact assessment (EIA), waste management, and trans boundary movement of hazardous substances.

17. The Second National Environmental Action Plan (NEAP II), adopted in 1999, explicitly recognizes the following as "principal and immediate" priorities: sea level rise due to climate change; coastal zone management; biodiversity conservation; integrated reef resource management; integrated water resources management; and solid waste and sewage management. In response, NEAP II calls for specific strategic action, including: i) strengthening environmental legislation to provide a comprehensive and clarified law and policy framework, ii) developing human and institutional capacity; iii) continually assessing the state of the atoll ecosystem environment, iv) devising effective

and appropriate management methods suited to the social and natural environment, v) conducting broad-based consultations with and participation by civil society, and vi) providing effective long-term financing to support these actions. Other actions called for include the implementation of the Washington Program of Action on the Prevention of Pollution from Land Based Activities.

18. The Sixth National Development Plan (6NDP, 2002) recognizes the need to decentralize development to the atoll and island levels by empowering communities to take responsibility for their future in terms of government programs and individual initiative. The implementation arrangements of the 6NDP gives importance to strengthening the involvement of community based organizations in planning and implementing development projects by providing greater authority and responsibility for carrying out development activities. It will follow a strategy of decentralizing planning and implementation to involve atolls and islands, devolve administrative authority and resources to atolls and empower atoll based development cells to plan and implement local development activities. The 6NDP emphasizes the importance of sound natural resource management and conservation and calls for the integration of environmental considerations into national, regional and sectoral planning and development. Strengthening local communities' capacity to manage reef and bait fish resources is also recognized by the plan as being crucial to the sustainable management of marine resources. The 6NDP calls for strengthening the Maldives' human and institutional capacity to manage human impact on the country's atoll ecosystems.

19. The National Biodiversity Strategy and Action Plan (NBSAP, 2002) emphasizes the principles of ecological sustainability, individual responsibility, equitable sharing of benefits, accountability of decision makers and public participation. The plan's three goals are to: conserve and sustainably utilize biological diversity; build capacity by strengthening governance and improving knowledge and understanding; and foster community participation in, ownership and support of biodiversity conservation. The NBSAP calls for the integration of biodiversity conservation into the national development process, strengthening the legal and policy framework, strengthening measures for *in-situ* conservation, and adopting economic incentives and developing a long-term financing mechanism. The Maldives is a signatory to the UN Framework Convention on Climate Change (FCCC, 1992), the Convention on Biological Diversity (1992), and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (1995).

20. The Environment Law established the first environmental protection program in the Maldives and empowers the Environment Section (ES) of the Ministry of Home Affairs, Housing and Environment (MoHAHE) to regulate activities affecting the conservation of the environment. This requires a coordinating role with a wide range of other ministries whose activities impinge on the environment. For example, the ES is responsible for enforcing environmental impact assessment requirements for all major development activities. Also under MoHAHE, the National Council for the Protection of the Environment (NCPE) is mandated to advise the Government on environmental assessment, planning and management, and to ensure that environmental protection is an integral component of all development projects. The NCPE is composed of senior officials. MoHAHE's Environment Research Centre (ERC) conducts research relating to island and coastal environmental quality.

21. Since the formulation and adoption of the first NEAP, the social and economic context for economic development and management of the environment has changed a great deal. Tourism, fisheries and other sectors have evolved and expanded. The Tourism Law of 1979 gives the Ministry of Tourism the authority to formulate and enforce regulations relating all tourism activities, including those designed to minimize the impact of tourism development on atoll ecosystems. Regulations currently in force specify sewage and solid waste disposal requirements for resorts and the issue of regulating development to reflect individual island carrying capacity is under active consideration. The Tourism Advisory Board, with private sector representation by the Maldives Association of Tourism Industries (MATI), advises the Minister.

22. The Fisheries Law of 1987 is a broad legal framework empowering the Ministry of Fisheries, Agriculture and Marine Resources (MoFaMR) to formulate and administer regulations to sustainably

utilize and conserve oceanic fisheries, reef fisheries and all living marine resources, including the authority to protect species under threat and to establish conservation areas. MoFaMR's Marine Research Centre (MRC) is responsible for fisheries, coral reef, marine biodiversity and mariculture research. It also provides advice on the status of living marine resources, and management recommendations based on that information. The Economic, Planning and Coordination Section (EPCS) compiles and disseminates fisheries statistics. The Fish Aggregating Device (FAD) Unit is responsible for the construction and deployment of FADs for the tuna fishery. The high-level Fisheries Advisory Board provides a venue where representatives from other Ministries, government agencies and increasingly the private sector are invited to discuss important issues and advise the Minister.

23. The Ministry of Atolls Administration (MoAA) is responsible for the administration of government in the atolls. Each atoll has an Atoll Chief who works under the MoAA and who is responsible for government activity in the atoll. The Atoll Chief chairs an Atoll Development Committee, which is comprised of appointed and/or elected representatives from the atoll's inhabited islands. Each island has an Island Chief who is responsible for basic government functions on each island and who chairs an Island Development Committee and facilitates the work of a Women's Development Committee. These officers and organizations have responsibilities for local implementation of environmental policies, although this is only partially practiced. MoAA considers islands and atolls the basic units of planning and development for the delivery of physical, social and economic services and associated infrastructure. Other relevant institutions include: the Ministry of Planning and National Development, which has responsibility for national level planning; and the Police and Coastguard, which are responsible for enforcement.

Baseline Activities:

24. Threats & their Root Causes: In the Maldives, rapid social and economic change is outpacing institutional capacities to adapt and manage adequately, resulting in increasing degradation of biological diversity and atoll ecosystem health.

25. The overall problem to be addressed by the project is the "loss of biodiversity and atoll ecosystem integrity." Two primary threats to biodiversity are leading to this problem: 1) habitat degradation and 2) exploitation of wild species. Shoreline erosion, sedimentation, pollution, and the direct exploitation of terrestrial and marine habitats are the main elements of habitat degradation. Baitfish harvest, reef fishing and the disturbance of fragile nesting and roosting sites are the main elements of the exploitation threat. Myriad proximate and underlying causes are the driving factors behind the main threats of "habitat degradation" and "species exploitation."

26. The first proximate cause of biodiversity loss is inappropriate coastal modification and engineering practice, including dredging and blasting of channels and harbours, construction of groynes and jetties, and coastal landfill, which leads not only to direct habitat loss but also to deterioration of water quality. Dredging often leads to siltation, killing corals and other organisms by smothering them or reducing light penetration to them. In addition, coastal modification can isolate lagoons from the sea by changing coastal currents and affecting sand movements. This in turn often causes beach erosion, with loss of coastal and terrestrial habitats (including turtle nesting sites), and profound negative impacts on adjacent reef areas.

27. Maintaining biodiversity and ecosystem health imposes additional costs in the form of knowledge and practical ability that is not part of sectoral experience and development practice. These sectoral barriers lead to poor cross-agency coordination and weakened policy implementation and are one underlying cause of inappropriate coastal modification. Some problems stem from an institutional failure to accommodate biodiversity considerations within the development agenda, including a failure to account for ecological capital values when siting infrastructure such as jetties and harbors, or failure to invest sufficiently in maintaining ecosystem goods and services. Another underlying

cause is simply that maintaining ecosystem integrity is not a priority objective of island modification and development practice in the Maldives.

28. The second proximate cause of habitat loss is the inadequate disposal of solid waste, which pollutes the coastal environment and leads to the loss of coral habitat and deterioration in water quality. Waste management is a relatively new, "modern" problem in the islands. Information and knowledge barriers prevent traditional island institutions from effectively dealing with this problem. Traditionally, what was mostly organic solid and liquid waste was disposed of directly in the sea adjacent to islands, or in shoreline landfills to be carried away by scavengers and waves. This method worked fairly well for older generations. But rapid population growth and changing consumption patterns are producing much greater volumes types of waste, demanding new island-based waste management solutions. Under these new circumstances, "old" waste disposal practices end up smothering or poisoning corals and other organisms (including turtles, fish and birds) with toxic leachates or algal blooms in eutrophied near shore waters.

29. In some places marine and terrestrial habitat suffers from direct damage caused by poor diving, reef fishing, and island visitation practices, the third proximate cause of biodiversity loss. The growing use of some popular reef areas by divers and snorkelers is beginning to cause damage and as resort development continues apace is an imminent threat in other areas. Anchor damage from fisher or diver boats is significant at some sites. Fishermen sometimes break corals in order to catch lobster or live bait for tuna fishing; divers sometimes break coral for souvenirs. Block B field assessments confirmed that coral mining is now fairly well controlled, but sand mining is still opportunistic. Inappropriately sited sand mining, the fourth proximate cause of habitat loss, can cause the loss of topographic and habitat complexity and associated biodiversity, which in turn harms ecological interactions and makes shorelines subject to further erosion, reducing shoreline habitat such as sea turtle nesting beaches. More and better information on where suitable sand mining areas exist would help mitigate this proximate cause of habitat loss.

30. The value and benefits of biological diversity are not well articulated or understood, and often are not perceived to be sufficiently real or immediate. This hampers the process of accounting effectively for these values and integrating conservation into development resource-use practice, such as coastal modification, sand mining, fishing, or waste management. For example, a first-of-its-kind study in 1992 demonstrated that one gray reef shark (Carcharhinus amblyrhynchos) was worth US$32 to a fisherman, but US$3,300 per year if left alive at a dive site. These figures prove very clearly that the exploitation of reef sharks and probably other species by fishermen diminishes the attraction of diving and snorkeling, and ultimately the income generated by tourism for the Maldives. However, the link between live sharks in the water and the new school funded by tourism revenues has not been made in the minds of local people and therefore is not sufficient to change behavior. The same figures could be developed w/respect to the value of sand on the beach and a clean, waste-controlled environment.

31. The fifth main issue related to the loss of biodiversity and ecosystem integrity is that conservation action in the Maldives is generally limited to paper proclamations. Designation does not afford protection in part because local stakeholders perceive little benefit form these "protected" areas and economic benefits of biodiversity are not full articulated or understood, as discussed above. In addition, the effectiveness of protected areas will rely in part upon the effectiveness of sustainable use outside of protected areas. The line between the two is difficult to draw and a broader ecosystem perspective is needed to underpin conservation action. The fact that local people are not involved in the management of nearby protected areas is another contributing factors to the ineffectiveness of the protected area regime. Protection assumes institutional enforcement capacity that does not exist and in fact cannot exist apart from healthy partnerships among government, communities, and resorts.

32. The overexploitation of species in some locations is leading to localized species loss and attendant disruption of ecological interactions and processes. Two proximate causes of biodiversity loss are

related to the overexploitation of species. First, baitfish are crucial to the Maldivian method of catching tuna. Tuna fishermen's harvesting of baitfish often disrupts ecological balance of reef areas where baitfish aggregate. Second, an emerging market for reef fish is increasing pressure gradually on the reef fishery in the Maldives. Some species, such as reef shark, are protected in places but enforcement of the few restrictions by way of boats and rangers is nearly impossible in the vast marine environment. This pressure comes mostly from the international market for shark and grouper. In the Maldives, this means that the products need to be exported via the only international airport in the country in Male'. Existing export restrictions on giant clams and certain species of coral are enforced very effectively and point to a possible solution for controlling the harvest of other targeted species, such as shark and grouper, both of which are important top-line predators in the marine ecosystem.

33. Pressure from the domestic resort market for "dinner plate" fish is also slowly growing in the Maldives. This will require a different sort of management regime – one that focuses more on the locally empowered management of local reef resources and giving people alternatives to fishing as a livelihood. In the Maldives, fisheries management policy and practice focuses on the oceanic tuna fishery. The reef fishery has received some management attention recently, but under the current "open access" reef fishery property regime, local fishermen are not empowered to manage reef fisheries sustainably. Nearly any Maldivian can fish at any time on most reefs. There are some traditional controls over reef fishery, but they are few and inadequate to the task of sustainable reef fishery management.

34. Because most fishermen have few or no other livelihood options apart from fishing, when tuna fishing is slow, fishermen are beginning to switch to reef fishing as a supplement or alternative. At the island level, the average family lacks access to advisory information or services, including entrepreneurial training, fisheries extension advice, and marketing support. In addition, most resorts in the Maldives employ foreigners as more than 50% of their staff, in part because local Maldivians have not been trained to be a waiter, dive instructor, and so on. These kinds of constraints hamper proactive efforts by making people averse to the risk involved in trying new approaches and developing livelihood alternatives. A livelihood development model that assisted in raising the capacity of Maldivians to a level where the resorts could employ mostly Maldivians would go a long way towards contributing to alternative livelihoods and reducing pressure on reef resources over the long term.

Policy Baseline for Ecosystem Management & Biodiversity Conservation:

35. In the absence of the project, the aforementioned threats in Baa Atoll will continue, resulting in increased degradation of the reef areas and the atoll environment. Biodiversity will be lost, ecological benefits diminished and ecological services impaired, with both global and domestic environmental impacts. Constraints will continue to hamper the adoption of an integrated approach to natural resource management and conservation despite the fact that any lasting solution will require the integration of biodiversity objectives into development policy and practice.

Institutional, Law and Policy Baseline:

36. In the Maldives, institutions are very centralized. This is due in part to the unique geography of the country (100s of islands scattered across thousands of kilometers of ocean) and what was historically a time consuming and difficult job of traveling and communicating among the atolls. Of the 20 Ministries in the Maldivian Government, only one, the Ministry of Atoll Administrations, has a presence in every atoll in the form of an Atoll Chief and atoll development committee and Island Chiefs and island development committees. Most of the other Ministries are based in Male' and have few if any staff and little if any capacity resident in the atolls. This government structure means that essentially, policy and legal decisions are made in Male' and carried out through the Atoll and Island Offices. Indeed, most of the Ministries in Male, including those that are the main partner organizations for this project, work through the Atoll office in order to carry out work in the atolls.

Island offices carry out most of the work required by most of the government Ministries based in Male' under the direction of the Atoll office. This centralized system means that very few changes can be brought in the atolls without making decisions and bringing changes at the national level in Male'. This also means that in order to bring about sustainable change at the atoll level, the national level is very important. This also means that lessons and best practices can be spread quickly through the system.

37. Each Ministry within the GoM operates an advisory body that provides a forum for cross-agency consultation and private sector input, but most are atrophied from infrequent use and insufficient mandates. These advisory bodies could play an important role in helping the Government adopt an integrated approach to natural resource management. For example, when selecting uninhabited islands for economic activities including resort development, the MoT forum is not used to ensure adequate input is given to environmental considerations or local stakeholder views. Similarly, the Ministry of Trade and Industries issues export licenses for fish products without consulting MoFaMR about the sustainability of those fishery resources. The MoFaMR did formulate an integrated reef resources management programme, but this was never integrated into MoAA's atoll development programs. As a result, effective conservation and natural resource management is hampered at the atoll-level, in part due to lack of coordination between responsible agencies. There is a clear need to improve coordination among all arms of government, and the private sector, concerned with biodiversity conservation and sustainable use.

38. Integrating biodiversity objectives into the productive sector: In addition to the fora described above, there are many informal cross-agency contacts at the technical staff level within the Maldivian government that hold much promise for facilitating cross-agency information flow. But the potential benefit of these contacts and linkages is diminished by the fact that people are unaccustomed to thinking, for example, about how to integrate biodiversity into coastal development oversight work by reaching out to relevant departments in other ministries.

39. This is aggravated under the current baseline by a lack of up-to-date or complete ecological, social and economic information to guide integrated and cross-agency management planning. This includes an absence of reef fishery statistics and of information on the biological status of reef resources and socio-economic aspects of the fisheries. MoFaMR's Economic, Planning and Coordination Section (EPCS) collects, compiles and disseminates fisheries statistics to support sustainable management of the tuna fishery. This system has been developed over 40 years, and has provided a unique time series of tuna catch and effort data. EPCS also collects some 'reef fish' catch statistics, but they are of little value for management purposes. MoFAMR recognizes the need to improve its reef fishery data; initial plans have been made to strengthen the EPCS's capacity to do this.

40. Relatively little information is available on Maldivian coral reef ecology and biodiversity; the little information that has been published is only available in obscure reports or in overseas journals with one exception. MRC produces the *Maldives Marine Research Bulletin* to disseminate research findings to technical staff and resource managers, but the bulletin is very scientific in its style and not easily utilized by decision-makers. There is limited information available on best practice for waste management. Among other things, this lack of information hampers efforts to monitor the status of coral reefs; to monitor threatened species such as turtles and reef sharks and identify population declines; and to identify sites of biodiversity and conservation importance. This paucity of information also hampers local initiatives to address waste management issues, among other local concerns. Uncertainty and a lack of information are constraints that government officials face daily and yet these same people are mostly unaware of what information exists and how it can benefit their decision-making processes.

41. In some cases the information exists, but is not in a form that can be utilized by decision makers. For example, information on natural resource use permits is recorded in Island Office (IO) logbooks. Despite the time and effort invested in developing a permit system, there is currently no routine analysis of IO logbooks and no tangible outputs from this effort to help guide resource management.

The information is highly variable in quality and tends to focus on coral and sand mining to the exclusion of reef fisheries. However, these logbooks are the raw material for analysis that provide the Atoll and Island Offices with more detailed directions of where coral and sand mining can take place and areas and where they could cause undue harm (e.g. bait fishing areas). The present methods for collecting and recording data do not allow for easy comparison or synthesis, hampering follow-up and effective permit enforcement by MoFaMR. Even so, these logbooks are an excellent source of information and the tradition of maintaining them is a solid foundation upon which to improve access to and use of information.

42. Law and policy. A supportive legislative framework exists in the Maldives upon which current conservation practice can be strengthened and improved. Existing laws broadly define the legal parameters, providing a great deal of flexibility to policy makers to strengthen the law and policy framework for conservation and sustainable use. Gaps in the current policy framework include the "who" and the "how" of coral reef fishery management, protected area management, species conservation, waste management, and building local capacity to support policy implementation. For example, until very recently, there was no separate section within MoFaMR responsible for fisheries management issues that were consequently dealt with in an ad hoc manner. Because reef fishery issues have only recently become more important, there is no policy for reef fishery management or for how to effectively implement such a policy at the island/reef level. With respect to protected area policy, GoM, with help from the AusAID MPAS project, is introducing IUCN categories and a protected area management program.

43. With respect to environmental management and impact prevention, the GoM made environmental impact assessments (EIA) mandatory for all new major development projects in the Maldives in 1993. Since then, the GoM has incorporated coral reef health criteria into the assessment procedures (Law No. 4/93). The Environment Section of MoHAHE has been working to improve the EIA process by drafting new guidelines and an information handbook that integrate social and economic impact assessments and public review into the EIA process and outline the operational procedures for Atoll Development Committees, Island Development Committees and Women's Development Committees. This material is under review for final approval by GoM and holds much promise in strengthening the EIA process. Implementation of these procedures would benefit form guidelines for soliciting broad-scale community participation and input to atoll development planning and implementation.

44. Policy implementation/enforcement.

In many cases policy implementation procedures are not clear, to the point of inhibiting implementation and enforcement. In addition, an implementation gap exists between the national level where policies are formed and the atoll/island level where policies should be implemented. This gap is created by insufficient capacity and ineffective communication between the Male'-based ministries and outlying atoll offices. Communication can be improved within and among the existing institutions. Capacity shortfalls in staff numbers and skill levels are a persistent problem for government agencies. A typical solution is to train more people to fill positions requiring higher education levels. While this is important, an overlooked and under-explored part of the solution lies with forming more effective partnerships with atoll and island government offices and with community groups, NGOs, and the private sector. Capacity strengthening within the constraints imposed by the Maldives' geography and population size must include this as part of the solution. For example, a shortage of technically trained staff in MoHAHE's Environment Section has slowed EIA review and hampered monitoring and enforcement. Strengthening implementation partnerships with local atoll officials will be imperative to improving enforcement and monitoring. Partnering with the private sector to shift the burden of preparing EIAs from the Government to the private sector is another promising long-term solution.

45. In addition, increased usage of the internet holds some promise for strengthening communication and implementation. Currently some islands have access to the internet via Dhiraagu the local telecommunications provider. Dhiraagu works with local island NGOs to operate cyber café's in the

islands other than Male'. A GoM/ADB project works with the Ministry of Communications, Science and Technology to provide a network within Male' which will connect all government offices and in its second phase probably connect to Atoll and then island offices. The UNDP's ICT project aims to help develop ICT policy in the Maldives and formulate business models for ICT centers. Plans for the next phase include the establishment of ten telecentres in the atolls.

46. Although many appropriate regulations are in place for biodiversity conservation and sustainable resource use, they are inadequately enforced. Ministries are primarily responsible for enforcement of their respective polices and they rely on police and coastguard services, who are responsible for enforcement in the atolls, but they tend to concentrate on civil offences onshore or patrolling the outer waters of the EEZ. Issues relating to reef resources and near shore waters tend to be overlooked. This is in part the result of a lack of clear delineation of responsibilities between these agencies, and of defined procedures for collaboration on enforcement issues. In addition, the paucity of trained staff contributes to weak policy implementation and enforcement. This points to the need for strengthened community-based management of resources and community empowerment for atoll development all the more crucial to the future of the Maldives' atoll ecosystems.

Public Awareness and Education:

47. Most people in the Maldives are aware of their reliance upon healthy coral reefs for protection against storms and a healthy atoll environment for livelihood security. But this awareness diminishes considerably when it comes to understanding of the fragility of the marine environment and likely social and economic impacts of certain activities. The GoM recognizes the need to increase awareness in order to mobilize public action for the environment. NEAP II establishes 'public awareness and education' as a priority activity for sustainable fisheries management and waste management. MoHAHE's Environment Section implements several sustained environmental awareness efforts. The President's Green Award is presented annually to an individual or institution that is considered to have undertaken outstanding efforts to preserve the environment.

48. The Ministry of Youth and Sports mobilizes youth associations on the islands and is forming a National Association of Youth Organizations in order to sensitize young people to the concept of sustainable development and encourage their participation in national environmental activities. Approximately 110 youth organizations are currently involved in the association, which provides cost-sharing to support local activities. The Educational Development Centre (EDC) of the Ministry of Education develops curriculum, syllabi and educational materials for teachers. The EDC has begun to integrate environmental education into the curriculum and has worked with MRC and ERC in producing educational materials, including a Maldives-specific O-level Fisheries Science course. A basic environmental education course is offered in primary school (grades 1-5). In grade six and above, there are no integrated environmental or ecological studies courses. Although these are promising environmental education activities, most are not customized to the Maldives diminishing their relevance to children.

49. One promising baseline education program in the Maldives involves the private sector. Some resorts are supporting educational field trips for children. Sonevafushi Resort in Baa Atoll finances visits to Baa for "city kids" from Malé, who stay with families in Baa Atoll and visit various sites. The program is organized and run by the NGO "Ecocare." This kind of cooperation between the resort community and the NGO community holds much promise for future capacity building efforts. Baseline programs in adult education are also promising. The Faculty of Computing and Management at the College of Higher Education conducts a 1-year 'Island Administration' course for MoAA candidates covering topics such as island administration, management and strategic planning, and financial accounting. Environmental curriculum is optional and does not cover the environmental attributes of the Maldives. Block consultations revealed an increasing interest in environmental management issues, particularly waste management, ecosystem health, and women's empowerment.

50. The Education Centre in the College of Higher Education designs and produces non-formal educational media, including a free monthly magazine, 'Jamaa'thuge Khabaru' that is widely distributed. In addition, Asian Cultural Centre of UNESCO (ACCU) works with the Center, providing training workshops for the production of non-formal media and helping the NFEC produce environmental books and pamphlets. Because the Center lacks expertise in biodiversity there is much room for improvement in how biodiversity issues are covered by its publications.

Biodiversity Conservation:

51. Existing information baseline: The existing biodiversity information baseline in the Maldives is new, relatively small, and divided among two institutions and at least three databases. Information from ongoing monitoring and research efforts and from overseas journals and reports is being catalogued and organized gradually. Information management is a growing priority in the Maldives; the GEF-financed NPSAP planning process provided important impetus to the idea of strengthening biodiversity, environmental and social-economic data management in the Maldives.

52. MoFaMR has the most experience of any institution in the Maldives with biodiversity research, monitoring, and data management. MoFaMR's Statistical Database Management Service and Marine Research Center (MRC) are developing a national coral reef monitoring database of biological and socioeconomic data as part of the Global Coral Reef Monitoring Network (GCRMN) project that will provide suitable computer facilities and a trained database manager. The MRC has considerable institutional history in and experience with implementing marine research and monitoring initiatives. An on-going coral reef monitoring program encompasses twenty reef sites where reef health and recruitment parameters are monitored regularly, and the data shared with the GCRMN. The regional GCRMN office in Sri Lanka has worked with counterparts in the Maldives since 1998, organizing training courses, workshops and regional meetings to share information. A critical component of this partnership has been to establish the capacity within MRC/MOFAMR to conduct biophysical monitoring of coral reefs as a priority activity under MoFAMR.

53. MRC has collected and identified economically important reef fishes for many years, greatly improving knowledge of local fishes, though this experience has not been applied to other ecologically important groups. MRC conducted a sea turtle monitoring program, but it was not entirely effective in large part because local people were not involved in helping to monitor and gather the data. MRC has made some use of traditional and local capacity and knowledge in its studies of marine resources but there is no concerted effort to inventory traditional knowledge. As an outcome of the NBSAP process, the MoHAHE began to develop a biodiversity information database. This effort is just beginning and MoHAHE recognizes that it must be coordinated with the MRC's existing information database work. At the same time, the MPND has begun to develop a socioeconomic database to support its planning activities. GIS capacity has recently been strengthened with the training of two MoHAHE staff at the Masters level. GIS hardware facilities have been installed in MoHAHE and MPND. Some basic activities have been conducted such as producing resource maps, but software is still outdated and a GIS unit is not yet fully operational.

54. Overall, reef and reef fishery monitoring and assessment practice has been spotty. MRC has collected a significant amount of data, but most of the work has been conducted in Vaavu Atoll, with little done in other atolls. The capacity to manage, utilize, and apply this information effectively in the Maldives is inadequate. As a result, data remain on shelves and are never applied to protected area management or other in-situ conservation efforts, or to coastal zone management. The main, commonly cited reason for this "spottiness" is the shortage in trained staff, although this is a fact of life in a country of 300,000 people scattered across 1,200 kilometers of ocean. This proposal suggests that an important part of the problem is due to the insufficient devolution of responsibility to island and atoll level offices and to island community groups.

55. In-situ conservation: Biodiversity conservation "on the ground" and "in the water" in the Maldives is in the nascent stages of development. Important, preliminary steps have been taken by Government

to secure the conservation of priority species and habitats. But to date, conservation action has focussed primarily upon declaring certain species and/or areas as being protected.

56. Protected areas: With respect to protecting unique habitats, conservation action has been generally limited to paper proclamations preceded by little to no preparation work such as surveys or participatory planning. To date, the GoM has designated 27 sites throughout the country as being protected. Two islands, Hithaadhoo (North Huvadu Atoll) and Hurasdhoo (South Ari Atoll), have been protected because of their unique avian populations and geological formations. At the urging of the tourism industry, MoHAHE protected fifteen dive sites in five central atolls in the mid-1990s. Five years later, an additional ten protected dive sites were declared. One of these sites, Dhigalihaa/Horubadhoo Thila, is located in Baa Atoll. Nearly every protected dive site is relatively small in area, averaging just a few hectares in size. All activities except diving and traditional bait fishing are legally prohibited in these sites.

57. To date, the process of declaring these areas has been largely centralized, which in many cases has weakened local support and hampered management and enforcement of the prohibitions on certain activities in these protected sites. Under current law, the MoHAHE is responsible for designating these sites and MoT is responsible for managing them. But neither MoHAHE nor MoT have the capacity from their offices in Male' to manage existing dive sites in other atolls effectively or even to clearly demarcate the boundaries of the areas. No management plans have been developed for these areas, nor biodiversity assessments conducted. This paucity of information and communication contributes to uncertainty, confusion and misunderstanding. The delegation of management authority to local officials and stakeholders is a relatively new idea in the Maldives and has yet to be tried. Little thought has been given about how to provide local people with incentives to enforce protected dive site regulations. This stymies effective management, monitoring and enforcement and excludes local stakeholders from the process. Collaboration on the management of these sites among MoT, resorts, fishermen and local atoll officials has not yet occurred.

58. Currently, the main protected area activity underway in the Maldives is the Maldives Protected Areas System (MPAS) project being implemented by AusAID through the MoHAHE. The overall objective of the project is to contribute to the development of a system of coastal and marine protected areas to help safeguard marine and coastal biodiversity. In the field, the project is focusing on establishing one protected area in the southern atoll of Addu. The project is conducting field assessments, building an information baseline for management, encouraging community participation and building awareness. At the central policy and institutional level, the project is seeking to strengthen and clarify protected area categories along IUCN's recommendations, management policies and regulations, and establishing a protected area unit within the MoHAHE. These activities will help to clarify and strengthen the protected area management and institutional capacity.

59. Species: Several reef varieties are currently protected by the GoM because they are particularly valuable or in danger of becoming extinct locally due to overexploitation, including the Napoleon wrasse, giant clams (Tridacna spp.), black corals (Antipatharia), sea turtles (though not their eggs), whales and dolphins, whale sharks, manta rays, triton shells and most seabirds. This status prohbits any taking of the species whatsoever. Other species are protected by policies that prohibit their export or harvest in certain areas or atolls. The GoM has proven very effective at enforcing export prohibitions on particular species such as gian clams due to the relative ease with which customs is able to monitor exports from the country's one international airport. Controlling the exploitation of other species for local consumption has proven to be more difficult. Sea turtle eggs, most shore birds, and a variety of other fishery species are heavily exploited for local consumption. Reef sharks are exploited mostly for export of the fins for shark fin soup.

60. In Baa Atoll, MoFaMR has prohibited fishing for reef shark from an area within 20 nautical miles of the outer atoll rim for period of 10 years starting in September of 1998, a measure taken in an effort to maintain shark populations as diving attractions. The effectiveness of this measure is unknown, as no monitoring has been conducted to measure before and after reef shark population levels. While no

export controls have been established for reef shark, this is an effective option open to the government. Despite evidence of severe population declines, other species are still being exploited, including: shore birds, reef sharks, grouper, sea cucumbers, and sea turtle eggs. Effective species conservation at the atoll and island level is also constrained in part by the fact that no biodiversity assessments have been conducted with respect to the location and abundance of these species, nor have species conservation action plans been developed for any protected species.

61. Overall, much work remains to be done in developing an appropriate, sustainable method for conservation in the atolls. Block B consultations and analyses show that protected areas of any type will only be effectively managed when local stakeholders are involved in the management process through innovative public-private partnerships. Block B analysis also shows that the political and institutional environment is ready for space to be created for novel alliances among government, local communities and the private sector. The participation of a wide-range of stakeholders in atoll ecosystem management – in biodiversity conservation and resource management -- is a new untested concept in the Maldives. Currently there are no participatory mechanisms for the fishermen, women's groups, resort community, and government agencies to begin to develop effective management solutions to resources of common interest such as coral reefs and their flora and fauna, as well as uninhabited islands and their natural values. Government is beginning to recognize the importance of active local participation and support to the success of conservation and development at the atoll level. This awareness offers an opportunity for developing innovative approaches to biodiversity conservation and sustainable development among government entities, resorts and local communities.

62. Long-term funding of Conservation in the Maldives: The Maldives is a country "in-transition" from Least Developed Country status to Developing Country status. While this is good news for the Maldives in general, it creates a paradox whereby the country will suffer, at least initially, from becoming richer. With respect to conservation funding, the transition will mean more stress on government budgets as foreign assistance diminishes, making funding conservation programs especially difficult for years to come. Despite the Government's policy goals and existing baseline funding, there remains a considerable unmet, annual funding need for coral reef and atoll ecosystem conservation (Table 1, Annex F). Government funding for conservation will more than likely be insufficient for the foreseeable future and it is reasonable to expect that this conservation-funding gap will hamper atoll ecosystem management and coral reef conservation for at least the next 10-15 years.

Natural Resource Use Practices and Livelihood Development.

63. Resource use Planning: The Maldives conducts extensive development planning, having recently completed the Sixth National Development Plan (6NDP). National development and resource use planning occurs mostly in Male', culminating in an NDP every five years as well as other national plans including the NEAP II, the GEF-financed NBSAP, and the Vision 2020 document.

64. Gradually, input to these national planning processes from atoll and island communities is increasing and was especially important in the recently completed Vision 2020 and the NBSAP planning processes. The NEAP II called for decentralizing environmental planning and action and for strengthening atoll planning through the formulation of Atoll Environmental Plans (AEP) as a priority issue. The GoM/UNDP Atoll Development Project plans to develop these AEPs in three atolls, working with the Atoll Office and the Environment Section of MoHAHE to identify local priorities for action including waste management, beach erosion, and some practical steps to be taken in addressing these issues.

65. Economic and Livelihood Development: One of government's top economic and social development priorities is extending economic development away from the central atolls around the capital of Malé, to the other atolls, which until now have not shared as much in the country's economic growth. GoM is currently implementing a programme to develop regional economic centres with support from the Asian Development Bank. The project is financing port facilities, waste

management, and infrastructure development to promote economic activity in more remote areas of the country.

66. This strategy of decentralization also emphasizes participatory practices and the empowerment of local stakeholders to drive their own development processes. To this end, GoM has been partnering with UNDP to promote participatory development at the atoll level. The Atoll Development Project is working with stakeholders in four atolls to develop community capacity to envision their own future and implement their own development priorities. The project has mobilized communities to set up revolving Atoll Development Funds (ADF) managed by the atoll development committees, based upon island and atoll development plans also developed with the help of the project. Stakeholders access funds from the ADF for small business development or rural electrification or rainwater/ drinking water tanks for island households for example. The ADF have been established in all four atolls using equal contributions from island communities, GoM and UNDP. In one atoll, community investment in the ADF totaled US$25,400 in the second year of operation, a significant sum in an atoll where the economically active population is approximately 700 people and the per capita income is US$36/month.

67. While these programs are slowly extending development activity and capacity to the atoll level, there are many constraints to economic and livelihood development. In particular there are insufficient opportunities for employment in most atolls. In this situation, peoples' knowledge of what other kinds of livelihood options are possible and/or exposure to new ideas is quite limited. Affordable financing is inaccessible. These knowledge and financing barriers increase the perceived economic risk to pursuing new possibilities or adopting new technologies and/or create an aversion to risk and prevent islanders from pursuing alternatives. To many young men and women, the only alternative to traditional livelihoods associated with government or fishing and the services revolving around fishing is to leave to find work in Male' or on a resort island. For those who stay and work as fishermen, reef fisheries can sometimes offer an attractive supplement to tuna fishing. One of the reasons for this is the frequent difficulty of securing sufficient live baitfish for tuna fishing.

68 Government recognizes this problem to some extent and has worked to develop new technologies, particularly in mariculture. The Marine Research Center, with UNDP support, has implemented a pearl culture research program and has successfully cultivated pearl oysters in Vaavu Atoll. Several local residents are employed as assistants and divers and the project is seeking to extend the technology into the fishing community for replication, including in Baa Atoll. UNDP and the Government of Japan will be providing additional funding to initiate extension services aimed at promoting culturing and marketing of pearl products in other atolls, including Baa. Unless the proper techniques are adopted mariculture could itself become a threat to atoll ecosystem integrity. This is why acceptable environmental quality standards for community-based mariculture enterprises need to be developed and extended.

69. Tourism in Baa Atoll. Five resort islands have been developed in Baa Atoll. The first resort (Kunfunadhoo, currently known as "Sonevafushi") was first developed in 1983. The rest of the resort islands in Baa atoll were developed under the Second Tourism Master Plan (STMP) and these have been in operation for less than 5 years. Islands were selected for resort development under the STMP using criteria such as; distance from the airport, size and geography of the island, bio-physical condition of the reef, beach sediment dynamics, coastal vegetation and importance to other sectors.

70. Environmental impact assessments (EIAs) are required prior to developers commencing work on resort islands and environmental monitoring is mandatory for all resorts. Despite these admirable EIA requirements, the weakness in the system appears with the follow-up work. The monitoring, regulation and enforcement of these requirements is weak due to inadequate policy implementation partnerships between local atoll officials and Male'-based MoHAHE officials. Block B surveys showed that varying degrees of impacts were evident from resort island planning, construction, operations and tourist activities. While only one resort had undertaken major ground modeling and

coastal works three resorts were experiencing erosion problems. This is similar or better than surveys of inhabited islands, where nearly all are experiencing some erosion problems.

71. Total tourist arrivals in the Baa Atoll for 2001 is estimated at 29,000, generating annual revenue for the government of approximately US$3 million. Forty percent of tourists dive and over 75% snorkel and/or make day trips to nearby islands. All resorts ban the collection of shell and corals. Dive operators in all resorts were aware of coral reef issues and provide awareness information to their clients. However there was very little environment awareness among resort staff and very little contact between resort staff and dive operators on such issues. From the perspective of dive operators diving and snorkeling causes minimal damage to the reef while many fishing activities can cause direct damage to reefs. Of course, the perspective from local fishermen is just the opposite. Either way, there are ongoing conflicts between dive operators and fishermen over shared priority sites.

72. Fisheries: Traditionally, fisheries activity in the Maldives has focused on the tuna fishery. Maldivian tuna fishermen traditionally roam widely in search of tuna, which range seasonally over large oceanic areas. In response to the nomadic nature of the tuna, Maldivian fishers have maintained a common property management regime to their fisheries, with an expectation of reciprocity in access to the tuna, whether they are near one's own home atoll or far away near another atoll. These same traditional principles of common property and reciprocity also apply to the small reef-associated fish used as livebait in the tuna fishery as well as the reef fishery in general.

73. However, resource management practices are slowly changing with the times in the Maldives. There are some restrictions on fishing in the small marine protected areas/protected dive sites introduced relatively recently, but there is no collaboration in enforcing these restrictions. Other examples of restrictions include the prohibition of long lining for sharks in some tuna fishing points, fishing from house reefs or island lagoons without first obtaining permission from the lessee or in case of inhabited island from the island office.

74. In contrast to the seemingly inexhaustible tuna resources, reef resources are beginning to show signs of overexploitation in areas near resorts and the international airport - the primary outlets for reef fish. There are some reef fishery management measures and regulations in place, such as the prohibition on collecting sea cucumbers using SCUBA gear, size limits on lobsters, and export quotas on aquarium fish and grouper. But these measures are difficult to enforce except at the point of export, where customs officers at the Maldives' only international airport can enforce export policies very effectively. In the field, enforcement of these regulations is hampered for two primary reasons: 1) the fact that is impossible for government to patrol the vast areas of reef in the Maldivian archipelago; and 2 there is no official or traditional, community-enforced management regime or property right w/respect to reef fisheries so local people have little incentive to practice sustainable reef fishery management.

75. Recognizing the importance of healthy coral reefs tourism and fisheries, and the need to address the problems resulting from the increased reef resource usage, MoFAMR developed an Integrated Reef Resources Management (IRRM) programme in 1995 with the assistance of the Bay of Bengal Programme. IRRM is a holistic approach that involves all reef users in the process of collaborative reef management and seeks to combine scientific and fisher folk knowledge with the expertise and input of relevant Ministries. Issue areas considered under IRRM include 1) reef fishery, 2) bait fishery for the tuna fishery, 3) coral/sand mining, 4) tourism and fishery interactions, and 5) legal and institutional aspects reef management.

76. In 1996, the GoM's Fisheries Advisory Board endorsed the following IRRM recommendations:

- Initiate a collaborative, participatory reef resources monitoring and management program involving people directly concerned with reef resources utilization.
- Introduce pilot scale IRRM activities atoll-by-atoll, working through ADCs, and IDCs.
- Increase awareness of fishing community on reef resources management issues;

- Promote reef resources management on an atoll scale. People of one atoll have no incentive to conserve "their" reef resources if there is open access to people of all atolls. IRRM recommends requiring fishermen from all atolls to conform to the atoll-specific management measures.
- Establish a network of marine protected areas covering 20% of the total atoll area and including representative samples of all major habitats.

Although these recommendations have not yet been fully applied in the atolls, these endorsed recommendations provide an excellent basis upon which this project will build.

77. Reef fisheries have borne some of the brunt of the tuna fishery's decline over the past two decades, although the situation varies widely across the country, tending to be more of a problem in areas near many resorts – the primary market for reef fish. With fewer fishermen employed in the tuna fishery, some are beginning to target reef fish varieties. The main reef species targeted include reef sharks, groupers and sea cucumbers. Indeed, there is evidence of a downward spiral of increasing pressure at work here. The more reef sharks and groupers (both top predators in the reef ecosystem), the less the small bait fish are forced to school and the harder they are for tuna fishermen to catch. The less predictable tuna fishing becomes, the fewer men employed in the tuna industry and so on.

78. The MoFaMR's FAD Unit, within the Fisheries Development and Extension (FiDEx) Services Section, has worked to make tuna fishing more predictable by constructing and deploying Fish Aggregating Devices (FADs). These are anchored rafts, deployed in deep water outside the atolls, to attract and aggregate oceanic tunas, notably skipjack (Katsuwonus pelamis) and yellowfin (Thunnus albacares) tuna. This system has been developed over 20 years and has proved highly effective. The tuna, whether on FADs or in free schools, are still caught by traditional pole and line, using large quantities of live baitfish. There are indications that baitfish resources are now being overexploited in some atolls, and it is known that some bait fishing methods damage the coral reefs. FiDEx is now developing a prototype Bait Fish Aggregating Device (BFAD) for use inside the atolls. A single small-size prototype BFAD was deployed in Addu Atoll in June 2001. The design needs more development, but holds promise for relieving bait-fishing pressure on coral reefs.

79. While the BFAD holds promise for relieving reef areas of bait fishing pressure, GoM recognizes that other solutions are needed to bring about a more sustainable reef fishery management regime in the Maldives. In 2000, the MRC formulated an Integrated Reef Resources Management (IRRM) framework in consultation with resource users, community groups and various government departments. The framework promotes the sustainable development and use of reef resources through the development of stronger local management regimes developed in consultation with all the users of each particular reef area. This kind of local institution-based resource management holds much promise in the Maldives. Although it has yet to be implemented in the field, the framework provides an excellent basis upon which this project will build in Baa Atoll.

80. Solid Waste Management (SWM): Improving SWM in the atolls is critical to mitigating pollution in the coastal and marine environment. MoHAHE has recently set up an inter-agency committee to evaluate various disposal options at the island-level, but currently there is no clear mandate or strategic approach to the management of SWM. During project preparation, site visits and discussions with WDCs and IDCs revealed that although many islands share common problems, nearly every island has certain unique features (e.g. lack of land, mangroves and other wetlands) that require custom solutions.

81. In Baa Atoll, a variety of partial solutions for waste disposal have been developed by WDCs in association with IDCs. Some islands have developed effective and appropriate methods of waste management for their own small island contexts. Some islands have already adopted some level of segregation and compaction of cans. However there is no mechanism for them to be able to share their experiences and knowledge with other islands or atolls. Some islands dispose of waste in unlined pits with the risk of leachate contamination of the fresh water aquifer or the coastal environment. Many islands do not even have a designated area for dumping, in which cases the

rubbish is usually dumped on the beach for the tide to carry way or buried in the compound. On particularly small islands, it is not unusual for people to dump refuse out to sea. Consequently, waste pollutes islands and reefs over a wide area. Community-based and funded waste-management programs would help alleviate this problem while providing new jobs in the waste management field.

82. Solid waste management is a problem for resort islands as well, although a slightly different problem. First, much waste washes up on the beaches and needs to be cleared, costing the resorts a lot of time and financial resources to clear it and dispose of it. While all the resorts do manage solid waste to some extent, not all waste can be treated on the island itself. Organic waste is taken out of the island for disposal at sea and inorganic for disposal on Thillafushi, the main waste management island near the capital city, Male'. All resorts dispose of partially treated sewage into the sea from outfalls situated in deep water offshore from the house reef. Block B consultations in the islands identified inadequate sewage disposal as a growing problem for the house reefs around inhabited islands, although not yet for the greater atoll environment. The GoM is working to develop more appropriate sewage disposal options for the small island context. A technical assistance grant from the Islamic Development Bank is developing options for consideration and full-scale implementation.

Proposed Project Alternative Course of Action:

83. Summary of Approach: This project has been designed to build upon the existing baseline of national and local institutions, laws, policies and programs, and development strategies to establish a sustainable regime for the conservation of biological diversity that conserves biological diversity in high priority areas as marine protected areas and, equally as important, integrates biodiversity conservation into productive sector policy and practice. The project's three-pronged strategy will: 1) mainstream biodiversity conservation objectives into sectoral policies and programs and reinforce multi-sectoral institutional fora; 2) conserve biodiversity in situ by establishing protected areas and managing them through innovative national-local and public-private partnerships in Baa Atoll; and 3) relieve livelihood-related pressure on biodiversity by enabling local people to pursue more sustainable, alternative livelihoods.

84. Objective: The objective of this project is to conserve globally significant marine biological diversity and atoll ecosystem health in the Maldives' Baa Atoll.

85. Purpose: By the end of the project, stakeholders will have changed their accustomed practice in the following three most important ways. First, they will be mainstreaming biodiversity objectives into sectoral decision-making and making better use of multi-sectoral fora to share lessons learned and replicate best practices. Second, they will be forming and maintaining alliances among diverse groups of stakeholders to conserve biological diversity in Baa Atoll by strengthening the information baseline, surveys and monitoring, effectively operationalizing marine protected areas, and creating a novel institutional space to secure long-term sustainability for conservation. Third, they will be reducing pressure on biodiversity resources by empowering their own communities to pursue alternative livelihood options through and skills enhancement training and a atoll development fund.

Outcomes:

Outcome 1: Biodiversity is Mainstreamed into Sectoral Institutions and Policies. [GEF -- US$823,900; Co-Financing -- US$1,500,294]

Under this outcome, the project will strengthen existing institutions' ability to mainstream biodiversity considerations into national policies and policy implementation and regional development priorities and regional development action.

Activity 1.1: Promote effective linkages among government agencies

1.1.1 Reinforce multi-sectoral institutional fora. It is important to integrate biodiversity conservation with other forms of land and marine resource use. Multi-sectoral fora must play an important role in mainstreaming biodiversity considerations into national policies and regional development priorities. Under this activity, the project will reinforce the ability of existing multi-sectoral fora to integrate biodiversity and ecosystem conservation objectives into the decision making process at the Ministerial level. Targeted capacity building efforts will update the mandates and strengthen the capacity of four key Ministerial advisory bodies to integrate social, economic and environmental information into the decision making process. These advisory bodies are: 1) the National Commission for the Protection of the Environment (NCPE); 2) the Fisheries Advisory Board; 3) the Tourism Advisory Board; and 4) the Ministry of Planning's national planning group.

Where appropriate the membership of these boards will be broadened to include full stakeholder representation. Project resources will support the development of Terms of Reference for board members to ensure the incorporation of EM principles into sectoral programs as well as training for board and commission members and their support staff in decision-making processes for optimizing ecosystem benefits. The capacity of support staff to present issues effectively –and provide vital technical information to the decision makers will be strengthened by in-country workshops and on-the-job training from experts in the field as well as the most appropriate international conferences and seminars on ecosystem management.

1.1.2 Strengthen linkages among government departments responsible for economic development and environment. Under this activity, project resources will help the MoT establish institutional linkages with the Resource Management Section of the Ministry of Fisheries and Marine Resources (MoFaMR), the Marine Research Center and the Environment Research Centre (ERC) to enable MoT to integrate environmental and biodiversity information into the resort island selection development and long-term management processes. ERC staff will be trained in how to integrate biodiversity and ecosystem health objectives into their coastal development oversight work by reaching out to relevant departments in other Ministries for information.

In order to facilitate the integration of biodiversity considerations into the national development planning process, project resources will help the Ministry of Planning and National Development (MPND) strengthen its institutional linkages with MoFaMR, MoT, and MoHAHE, by identifying key insertion points for biodiversity objectives and ecosystem-oriented cost and benefit information into the national development planning process.

A strong institutional environment for biodiversity conservation requires a balance of responsibilities between local and national levels. Project resources will help the Ministry of Atolls Administration (MoAA) strengthen the ability of atoll and island officials to integrate conservation and development practice in their atolls. Complementing co-funded activities from UNDP, GEF resources will support the training of atoll-level and island-level stakeholders in participatory techniques, ecosystem management principles, and decision-making processes. Incorporating these issues into the Island Administration Training Program run by the Faculty of

Management and Computing of the College of Higher Education will ensure that they become a permanent part of atoll administration in the Maldives.

Activity 1.2: Enable technical staff to integrate biodiversity and ecosystem management objectives into productive sector programs.

This activity will enhance the skills and the availability of tools for technical staff in key Ministries.

1.2.1 Reinforce the ability of institutions to access and analyze information on biodiversity and ecosystem health. In order to effectively integrate conservation and development (implement ecosystem management) decision makers and managers need to know how to use information – how to access it and apply it to policy development and resource management. Project resources will strengthen the capacity of key decision makers at the national, atoll and island levels to effectively utilize this information for management purposes through hands-on practical demonstrations with working groups.

Uncertainty and lack of information are constraints that decision makers must face daily. In order to be able to incorporate information into the decision making process, one has to be able to learn while doing: to adaptively manage. Key staff from four Ministerial advisory bodies will receive training in adaptive management and how to draw upon information to support decision-making. Knowledge testing administered before and after training sessions will assess training results.

Information management and data analysis training will bolster the capacity within:

- The MoFaMR to collect and analyze of reef fishery and socioeconomic data, including the use of new software and econometric models for cost-benefit analysis.
- The ERC/MoFaMR to analyze data on reef and coastal biodiversity and atoll resource use patterns, and inform decision makers on marine resource management.
- The MoT and MoAA to analyze and apply information to improve on-going management of shoreline infrastructure, including "best environmental practice" coastal engineering options.

1.2.2 MoFaMR's Resources Management Section and other relevant sections within MoFaMR will be trained in how to analyze and integrate information on fish catch, biodiversity, socio-economic conditions and policy, and apply it to the ecosystem-management of fisheries resources. The staff of Fisheries Development and Extension Service Section (FiDEx) will be trained to educate fishing communities in resource management and its capacity strengthened to promote community participation in ecosystem management of fisheries resources. New data gathering and analysis techniques will be required and the capacity of the Statistics and Economics Sections of MoFaMR to collect, compile and analyze data on reef fisheries will be strengthened.

1.2.3: Provide advance-level training opportunities to enhance technical capacity for biodiversity conservation and ecosystem management. Given the lack of trained people in the Maldives, the absence of universities in the country and the promise that the relatively young civil service holds for the future, the project will provide some co-funded long-term training. Up to five individuals will be selected on a competitive basis for degree and higher-degree training in natural resource management, conservation biology, and related fields. Maldivian students trained under government-sponsored initiatives have an exceptional record for returning to work in the country in their chosen field. Under this scheme, each scholar will be required to work for the project or in a directly related capacity upon return from training.

Activity 1.3:Integrate biodiversity into existing sectoral policies and clarify and strengthen implementation procedures and enforcement.

1.3.1: Formulate an integrated marine resource management and biodiversity conservation policy and clear implementation procedures. Under this activity, the stakeholders will formulate and adopt an integrated marine resource management policy that will harmonize the different government Ministries' policies on marine resource use and management. This policy will include a requirement to elaborate and implement management plans for species under threat or in danger of becoming threatened and the integration of these management plans with atoll and island development planning. These management plans will be formulated with biodiversity conservation as a priority requirement and guiding principle. This activity will build upon the AusAID MPAS project's experience in strengthening protected area policy. Policies and implementation procedures will be strengthened to support local management at the island and atoll level for reef fishery resources.

1.3.2. Strengthen the effect of existing environmental policy on coastal development practice. Project resources will help the Ministry of Home Affairs, Housing and Environment (MoHAHE) improve its environmental review function w/respect to coastal development practice in three ways: First, by establishing clear implementation and enforcement procedures for all Ministries for coastal environmental protection policy. Second, by opening up the coastal development and the environmental impact assessment (EIA) process for public comment and involvement. Guidelines will be promulgated to encourage community input to the EIA process, including IDC or ADC review and feedback on development plans in their area. This will also include working with the MoAA to elaborate procedures for soliciting public participation in atoll development planning. For example, ADC regulations could require atoll development plans and projects be distributed to island offices and posted for public review. Third, by strengthening provisions for EIA enforcement at the atoll level, the linkages will be strengthened between the MoHAHE in Male' and the Atoll Office in order to reinforce monitoring, regulation and enforcement of EIA procedures at the atoll level.

1.3.3. Formulate and adopt clear guidelines and basic codes of practice for incorporating biological diversity objectives and the ecosystem approach into sectoral programs. These guidelines and codes of practice will be developed and incorporated into atoll development planning and management, fisheries management, solid waste and wastewater management, and shoreline development and environmental impact assessment practice, and tourism development. For an example of an "ecosystem approach" to fisheries management, see Annex I.

1.3 4: Orient policy and regulatory mechanisms to provide incentives to support conservation and ecosystem management. Policies and regulations that contribute to ecosystem decline by providing incentives for destructive behavior or disincentives for constructive behavior will be highlighted. For example, the polluter pays principle is not part of Maldivian environmental protection law and/or policy. The principle requires polluters to pay for clean up of any pollution or rehabilitation of any reef damage, providing a strong disincentive. Options for changing these policies so they create incentives for biodiversity conservation will be developed and proposed through the existing institutions.

1.3.5 Strengthen enforcement of reef species fishing restrictions. Under this activity, one of the underlying causes of species loss – the international market for reef shark and grouper -- will be addressed. Export restrictions will be extended to reef shark and grouper in order to improve the effect of existing regulations that prohibit shark fishing, for example, in Baa Atoll.

Activity 1.4: Conduct targeted research to quantify values and benefits of biodiversity and ecosystem health.

This activity is designed to support the policy and decision-making processes by providing a clearer understanding of ecosystem goods and services and their associated values. Project resources will support a modest level of targeted research to highlight the values and benefits of biodiversity and healthy ecosystems. Without this kind of information and understanding, stakeholders are ill-prepared to judge ecosystems' productive capacity, to recognize trade-offs being made as part of the normal decision making process, to assess the long-term consequences of those trade-offs, and to design and implement effective policies to address these issues.

Targeted research will be conducted by the ERC, MRC, NGOs and qualified individuals and will be organized to provide training for young field researchers. Research topics could include:

- Quantifying "dollar value" of ecosystem goods and services and the full "costs" of activities that degrade them to highlight trade-offs inherent in ecosystem management decision-making.
- Market attributes & economics of extractive use (e.g. grouper, aquarium species) and non-extractive use;
- Non-market and non-use values;
- Impacts of fishing and diving on reef health;
- Willingness to pay studies on tourists in general and on divers, snorkelers, sport fishermen.

Activity 1.5: Strengthen the constituency for biodiversity conservation.

1.5.1 Build a youth constituency for atoll ecosystem conservation by helping local schools to teach children about their own Maldivian environment. Under this activity, syllabi and course materials for elementary and secondary grades in Environmental Studies and General Science will be reviewed and revised, new learning and teaching materials tested in Baa atoll schools. Teachers will be trained in using these new materials. The project will support pilot efforts to introduce practical and field work in Environmental Science by supporting programs to enable teachers and school children to learn how to snorkel and dive in order to experience the marine environment first-hand. At least two television documentaries targeted at young audiences will be produced, highlighting young Maldivians working to conserve biodiversity.

1.5.2 Strengthen the capacity of local associations and environmental NGOs to raise awareness. Education and awareness courses will be organized with women's development committee representatives and school groups in Baa. A teaching of trainers approach will be utilized whereby the project will focus on enabling the more promising groups to produce and implement actual courses for other committees. An awareness activity manual will be produced with and distributed by youth organizations. Activities will be monitored and expanded to other islands.

1.5.3: Awareness for and appreciation of coral reef and atoll ecology generated among resort operators and staff and tourists. Under this activity, a manual and video for biodiversity conservation, responsible tourism practices and guest awareness will be designed in coordination with MoT and MATI and distributed to resort management staff in Baa. This will include the design and distribution of "best practices" guide and 'crib sheets' for dive and safari boat operators, as well as guidelines for responsible reef fish purchasing.

1.5.4: Awareness for and appreciation of coral reef and atoll ecology generated among fishermen. Radio documentaries will be produced to publicize marine conservation issues and proactive reef resource management to solve these problems. These documentaries will be targeted at fishermen and will be designed to be entertaining, yet educational as well, emphasizing that sustainable fisheries and biodiversity conservation are in the fisherman's interest.

Outcome 2: Stakeholders Establish Model Sustainable Biodiversity Conservation Practices in Baa Atoll. [GEF --US$1,283,000; Co-Financing -- US$1,350,000]

Under this outcome, stakeholders will develop sustainable biodiversity conservation practices planned within the ecological context of the atoll ecosystem and conducted in an effective, participatory manner. Activities include completing and maintaining a useful baseline of information through targeted surveys, research and monitoring, developing a participatory atoll-wide conservation plan, establishing three marine and/or coastal protected areas with significant community input and management support, and developing a modest, effective long-term revolving funding mechanism to support conservation action in Baa Atoll for at least 25 years into the future.

Activity 2.1: Complete and maintain a useful baseline of information on biodiversity and ecosystem health through surveys, targeted research, and monitoring.

Government and local communities need information to manage biodiversity effectively. This activity will generate that information.

2.1.1 Complete Block B-initiated baseline assessments as the basis for ongoing survey, research and monitoring. Follow-up assessments will be conducted by the project during the first year of the project. Baseline assessments and surveys will be conducted of:
a)aerial photographs and satellite imagery to achieve basic coverage of Baa Atoll
b) published and unpublished information on biodiversity, resource use, and fisheries;

2.1.2: Conduct biodiversity surveys and targeted research to support proactive management. Surveys of priority species and habitats will be conducted over the lifetime of the project to build on the information baseline. Initial surveys will cover:
a)resource use patterns; ii) gender & resource use; iii) property rights; iv) traditional knowledge
b) water quality in designated sampling sites near inhabited and uninhabited islands;
c)terrestrial & marine habitat condition and extent (e.g. hermatypic coral recovery rates);
d) reef biodiversity in priority areas (e.g. reef shark distribution and abundance);
e)coastal biodiversity, including sea turtle nesting beaches and sea bird roosting sites;
f) hydrography and sediment dynamics around selected islands;
g) shoreline solid waste.

Survey work will be conducted or overseen by the MRC and the ERC in collaboration with NGOs and Women's Development Committees (WDCs). The surveys will be designed and conducted in a way that is sustainable in the Maldivian context. Project resources will enable ERC and MRC to devise a survey methodology that is low cost, participatory and that strengthens local capacity. Limited, targeted research also will be conducted to improve understanding of ecosystem structure and function and species ecology and habitat needs.

Data will be compiled in standardized map and report formats and survey methodology will follow recommended best practices 4. Surveys will be designed to involve community groups, atoll officials, and resort partners. For example, as part of the resource-use assessments, island youth organizations will map the boundaries of customary fishing areas in the atoll and/or agricultural areas on priority islands. Survey data will be complemented by NOAA/NASA, SPOT, Landsat and other satellite imagery to support GIS work.

2.1.3: Monitor atoll biodiversity and ecosystem condition. The technologically appropriate, low-cost "Reef Check" community-based monitoring protocol of the Global Coral Reef Monitoring Network (GCRMN) provides the basis for the project's monitoring activities. The MRC and the ERC will carry out the monitoring around designated coastal and marine areas in Baa Atoll in

[4] L. Bunce, P. Townsley, R. Pomerory, R. Pollnac. 2000. Socioeconomic Manual for Coral Reef Management. Australian Institute of Marine Science/Global Coral Reef Monitoring Network. Townsville, Australia.

partnership with local communities and schools with the intention of providing data on the field survey priorities described above.

As part of the project's focus on establishing sustainable conservation mechanisms, the project will reinvigorate the involvement of the private sector in ongoing monitoring at the island level in Baa Atoll. With the project's support, the MoT will improve the existing island and house-reef monitoring programs each resort is required to undertake as part of their lease agreement with MoT. Information gathered under this effort will shed more light upon the impacts of tourism on the atoll ecosystem by more effectively monitoring: water quality around resort islands, beach erosion, reef health vis-à-vis diver/snorkeler numbers and associated impacts. Project resources would establish standardized monitoring procedures and data collection methods and formats to enable the integration of this data with the Reef Check data and to enable the comparison over time of data to assess trends.

2.1.4 Upgrade information management and geographic information system (GIS). Good, basic data management is crucial to an institution's ability to access the information to inform decision-making processes. Under this activity, GEF resources will support stakeholders in standardizing and incrementally upgrading existing databases and GIS software, linking them to a central GIS system over time and ensuring that they are adequate to manage data gathered by survey and monitoring efforts and are compatible with the international GCRMN database.

Activity 2.2: Stakeholders develop a biodiversity conservation plan for Baa Atoll.

Under this activity staff from the Ministries of Fisheries, Environment, Planning, and Atoll Administration will work with project staff, atoll development committees (ADCs), WDCs and island development committees (IDCs), and resort owners to develop a biodiversity conservation plan for Baa Atoll.

The planning process will rely on a two-way flow of information between national and local stakeholders, with consultations in Male' and in each of the ten inhabited islands in the atoll. Relevant information on specific habitats and areas of conservation importance (e.g. priority habitats, species assemblages, locations of important ecological processes, and so on) will be mapped in a participatory process with island stakeholders, as will sites or zones used for diving, snorkeling, and fishing. Terrestrial and marine habitats will be prioritized for conservation action. In the process, community leaders will be trained in marine and coastal conservation planning. Based on this process of documenting and mapping information, stakeholders will learn to apply marine and landscape ecology principles to define the ecological needs and specify priority marine and terrestrial habitats and species for conservation.

This participatory approach will be applied to the process of adopting the plan at the national and atoll levels. Approval from the National Commission for the Protection of the Environment and its member Ministries, the ADC, and resort stakeholders will be required before implementation.

Activity 2.3: Stakeholders establish up to three marine/coastal protected areas in Baa Atoll.

2.3.1 Establish protected areas. The conservation planning process under activity 2.2 will lead directly to the establishment of at least three protected areas and the development of participatory protected area management agreements. Based upon the detailed rankings established under the atoll conservation plan, the MoHAHE and the MoFaMR will legally establish three marine or coastal protected areas under one or more of the IUCN protected area categories, most likely categories I, IV and V. This project's approach to protected areas has been designed to further develop the concept of community-based protected area management, complementing the institutional protected area framework and IUCN protected area categories being established as the standard under the AusAid MPAS project. The protected areas will encompass the highest conservation value habitats in the atoll.

2.3.2 Develop conservation agreements and build local capacity. Essential to the ability to successfully manage these areas, will be the establishment of effective community conservation partnerships among atoll, island and resort leaders in Baa Atoll. The project will serve as the neutral venue and the catalyst for this ground-breaking work, bringing the disparate groups together for trust building exercises, and building capacity of the key actors to collaborate effectively in the long-term. Working with local stakeholders, national officials will progressively phase in management of these areas as appropriate, based on the progress in developing local stakeholder conservation agreements. With technical input from the project, stakeholders will prepare and implement management plans for reef and other biodiversity resources in these areas.

Building capacity at the atoll and island levels for conservation and natural resource management is of fundamental importance for the long-term effectiveness and success of conservation efforts in the Maldives. Most of the project's capacity building resources will be focused on people-to-people sharing lessons learned and best practices. Building on UNDP's ongoing success with this kind of capacity building, the project will support regional study tours for national and local leaders on participatory management and conservation. Overseas short-term training will prepare trainers to conduct in-country training modules for community participation in conservation. The project will support diving lessons for local leaders and local schoolchildren will compete for conservation internships with the project.

2.3.3: Stakeholders implement Atoll-level species conservation plans. Under this activity, the MRC will prepare and implement conservation measures for migratory species, including: turtles, birds and cetaceans. The effectiveness of these measures will rely largely upon local capacity to implement community-based management of natural resources in partnership with Government. For example, voluntary guidelines will be developed for not disturbing nesting areas during certain times of the year.

Activity 2.4 Pilot a long-term financing mechanisms for biodiversity conservation in Baa Atoll.

The significant value of Maldivian atoll ecosystem makes it feasible to create a long-term revolving fund mechanism to channel revenue from ecosystem-dependent economic activities like tourism back into conservation. The fund provides the institutional and political space to create a novel alliance for conservation among diverse groups from the national and atoll level.

2.4.1. Consultation, Design, and Establishment of the Baa Atoll Conservation Fund (BACF). Project resources will support extensive consultations to establish the BACF's operational structure, procedures, board composition, asset management arrangements, by-laws, and funding priorities to fit the atoll context. The BACF will be designed as a revolving fund mechanism financed primarily by government and resort resources in Baa Atoll with supplementary one-time financing from GEF, UNDP, the GoM and the private sector. In accordance with GEF's 'best practices' for conservation trust funds[5], the Fund will be established as a non-profit legal entity outside of government. The BACF will be open and participatory in its design and operation, governed by a board of directors comprised of 50% non-governmental members from the resort community, NGOs and local community fishers or women's groups.

The BACF will be established as an NGO under legislation being considered by Parliament. UNDP and GEF resources will support the development of the BACF operational structure, eligibility criteria for grantees, disbursement procedures, reporting requirements, asset management arrangements, appointment of board members and good fiduciary management

[5] See the Global Environment Facility's *Evaluation Report 1-99: Experience with Conservation Trust Funds*, which is available on line at: www.gefweb.org , under the section titled "Monitoring and Evaluation".

(disbursement procedures, reporting requirements, fund procurement mechanisms, and auditing procedures) in an open, trust-building way, drawing upon recommendations from the GEF Evaluation of Conservation Trust Funds and relevant "best practices." (For details see Annex F).

2.4.2: Capitalization of the BACF. Recurrent costs of biodiversity conservation activities at the time of launching the BACF are estimated to be $90,000/year. A funding mechanism will be established whereby a government and participating resorts contribute regularly to the BACF's revolving fund, beginning at an estimated US$100,000 the first year and increasing by an estimated 3% per year thereafter to cover inflation. The GEF will be asked to make a one-time contribution of US$250,000 in year two of the BACF (year five of the project) to supplement the BACF's funding mechanism. Because the revolving fund will not be established until year 4 of the GEF project, there will be time to reach consensus on the revenue capture mechanism during the first three years of the project.

The fund will market itself continuously in search of charitable contributions from the large tourism sector in the Maldives, but the total amount of such ad hoc contributions, estimated at US$100,000, is likely to be inadequate to support recurrent costs. The BACF would be capitalised at US$593,000 at the time it begins funding the recurrent costs of conservation in Baa Atoll. Based upon a return of 5.5% annually, the Fund's capitalization would grow to a total of approximately US$751,000 by the end of year ten. Beginning at this level, the BACF Bridging Fund's capital is projected to be sufficient to cover the estimated $90,000 in annual recurrent costs (growing by 3% per annum) for at least 20 years. (See Table 4 in Annex F for detail)

To assist the private sector in securing its annual contribution to the BACF, the project will fund a study to work with the resorts to assess the best options for them to raise finances for their annual contribution to the BACF. The study would include a "willingness to pay" survey of tourists and recommended options for recovering the costs associated with protected area management and conservation by charging or securing to donations/contributions from tourists.

Activity 2.5: Project activities and outputs are monitored, evaluated and lessons learned are disseminated within the atoll, nationally, and internationally.

Learning while doing and sharing those lessons is a priority of this project. Project activities will be evaluated, reasons for success and failure discussed, documented, and lessons learnt are disseminated. Project resources will support publication in Divehi of lessons learned papers and an annual, open round table discussion where project mistakes and successes will be discussed among stakeholders from other island, atolls and government ministries. Particular effort will be made to link planning and finance institutions with pilot activities in sustainable coastal development and livelihood development in order to maximize replication. Information will also be disseminated and shared internationally with, for example, international initiatives like the Global Coral Reef Monitoring Network.

UNDP-GEF recently launched the SHARK (Sharing Reef Knowledge) Network. The network provides a forum for projects to exchange information and learn from each other. The network will encompass all 16 UNDP-GEF supported coral reef conservation projects and 5 participating Small Grants Projects. Under this activity, this project will play an active role in the network through web-site postings, face-to-face meetings among project principals and occasional site visits when appropriate and useful. Through SHARK, the project will interact with other networks, such as AUSAID's Coral Reef and Fisheries Network,.

Outcome 3: Stakeholders Pilot Sustainable Natural Resource Management & Livelihood Development Practices in Baa Atoll [GEF -US$263, 000; Co-Financing - US$2,982,200]

Under this outcome, pressure on reef resources will be reduced in Baa Atoll by enabling stakeholders to re-orient some fishery-related livelihoods to other, less extractive and more sustainable options such as employment with local resorts, mariculture, and arts and crafts.

Activity 3.1:Stakeholders forge an Atoll Development and Environment Plan for Baa Atoll.

Forge Atoll Development and Environment Plan (ADEP). UNDP and Government resources will support the development of an ADEP for Baa Atoll. The plan will be developed in an open, participatory manner and will elucidate Baa Atoll's strengths and weaknesses w/respect to attracting investment and cultivating long-term economic development. The plan will then develop detailed action points and specify government and community commitments required to build upon Baa Atoll's assets and to minimize the atoll's development liabilities as identified by stakeholders. For example, educated people and a healthy ecosystem and wildlife aare assets and insufficient infrastructure and environmental degradation are liabilities.

The ADEP will serve as the funding program for the atoll development fund developed under Activity 3.2. To help identify areas of existing or potential conflict and thus in need of an intervention, the project will develop and resource-use map for Baa Atoll. Existing development and resource use, their impacts, and areas of user conflict will be mapped. Sites used for diving, snorkeling, fishing, and coral/sand mining will be mapped as will what is known of currents and sediment movement, modified shorelines and plans for shoreline modification, sewage outlets, and waste dumps. The map will illustrate the existing or potential impact on the main environmental parameters like water quality, sediment load and movement, shoreline stability coral health, and upon priority habitats identified by the conservation plan developed under Outcome 2. This mapping process will include on-the-job training in coastal zone planning will be conducted for atoll and island administration officials, and fishery and environment officers.

3.1.2. Develop Atoll Ecosystem Management Component of ADEP. GEF resources will "top-up" the ADEP effort with the development of an ecosystem management component comprised ecosystem health parameters and specific goals, model island ecosystem management plans for two islands in Baa Atoll, and simple guidelines and codes of practice for applying ecosystem management at the atoll and island levels in the Maldives. The seven Island Development Committees (IDCs) in Baa Atoll will compete for project funds to support the development of two island-level ecosystem management plans for their respective use areas. These island-level plans will cover issues such as wildlife conservation, habitat management, including nesting beaches, forest cover, and house reefs.. The two plans will differ according to the issues that are particularly important to each island. The plans will serve as models for local ecosystem planning and management throughout the Maldives.

Activity 3.2: Stakeholders pursue new livelihoods by upgrading their skills and generating their own seed capital.

Under this activity, UNDP co-funding will support self-help social and livelihood development in the Baa Atoll that opens up a variety of options for new employment in the atoll, from entrepreneurial development of arts and crafts, to mariculture, to training for employment in the tourism sector.

3.2.1: Strengthen social capital among local stakeholders in Baa Atoll. Under this activity, UNDP co-funded activities will strengthen social capital through needs based planning and skills training at the island and atoll level. Policies will be modified to support and promote entrepreneurial enterprise in the atolls. Participatory Rural Appraisals will be conducted and analyzed for links between the environment resource base and peoples' livelihoods, assets and income opportunities. In order to lower the knowledge and perceived risk barriers that prevent stakeholders from pursuing alternative livelihoods, the project will facilitate discussions among island and women's development groups of possible income generating options. GEF financing will support the development of a livelihood feasibility options paper through a participatory and consultative process to support these discussions and help stakeholders decide which ideas hold the most promise.

3.2.2: Set up Atoll Development Fund in Baa Atoll. ADFs will be set up in Baa Atoll and consolidated in Vaavu to accommodate the credit needs of income-generation groups formed among disadvantaged households. Stakeholders will establish ADF rules and procedures at the island and atoll levels, and secure financial contributions from their own communities and Government. Local capacity to operate the ADFs will be strengthened by on-the-job training in fund administration and accounting and interaction with Bank of the Maldives personnel. Successful ADF borrowers will be "graduated" to the Bank of the Maldives to access long-term financing to replicate successful activities. Loans could be extended to support activities 3.2.3 and 3.2.4. For example, a local person could borrow from the ADF to attend the tourism training course and secure a job with one of the local resorts.

3.2.3: Assist mariculture livelihood development. UNDP resources will support the demonstration of mariculture-based livelihood options. Pearl mariculture and possibly giant clam mariculture will be demonstrated in Vaavu Atoll initially with support from the Japanese Fund for Human Resource Development. GoM/UNDP atoll development activities will enable entrepreneurial groups of fishermen and women to replicate mariculture alternatives demonstrated in Vaavu in Baa atoll.

3.2.4: Generate tourism skills among local people, guidance to resorts on supply chains in food and services from local communities, and tourism policy recommendations to maximize local employment and procurement benefits resort operation and development. Under this activity, the project will maximize the employment of local people in the local resorts in order to disburse the "benefits" of tourism development in the Atoll more broadly across the atoll population. This activity will include establishing a modest training program in the capital island, Edyafushi, for local people to be trained in practical and needed skills for employment at the local resorts. The program will be developed, designed and run in close consultation with local resorts in order to ensure the course produces people with skills that the resorts need.

Activity 3.3: Developing a more sustainable tuna fishery: pilot model bait fish aggregation devices in Vaavu and Baa Atolls

Under this activity, the Ministry of Fishery's FiDEx Section will design and position bait fish aggregation devices (BFADs) in collaboration with fishermen on the three primary tuna fishing islands in Baa atoll. The purpose of this activity is to relieve pressure on coral reef resources by piloting these BFAD devices off the coast of the atoll. BFADs are a potential solution to the

conundrum of how to meet the Maldivian tuna fishery's need for live baitfish and yet maintain the ecological health of coral reefs.

FiDEx will construct and deploy the pilot BFADs and conduct participatory monitoring of them with the fishermen. Agreement will be secured among local fishermen regarding maintenance. The performance of each BFAD will be evaluated (i.e. their ability to attract and retain baitfish, enhance tuna fishing, and relieve pressure on reef resources/reef biodiversity). Once a successful design is tested, FiDEx will expand the program to other atolls through a cost-sharing partnership with local fishing communities. In so doing, the project will mitigate the over harvest of baitfish, one of the root causes of ecological imbalance and biodiversity loss in the coral reef ecosystems.

Activity 3.4. Piloting community-based integrated reef resource management

Inadequate reef resources management is one the main causes of unsustainable exploitation of marine resources. GEF resources, along with co-funding from UNDP and Government will support MoFAMR in developing a pilot participatory reef resources management program with the Baa Atoll fishing community, MoAA, MoHAHE, and the private sector. Management action plans for each of the major reef fisheries in Baa atoll will be prepared. Biological and socio-economic surveys conducted under Outcome 2 will support the process. Traditional and local knowledge of fishers will be incorporated in these assessments and into the process of developing this new reef fishery management approach. A fisheries enforcement plan will be developed as part of the program. Because this activity will involve local stakeholders as partners, it will address many of the enforcement difficulties that hamper current "top-down" efforts to manage reef resources. This includes high costs of monitoring large, highly scattered marine areas.

Activity 3.5: Island-level stakeholders pilot solid waste management (SWM) solutions.
Under this activity, government supported waste management programs will be developed to demonstrate low cost, island waste management.

3.5.1: Principles developed for guiding SWM in the Maldivian context. Under this activity, principles will be developed for solid waste management to help people frame their individual island solutions using simple steps to control and manage waste. Each island has a different situation vis-à-vis the waste stream, resources available to them, space constraints, and so on. These principles will consider also the need for reducing uncontrolled waste disposal's growing impact on ecosystem health and biological diversity.

3.5.2 Stakeholders pilot island community SWM programs on at least two islands in Baa Atoll. Two islands in Baa atoll will be chosen based upon stakeholder support and willingness of communities to apply their own resources to developing a waste management solution. The project will help communities take simple steps to develop appropriate, model SWM solutions. The approach developed will utilize appropriate technology and emphasize the importance of handling the waste stream so that it can be more easily disposed of properly (organic waste composted or dumped in the ocean, inert materials like glass, aluminum, and packaging compacted and put in a landfill or recycled, and toxic or dangerous material taken off the island to a more appropriate management site. The approach developed will be based upon five main activities: reducing, sorting, composting, recycling/landfilling, and exporting.

To reduce the amount of waste requiring management in the islands, stakeholders will lobby merchants for goods to be supplied to islands in bulk to reduce packaging and thereby reduce waste. This will be combined with government initiatives at the national level to require importation of appropriately packaged consumer goods. Waste will be sorted at the household or other source level. This will require increased community awareness.

One waste management center (WMC) will be established for each island equipped for segregation, compaction and storage of waste materials. The WMCs are to be staffed with at least

one dedicated director of waste management. Depending on the size of the island, additional staff may be required to assist. Each center will compost household green and kitchen wastes, bale and store inert solid waste, shred coarse green waste, and collect and store toxic or dangerous waste for infrequent export to the Malé waste management center. This activity will complement, and be coordinated with, the activities for Outcome 1, by engaging policy makers, financiers and regulators in these pilots to help them understand the challenges and needs with respect to replicating these activities and their role in doing so.

Activity 3.6: Demonstrate low-impact shoreline development practices in two sites in Baa atoll.

Destructive shoreline modification practices are a proximate cause of habitat destruction in the atolls. Under this activity, simple, practical guidelines that effectively integrate biodiversity conservation and ecosystem management objectives into shoreline modification, harbor dredging, and other coastal modification activities will be devised and tested. The guidelines will be elaborated by the ERC with technical support provided by the project. The ERC will then apply these guidelines in the course of their normal development review function. Application of the guidelines will result in more "biodiversity-friendly" practice, minimizing sedimentation of globally important coral reef ecosystems and maintaining water quality of near shore waters. Co-funding resources will support expert consultations with atoll and island communities and with resort operators to define gaps in knowledge and experience. This activity will complement, and be coordinated with, the activities for Outcome 1, by engaging policy makers, financiers and regulators in these pilots to help them understand the challenges and needs with respect to replicating these activities and their role in doing so. Specifically, this activity will contribute to Activity 1.3, formulating guidelines and codes of practice for low-impact shoreline modification, coral & sand mining, harbors, channels, jetties, land reclamation.

Expected Global & National Benefits from this Project:

86. The global community will benefit significantly from the total economic value (TEV) of atoll ecosystem health and biological diversity maintained in Maldives. Within the TEV framework, both indirect use (insurance) and passive use (existence) values are likely to be far greater for the rest of the world than for the Maldives itself. The project will spearhead the management conservation of atoll ecosystem health and coral reef diversity. Turning to existence value, the project sites will preserve an important repository of globally important flora and fauna. It is well known that the passive use (existence) values of these species are nontrivial on a per capita basis, at least to people of reasonably high income and education.[6] Because the population and income per capita of the developed economies outside of the Maldives far exceed the levels within, there are two logical conclusions with respect to the global benefits of this project: 1) there is a large total existence value associated with the Maldive's overall biodiversity; and 2) the vast majority of that value accrues to the global community.

87. Local communities in the two atolls constitute the primary domestic beneficiaries, although the project is working with a wide range of stakeholders from Government agencies to private tourism operators, all of whom will benefit from the project, but who will also contribute. Local communities receive a number of ecological goods and services from atoll ecosystems. As economic and demographic changes in these communities have outpaced their ability to adapt livelihoods to engender ecological sustainability, they have become locked in a cycle of degradation. The project enable these communities to develop more appropriate property management approaches and livelihood technologies, financing, and inputs to adapt their resource use in ways that optimize their economic welfare while preserving the atoll ecosystem. Ministerial staff will also benefit directly through exposure to new ecosystem management approaches, training opportunities and improvement in relations with local communities. Resort owners and tourists will benefit from improved management of common reef resources and the enhanced condition of the environment therein.

[6] See, e.g., Pearce, 1993. *Economic Values and the Natural World*. Cambridge MA, USA: MIT Press.

88. Stakeholder Participation in Project Design: This project is the product of extensive consultations with stakeholders undertaken during a fifteen-month PDF-B project development process. The development of this project benefited from the participation of Government, local communities, academic institutions, and leading Maldivian experts contributed to the development of the project through four committee meetings and three stakeholder meetings. UNDP-GEF and the Government of the Maldives executed a PDF-B preparatory grant from GEF that supported most of the project preparation work undertaken. However, significant support was also provided by MoHAHE form of office space and all amenities as well as significant amounts of staff time from the Ministries of Fisheries, Tourism, Planning and Atoll Administration.

89. The PDF-B steering committee comprised of representatives from key stakeholder groups. Altogether over 300 people in Male and the two atolls were consulted during the PDF-B process. Government stakeholder institutions under the PDF-B process gathered detailed information on current and existing activities relative to the project. Socio-economic surveys and community consultations were conducted in each of the two atolls. A stakeholder meeting was held for government and non-government institutions to finalize roles and responsibilities for project implementation. The Maldives GEF focal point supports this project as one of the country's top biodiversity priorities. The Maldives has long recognized the importance of its atoll ecosystems and coral reef communities to its national economy and culture – indeed to the country's very existence. National laws have been passed to protect coral reef ecosystem integrity.

90. Eligibility under the CBD: This project is designed to support the primary objectives of the CBD: the conservation of biological diversity, the sustainable-use of its components, and the equitable sharing of the benefits arising out of the utilization of these components. In the two project sites, the conservation of biological diversity and the sustainable, non-consumptive and consumptive use of biodiversity (the 2nd major objective of the CBD) will be demonstrated. By integrating conservation and sustainable use of biodiversity into relevant plans and policies, the project will fulfill the requirements of Article 6: General Measures for Conservation and Sustainable Use. Article 7: Identification and Monitoring and Article 8: In-situ Conservation will be supported through the strengthening of diversity management in priority atoll systems. Article 10: Sustainable Use of Components of Biological Diversity will be furthered through the development and demonstration of alternative, sustainable livelihood options that avoid or minimize adverse impacts on biological diversity, providing incentives for sustainable use (Article 11: Incentive Measures). The project also supports Article 12: Research and Training by promoting targeted research on atoll and coral reef ecosystems with respect to species diversity, providing training in technical and managerial areas, and developing linkages for exchange of information (Article 17: Exchange of Information). Education and awareness raising is also a project priority (Article 13).

91. GEF Programmatic Framework:
The project is eligible for GEF assistance under Operational Program (OP) #2 Coastal, Marine and Freshwater, and will generate substantial global benefits. The objective of OP #2 is the conservation and sustainable use of the biological resources in coastal, marine, and freshwater ecosystems generally. The needs of tropical island ecosystems are given priority under OP #2. The OP #2 calls for conservation and sustainable use to be achieved by maintaining ecosystem function and combining biodiversity conservation, production, and socio-economic goals. The Second Conference of Parties to the Convention on Biological diversity reaffirmed that the conservation and sustainable use of biodiversity should be achieved in a holistic manner and that the ecosystem approach should be the primary approach applied to biodiversity conservation.

92. Link to UNDP-Country Programme: The GEF project and UNDP's Country Programme in the Maldives are more than linked: they are integrated. This GEF project is an ecosystem-based biodiversity conservation project. But to UNDP, it is a sustainable development project. In fact it is both; UNDP's sustainable development programme is an integral and crucial part of this GEF's project overall, comprehensive approach and this GEF project is designed to complement UNDP's existing country programme. The cornerstone of UNDP's country program in the Maldives is its

Atoll Development Programme (ADP) that empowers local stakeholders to develop their island communities sustainably.

93. The ADP is designed to enable people to mitigate poverty and improve their standard of living by: (i) strengthening social capital and social cohesion in island communities through capacity building of Atoll Development Committees (ADC), Island Development Committees (IDC) and Women's Development Committees (WDC), training and support to community based initiatives (ii) establishing dynamic civil society groups (community based and non-governmental) able to contribute meaningfully to community development, poverty reduction and local problem solving (iii) catalyzing income generation and poverty reduction initiatives by enabling communities to establish and finance their own micro-credit initiatives -- Atoll Development Funds. The ADFs are a micro-credit and savings program that provide island residents with access to resources and banking services through a mobile banking system and in turn allow communities to fund development priorities such as electrification, sanitation, rainwater harvesting, pre-schooling and building of jetties. The ADP also serves as a source of loans for local entrepreneurs.

94. Two other UNDP programs contribute to the sustainable baseline of the GEF project. UNDP's Information and Communications Technology (ICT) component will improve the policy framework, establish pilot ICT centres in the islands and liberalize the ISP market, allowing people to have more affordable and ready access to information and the internet. The UNDP Pearl Culture Project, funded by the Japan Human Resource Development Fund, introduces the techniques of oyster culture, pearl culture, pearl jewelry manufacture, and pearl jewelry marketing. The objective of the project is to promote sustainable, alternative livelihoods through pearl culture and marketing, with the objective of increasing employment and diversifying earning possibilities for people in the atolls. With the successful demonstration of pearl culture in other atolls, these same techniques will be demonstrated and extended to stakeholders in the GEF project site, Baa Atoll.

95. In addition to anchoring the sustainable development baseline of this GEF project, UNDP's Atoll Development Program also provides the project with the local institutional framework for action, focusing on the ADCs, IDCs and WDCs and ADFs as the partners for local action on sustainable development and biodiversity conservation. The ADP also provides a framework for horizontal communications and exchanges of best practices among atoll and island communities, and will support the dissemination of best practices through visits, staff exchanges, workshops and electronic networking -- both crucial aspects of this GEF project.

96. In addition, gender mainstreaming and gender advocacy are key elements of UNDP's country programme. The GEF project and UNDPs program will be linked in how they will work directly with women's groups in such areas as waste management, alternative livelihood development and environmental awareness. The UNDP country program seeks to involve youth more in development. The GEF project will work with schools and youth groups to raise environmental awareness and catalyze this constituency for atoll ecosystem management. And finally, UNDP Maldives is currently carrying out a study to assess the legal position of the Maldives regarding the impacts of climate change and associated sea level rise. The project will help mitigate the risk of sea level rise by strengthening the Maldives' monitoring of sea level rise indicators like increased erosion and related early warning efforts.

97. As reflected in the co-funding figures on the cover page of the proposal and in the IC annex, UNDP's country programme and associated financial resources are integrated with this GEF project and will be applied towards replicating and improving upon these activities in the GEF project area to strengthen the sustainable development baseline.

98. Eligibility for GEF Financing: The Maldives is a recipient of UNDP technical assistance and a participant in the restructured GEF as of August 25, 1994. Consequently, it is eligible according to the article 9(b) of the GEF instrument.

99. Country Driven: As pointed out in the introductory sections of this brief, coral reefs and their atoll ecosystems form the very basis of the Maldives' existence. Their conservation and sustainable management are a top priority for the Government. This is reflected in practically every national planning or programming document published in the past 10 years: The National Environment Action Plan, the Sixth National Development Plan, the First National Communication of the Republic of Maldives to the UNFCC, and the list goes on (see policy and institutional framework section, beginning with paragraph 16 for more detail). The Maldives was one of the first nations to ratify the CBD and has been a primary advocate at the international level for conservation action. This initiative carries over to this project development effort, which has been country driven and is consistent with relevant national policies and strategies for the conservation and sustainable use of biological diversity. This project represents the first major new initiative undertaken to implement the National Biodiversity Strategy and Action Plan (NBSAP) of the Maldives (2002). Maldivian stakeholders ensured that this project furthers every one of the seventeen primary objectives of the NBSAP. Those objectives are related to: Integrating biodiversity conservation into the national development process; adopting policies and management measures for sustainable use; developing and establishing measures for in-situ conservation; effectively managing threats; adopting economic incentives for conservation; international cooperation; improvement of knowledge and understanding; increasing awareness; strengthening institutional and financial capacity; community participation and mobilization and finally, implementation of the plan itself.

Implementation Arrangements:

100. Government's Role: The project will be executed by the Government of the Maldives' Ministry of Home Affairs, Housing and the Environment in partnership with the MoFaMR, MoT, and MoAA and MoPND. Project execution will adhere to UNDP nationally executed project requirements. The administration of project funds will be the joint responsibility of the UNDP and the MoHAHE. The MoHAHE's responsibilities overall will be one of facilitating the involvement of the other four main ministries in this ground-breaking cross-sectoral project. More specifically, MoHAHE's project finance and management responsibilities will include: 1) certifying expenditures under approved budgets and work plans; 2) tracking and reporting on procurement and outputs; 3) coordinating the financing from UNDP and GEF with that from other sources; 4) assisting in preparing Terms of Reference for contractors and required tender documentation; and 5) chairing the Project Steering Committee. Funds for the activities in which partner line ministries have primary responsibilities will be devolved to them in lump sum, under approved annual work plans and budgets. Each line ministry will then be responsible for certifying their own expenditures under approved budgets and workplans.

101. UNDP's Role: The UNDP Country Office will support project implementation by being responsible for maintaining project budget and project expenditures, recruiting and contracting project personnel and consultant services, subcontracting, procuring equipment in excess of $10,000, and providing other assistance upon request of the MoHAHE. Project implementation arrangements will streamline and decentralize UNDP's normal service delivery procedures in the interest of cost-effective and time-efficient project management. The UNDP Country Office will also monitor project implementation and achievement of the project outputs and ensure the proper use of UNDP/GEF funds. Financial transactions, reporting and auditing will be carried out in compliance with national regulations and UNDP rules and procedures for national execution. The UNDP Country Office will carry out its day-to-day management and monitoring functions through an assigned Project Officer in Male', who will be also responsible for the day-to-day coordination with the project team.

102. Project Steering Committee (PSC): A PSC will be established and will meet semi-annually to provide overall strategic policy and implementation guidance and support. The PSC will consist of one member from each of the following organizations: MoHAHE, MoT, MATI, MoFaMR, MoAA, UNDP, MoPND, MoFT, MoE, and one resort owner from Baa Atoll, and the Baa Atoll Chief. The PSC will monitor the project's implementation to ensure timely progress in attaining the desired results, and efficient coordination with other projects. Members of the PSC are responsible for

directing the implementation of project activities in their respective organizations and ensuring that cooperative activities are implemented in a timely manner.

103. The PSC's role will be comprised of four main responsibilities: First, when required, the PSC will serve as a forum for stakeholder input and discussion. Second, the PSC will oversee project implementation, meeting on an annual basis to review project progress. Any major changes in project plans or programs will require approval from the PSC in order to take effect. And thirdly, the PSC will resolve any conflicts or disagreements that arise w/respect to project activities that cannot be resolved by the project working group. Fourth, PSC members will facilitate the integration of project-inspired activities into existing programs and practices.

104. National Project Director (NPD): The Minister for Home Affairs, Housing and the Environment will be the NPD and will chair the PSC. The NPD will be responsible for ensuring the proper implementation of the project on behalf of the Government. In doing so the NPD will be responsible for overseeing proper project implementation for the Government of the Maldives.

105. Project Working Group: On a day-to-day level, the project will rely upon the more frequent and "informal" input of a project working group (PWG), comprised of officials from the PSC institutions and other institutions when appropriate. The PWG's role will be much more "hands-on." It will meet frequently to catalyze the cross-agency coordination and collaboration by working out the details of how this will be done with respect to specific project activities in Male' and in the atolls. The project manager will chair the PWG. A proactive PWG will be crucial to the project's successful outcome. Over the longer term, it is envisioned that the PWG will facilitate the integration of project-inspired activities into existing programs and practices.

106. Project Staff: All staff will be hired in an open and fair competitive basis following UNDP standard hiring procedures. The main project office will be established in Baa Atoll and staffed by an atoll manager and four support staff. The project manager will be based in Male', but will spend at least 50% of his/her time in Baa Atoll. Three technical international volunteer positions, and their local counterparts will be based in Baa Atoll. Student interns from local schools will also contribute to the project team. A satellite project office will be established in Malé, where the project manager will work when in Male' and where the bulk of the administrative and accounting support for the project will be done. The project manager will be a full time employee of the project and will report to the NPD and UNDP. The project manager will be in charge of overseeing day-to-day project implementation and management of project activities, organizing and overseeing national and international consultant input, and confirming the quality of the project's outputs. One of the most important responsibilities of the project manager will be working effectively with members of the PWG to ensure that project-inspired activities proceed on schedule within each partner Ministry and non-governmental organization. The project manager will also provide substantive technical input per his/her individual area of relevant expertise.

107. Atoll-level Implementation: Project implementation at the atoll level will complement the existing atoll administrative structure. The project office will be located in Edyafushi, the capital island of Baa Atoll. Project-inspired activities will be implemented at the atoll level through the Atoll Development Committee for atoll-wide activities and directly with Island Development Committees and Women's Development Committees for Island-level consultations and activities. The ADC provides a atoll-level forum for stakeholders to express and discuss views on atoll ecosystem management issues and facilitate the implementation of project activities. The IDC serves the same purpose at the island level. Both will serve as conduits for the two-way flow of information from the project to island communities and vice versa.

108. Stakeholder input to project implementation: The following is a summary description. A more detailed description of stakeholder involvement in project implementation is provided in Annex G. The project is designed to work closely with counterparts in national ministries, atoll administrations, and island committees to develop and implement atoll ecosystem management approaches.

Stakeholders will have direct input to the project's implementation at the national level through the PSC, which will meet semi-annually to review project progress, and the PWG, which will meet monthly to discuss project progress. At the atoll level, stakeholders will have direct input through the Atoll Development Committee, the Island Development Committee, and the Women's Development Committees. The project will be complementing UNDP/GoM's atoll development initiative which will be establishing and refining community mobilization mechanisms in each atoll. The monitoring and evaluation process (including the APR and TPR) will provide opportunities for stakeholder feedback via the periodic surveys that will be conducted.

Financial Arrangements:
See Annex A: Incremental Cost for more detail.

Budget: (in US$ thousands)

Project Outputs	GEF	Co-fund	Total
1. Biodiversity mainstreamed into sectoral policies/institutions	823.9	1,500	2,323.9
1.1. Strengthen institutional capacity to implement EM	189.4	287	
1.2 Ability to access, analyze and apply ecosystem information	70.5	241.5	
1.3 Improve policies and procedures	154.4	200	
1.4. Targeted research re: ecosystem/biodiversity benefits	193.7	203.5	
1.5. Strengthen constituency for conservation	215.9	568	
2. Biodiversity is conserved in Baa Atoll	1,283.2	1,440	2,723.2
2.1. Bolster information baseline (surveys, monitoring)	285.1	470	
2.2. Develop biodiversity conservation plan for Baa Atoll	235	95	
2.3. Establish three marine and/or coastal protected areas	302.6	20	
2.4. Atoll conservation fund designed, established, operational	117.5	55	
- Fund corpus and revolving fund[7]	250	600	
2.5. Project monitoring and evaluation	93	200	
3. Sustainable resource management & livelihoods	263	2,982.2	3,245.2
3.1. Develop Atoll Development and Environment Plan	33.1	350	
3.2. Stakeholders upgrade employment skills, generate seed capital	43.0	975	
3.3. Pilot model bait fish aggregation devices	136.8	570	
3.4. Pilot integrated reef resource management	50.1	158	
3.5 Stakeholders pilot solid waste management solutions	0.0	690.7	
3.6. Demonstrate low-impact shoreline development practices	0.0	238.5	
Subtotal (excluding Block-B costs)	2,370.1	5,922.2	8,292.3
Block-A Preparatory Funding	25		
Block-B preparatory financing	335	45	380
TOTAL (in US$ thousands)	2,730.1	5,967.2	8,672.6

[7] See Activity 2.4, page 28 or Annex F for more detail.

Sustainability of Project Results:

Sustainability:

109. During the process of designing this project, the discussion of "sustainability" focused on the question, "What does it take for conservation to be sustainable in the Maldives, and how can we design a project to make a contribution to that?"[8] As a result: 1) the project is designed with programs that are scaled to local institutional and community capacity. 2) The project scope looks beyond protected areas at the overall atoll ecosystem and the productive land and seascapes therein. 3) Results-oriented indicators and effective monitoring and evaluation systems provide implementation discipline. 4) The project seeks to strengthen commitment to biodiversity conservation in many ways, in particular by: a) including those directly affected by the condition of biological resources in the management of those resources by providing a means for stakeholders to participate in and have control over decision-making about biodiversity; b) strengthening reef resource property rights at the bcal level; and, c), creating a sense of equitable distribution of the benefits and costs of biodiversity conservation through the Baa Atoll Conservation Fund.

110. The GoM's inherent funding limitations rule-out any long-term support of an overly expensive conservation program. Sound methods for resolving conflicts, together with strong institutions and human resources for the planning and management of conservation activities, are also important. This project has therefore been designed to maximize the long-term institutional and financial sustainability of project-inspired activities. Existing institutional capacity to implement project activities will be strengthened through training and partnership building. The ability to implement these activities sustainability will be ensured by building the capacity of a cross-section of civil-society (Ministry departments, Atoll and Island Committees, Women's Development Committees). Over the life of the project, partnerships among the government, private sector, and local communities will be an important element in ensuring sustainability. Partnerships will strengthen the capacity of existing institutions to sustain integrated conservation efforts over the long-term.

111. The project is designed to inspire activities with low or no recurrent costs. Many of the activities proposed to counter specific threats, such as biodiversity overlays and innovative policy tools, involve low or no recurrent costs. The alternative livelihood activities, such as the development of an atoll development fund have been proven by UNDP to be self-sustaining in other part of the Maldives and will be in Baa Atoll. The project will focus on helping people develop sustainable livelihoods by providing business training and empowering people to access financial support and small loans. With the support of this GEF intervention, biodiversity-friendly fishing methodologies (BFADs) will be demonstrated and Government together with fishermen will cover the recurrent costs. In general, the project avoids creating systems requiring expensive maintenance and upkeep, and establishing new, expensive institutions.

112. There are, however, new and additional costs associated with the long-term conservation of biological diversity. The project is designed to establish the Baa Atoll Conservation Fund to cover those recurrent costs, estimated to be US$90,000/year. The only new institution created by the project will be the Board of Trustees established to oversee the long-term funding mechanism to be established by the project. And finally, by the end of the project, the Government budgets will absorb the sustainable development baseline costs. Through UNDP, the project will work with government, other donors, and the private sector to mobilize resources to finance sustainable alternative livelihood options.

Project Risks:

[8] Smith, S.E. & Martin, A. 2000. Achieving Sustainability of Biodiversity Conservation – Report of a GEF Thematic Review. Global Environment Facility. Washington, D.C. USA.

113. The project has been designed to minimize risk. Risk reduction in conservation and sustainable use activities has been a key consideration in the design of the project, from the management structure to the strategic approach, to the integration of best practices. Lessons learned from other projects have been brought to bear on the design of this project and best practice reviews have been consulted[9] to improve the effectiveness of the project's design and reduce risk. These include many lessons highlighted in GEF's recent OPS-2 report and discussed under "Lessons Learned" below.

114. One risk facing the project is that tourism could dramatically decline in the short term, causing a government budget crisis. While current trends do not point in this direction, the project is designed to anticipate these risks and proactively mitigate them by dealing directly with local social and economic factors behind biodiversity loss and ecosystem degradation and working to improve resource use with local people. Annex B provides additional information on project risks.

115. Another risk is the potential for a sudden shift in governmental priorities. The project is designed to maximize sustainability in the face of a change in governmental priorities. The potential for this risk scenario is low, in light of the commitment of the governments as indicated through their significant financial commitment. The project mitigates this risk by strengthening existing laws and policies, making diversity conservation practice more resilient to changing priorities. Stakeholder support is also a good buffer against shifting political winds. The project emphasizes decentralized, local action through partnerships with local officials, communities, and the private sector, giving conservation far more than only "one leg" to stand upon.

116. Sea level rise. The First National Communication of the Republic of Maldives to the UNFCC identifies land loss, erosion and damage to coral reefs as vulnerabilities to climate change and recognizes the importance of reducing human impacts on coral reefs as an adaptation and risk reduction measure in the face of climate change. This project focuses on reducing human impacts upon coral reef areas. In addition, the project's monitoring program will bolster the existing cooperative monitoring effort the Maldives is engaged in with the Global Coral Reef Monitoring Network by strengthening existing databases, conducting regular monitoring surveys and sharing this information nationally and internationally, and strengthening the channels of communication within the Maldives to enable the Maldives to contribute even more substantially than it already has to the global policy debate.

Lessons Learned:

117. UNDP will require the project to apply adaptive management techniques to project implementation. Double-loop learning is crucial in order to "close the loop" of the project cycle (design, implementation, evaluation, review, design) and steadily improve the quality of GEF and UNDP project design. Sound methods for resolving conflicts, improved management of protected areas, strong institutions for the planning and management of development activities, and clear legal mandates are important in order to successfully integrate the activities of diverse sectors. This project has been designed to capture these lessons and share them with other, future project development and design work. Lessons learned suggest that a two-track approach be used to build capacity at the national and regional policy level (regulations and institutions) while at the same time integrating implementation activities at the local and community level.

118. Legal mandates must be clear in order to successfully integrate the activities of diverse sectors. This project will work to secure a supportive policy framework while focusing most of its efforts at the local, site level. Effective public-private partnerships have been found to be a strategic component of biodiversity projects. These partnerships are crucial to the strategic approach and practical viability of this project's design. UNDP/GEF's SHARK (SHAring Reef Knowledge) Network has also revealed the commonality of the causes of coral reef degradation as well as promising results with

[9] Nakashima, S. 1997. Integrated Coastal Management as Best Practice in GEF Project Development: Lessons from Biodiversity Projects in Marine, Coastal and Freshwater Ecosystems. Unpublished. UNDP-GEF, New York, NY, USA.

respect to empowering local communities to manage their reefs for their own as well as biodiversity's benefit.

119. A recent GEF study10 found that lengthy and sustained process is necessary to achieve sustainability for biodiversity conservation. This project takes the long-term perspective in securing a mechanism that projects financing for the recurrent costs of conservation over a25 year period. The Baa Atoll Conservation Fund's (BACF) design will integrate lessons learned from the GEF's Review of Conservation Trust Funds (1998). The Fund will benefit from significant technical assistance, especially during the early stages of operations and will have a 50-50 government/non-governmental board, a small staff, and an annual meeting open to all stakeholders. Fund assets will be held and invested off-shore. The BACF will be subject to strict accounting requirements, clearly defined performance indicators, and independent monitoring and evaluation.

120. GEF's OPS-2 review uncovered the following lessons learned from GEF biodiversity project experience. 1) Basic implementation capacity should be in place prior to the project being launched. There is no question that implementation capacity, within Government institutions, UNDP and local institutions, is in place. 2) Funding should be compatible with the absorptive capacity of the target areas and implementation organizations. This project was intentionally designed to be on the smaller side of GEF's full project window given the modest absorptive capacity of the project's main partner government and community-based institutions. 3) Objectives should be realistic and time and funding allocated should be adequate to achieve the intended changes. This project's objectives have been carefully conceived, based upon a thorough evaluation of the situation. Project implementation will continue this "learning while doing" approach.

Monitoring, Evaluation & Replication:

121. Monitoring. This project has a comprehensive monitoring and evaluation program included in its overall design. An information baseline on biodiversity condition and ecosystem health will be established during the first year of the project to provide a basis for future monitoring and evaluation. Project progress will be monitored using annual reviews and implementation milestones following UNDP rules and procedures. Specific indicators of biodiversity/ecosystem health will be developed after baseline surveys are completed in the project's second year. Baseline surveys will: 1) conduct ecological surveys within the site areas to determine size and condition of key habitats and richness of habitat mosaic; 2) conduct attitude and awareness level surveys of key stakeholder groups, from top-level policy makers to local village level stakeholders; and 3) conduct economic surveys of local communities around site areas to quantify their use of marine resources and their current income levels. Monitoring will be ongoing, involving data collection and assessment of the project's field implementation and will involve key project staff meeting annually to review operations and field implementation and assessing whether new priorities require a shift in project implementation.

122. In addition to this the project will be subject to standard UNDP/GEF monitoring requirements. The UNDP-CO will conduct monitoring field visits at least twice per year. The PM will prepare and submit bi-monthly narrative reports to the NPD and UNDP. The project manager will be required to produce an Annual Project Report (APR). The report is designed to obtain the independent views of the main stakeholders of a project on its relevance, performance and the likelihood of its success. The APR then supports an annual Tripartite Review (TPR) meeting -- the highest policy-level meeting of the parties directly involved in the implementation of a project. Decisions and recommendations of the TPR will be presented to the PSC.

123. Evaluation: Outcomes will be evaluated by measuring indicators of mainstreamed biodiversity, strengthened capacity, ecosystem integrity and function, threat reduction, and sustainable use. Annual external evaluations are scheduled during the project's lifetime as part of UNDP's annual Project

[10] Smith,S.E., Martin, A. 2000. Achieving Sustainability of Biodiversity Conservation: Report of a GEF Thematic Review. Monitoring and Evaluation Working Paper 1. Global Environment Facility. Washington D.C.

Implementation Review (PIR) process. The project's ongoing monitoring efforts will support this process, as will two other exercises: 1) annual participatory evaluation exercises will be undertaken with key stakeholders, including local communities, NGOs, and partner organizations. and 2) The project manager will draw upon the support of an annual evaluation & advisory group. The group will be convened annually to evaluate and assess the project's work and to advise the project manager on key project implementation issues and strategies, ensuring project implementation is on track to meet its milestones and objectives. The group will be comprised of three international advisors with expertise in project implementation and: 1) ecosystem management-- the process and its key elements and maximizing stakeholder ownership, 2) marine conservation/marine protected areas, including fisheries, coral reef ecology and information gathering and use, and 3) GEF programs. The project will document the lessons learned, and make it available to stakeholders over the worldwide web.

124. Ex-post evaluation will be conducted two years after completion of the project. These independent evaluations of project performance will match project progress against predetermined success indicators. Each evaluation of the project will document lessons learned, identify challenges, and provide recommendations to improve performance. The logical framework for this project sets out a range of impact/implementation indicators that will be used to gauge impact. Success and failure will be determined in part by monitoring relative changes in baseline conditions established in the biological, ecological and economic arenas at the beginning of the project. Baseline conditions will be defined with respect to habitat size and condition and population size of indicator species to ensure that viable populations of these species are present in perpetuity. Indicator species sensitive to increased fishing or collecting pressure will be monitored. If populations of rare species are shown to be in decline, measures will be taken to identify the reason for the decline, and alternative management strategies will be developed to ensure the long-term health of populations and incorporated into site management.

125. Replication. This project has been designed to apply significant effort in overcoming informational and financial barriers to replicating model activities in other parts of the Maldives archipelago and in other tropical marine environments. The project develops lessons learned and facilitates the sharing of information and replication of successful diversity conservation methodologies. Through an active "lessons learned" activity that cuts across the three components, the project links the demonstrations of solid waste management and sustainable shoreline development to the relevant planning and financial institutions to enhance the mainstreaming of biodiversity into the productive sector. The same is true for other demonstrations, including the Trust Fund, and community-based management of reef resources and protected areas. The more involved these institutions are in these developments the more the lessons from them can be mainstreamed into sectoral and infrastructure planning and investment across all Atolls.

126. Financial barriers also need to be overcome in order to successfully replicate certain types of activities. This is why the project includes the development of a local, small-scale trust fund to demonstrate how conservation can overcome financial barriers such as local peoples' perceived opportunity costs of marine protected areas, for example. In addition, strengthened EIA monitoring and enforcement will inevitably require additional resources. The project seeks to minimize the additional required by stressing the formation partnerships between Male'-based institutions and Atoll-based institutions as well as among civil society at the atoll level.

127. Many of the project's activities are designed to strengthen linkages between experts on coral reefs or cetaceans and the international research community. For example, the project will significantly strengthen the Maldives' provision of information to the Global Coral Reef Monitoring Network. In addition, a regional conference on marine biodiversity conservation will be organized towards the end of the project to share lessons learned. Project activities in Baa atoll will empower local people to preserve and maintain their traditional knowledge of biodiversity and to incorporate it into community-based co-management regimes. These kinds of activities are replicable throughout the Maldives, as people seek to improve their livelihoods and the quality of their environment by better managing their natural resources.

Annexes:

Required:

Annex A:	Incremental Cost Analysis
Annex B:	Logical Framework Matrix
Annex C:	STAP Review
Annex C1:	Response to STAP Review

Optional:

Annex D1:	Letter of Endorsement
Annex D2:	Co-Funding Confirmation Letters
Annex E:	Threats and Root Causes Diagram
Annex F:	Trust Fund Description
Annex G:	Institutional & Stakeholder Involvement Summary
Annex H:	Maps
Annex I:	Ecosystem Approach Example
Annex J:	List of References:

Annex A: Incremental Cost Analysis

Broad Development Objectives:

1.1 This project supports broad development objectives in the Maldives as reflected in the Sixth National Development Plan and the National Biodiversity Strategy and Action Plan, both approved by Government in 2002. These plans call for the sustainable use of the coastal and marine environment and wise utilization of atoll resources.

2. Global Environmental Objectives:

2.1 The overall environmental objective of this project is to catalyze the adoption of comprehensive ecosystem management interventions that integrate ecological, economic, and social goals to achieve multiple local, national, and global benefits. This interest and commitment on the part of the Maldives carries over into the international environmental arena, where it ratified the CBD in 1995.

2.2 The Global environmental objective of this project is the conservation and sustainable use of biological diversity in Baa Atoll. The project will meet this global objective by mainstreaming biodiversity conservation objectives and ecosystem management methods into the existing sectoral institutions, policies and programs. In so doing, the project will enable stakeholders to move beyond traditional, sectorally oriented development approaches and seek to manage the atoll ecosystem as a whole. The project will work with local reef fishery stakeholders to strengthen local reef resource management practices and biodiversity conservation approaches.

2.3 Global environmental benefits include significant direct, indirect, option, and passive use (existence and bequest) values of biological diversity in Baa Atoll. The global direct use values spring from the Maldives' unique location in the middle of the Indian Ocean – shallow productive marine atolls in the middle of the deep Indian Ocean serving as a global reservoir of coral and other marine species. In particular, the Maldivian atolls are believed to act as stepping-stones, promoting recruitment and genetic flow right across the Indian Ocean. To the global stakeholder, one immediate direct use value accrues in the form of protected ecosystems as scientific laboratories yielding anticipated new information enabling global society to avoid the potentially irreversible losses of species, habitats, biodiversity. Other global direct use values include biological support to seabirds, seaturtles, fisheries and other ecosystems. The biological diversity and atoll ecosystem health preserves future options to rebuild, preserve, or augment other degraded marine environments and other future direct and indirect use of species, habitats, biodiversity. Passive use values include the global existence value arising from nontrivial per capita existence values multiplied by the hundreds of millions of citizens around the world who hold these values.

3. Scope of Analysis

3.1 Baseline and Incremental costs have been assessed temporally, over the planned five-year time frame of the GEF intervention, and geographically by the atoll boundary of Baa atoll. The scope of analysis covers the Baa Atoll, its inhabited and uninhabited islands, and the national level institutions based in the capital, Malé. Thematically, the analysis covers the range of interventions necessary to ameliorate the proximate threats to atoll biodiversity and ecosystem health, based on the diagnostic assessments performed during project formulation. Finally, the analysis captures the expenditures of thirteen fishing communities, four resort islands, twelve government institutions, three international organizations, and four non-governmental organizations.

4. Incremental Cost and Benefits

4.1 The following table illustrates two dimensions along which to measure biodiversity. One dimension is the geographic scale over which biodiversity is measured, which may range from an individual reef system to an atoll, to the entire Indian Ocean. The nature of the benefits of biodiversity, and to whom they flow, vary depending on the scale of measurement. Preserving multiple species on a single reef is quite a different matter from preserving the equivalent biological portfolio within an atoll, or the entire Indian Ocean.

4.2 The other dimension is how coarsely or finely biodiversity is measured. The following three types of biodiversity may be usefully distinguished:

Ecological diversity: The number of plant and animal communities/habitats/ecosystems.
Species diversity: The number of species.
Genetic diversity: The variation within species.

4.3 Benefits of Maldivian Biodiversity. There are a wide variety of benefits provided by biodiversity of the Maldives The following table summarizes some of these benefits. As shown in the table, these benefits differ in several important ways. First, they differ with respect to the type of biodiversity from which they are derived. Some types of benefits derive primarily from species biodiversity, while others derive more from ecosystem integrity. The categorization suggested by the table is of course very rough, as these three types of diversity overlap.

4.4 Second, the locus of benefits varies widely. Some benefits flow almost entirely to the Maldives, such as the benefits of subsistence, commercial harvest, and tourism. Other benefits flow only minimally to the Maldives, such as the existence value that accrues to people outside the Maldives from the mere knowledge that diverse coral and fish populations are thriving in the Maldives.

Economic Benefits of Atoll Ecosystem and Coral Reef Conservation

Type of Benefit	Description of Benefit	Locus of Benefit
Direct Use Values	Sustained commercial fishery harvests	Maldives & Asian consumers
	Sustained personal use & subsistence harvest of fish and coral species	Maldives & Global (consumer surplus to tourists)
	Tourism dependent on ecosystem integrity	Maldives & Global (consumer surplus to tourists)
	Scientific understanding of coral reef based atoll ecosystems	Mostly global
Indirect Use	Option to rebuild, preserve, or augment the genetic vitality of other coral reef areas	Global
	Biological support to seabirds, seaturtles, fisheries and other ecosystems	Mostly global
	Physical protection for island communities	Maldives
Option Values	Future direct and indirect use of species, habitats, biodiversity	Global and Maldives
Quasi-option Value	Expected new information from avoiding irreversible losses of species, habitats, biodiversity.	Mostly global
Bequest Value	Value of leaving use and non-use values to offspring – species, habitats, way of life connected to traditional uses	Maldives and Global
Existence Value	Existence value of atoll ecosystems, coral reef ecosystems, and other species dependent on atoll ecosystem integrity	Global

4.5 Fundamental Economic Rationale for GEF Intervention. The conservation of biological diversity at the species and ecosystem levels will impose incremental learning, management, and opportunity costs relative to those incurred in business as usual scenario. There is presently little reason for the Maldives to incur these costs because many of the resultant benefits are non-excludable in supply, and accrue in large measure to the rest of the world over a long time horizon. This conclusion is developed in the paragraphs that follow.

4.6 Ecological Basis of Incremental Global Benefits. In addition to providing direct economic benefits and ecosystem services to the Maldives, atoll ecosystems provide significant additional global benefits. These benefits accrue from the globally significant attributes of the biodiversity to be conserved. These attributes include:

- Genetic diversity - the Maldivian atoll chain lies in the centre of the Indian Ocean, and acts as a stepping-stone for many marine species with planktonic larvae, allowing them to disperse widely across the entire ocean. At the same time, other species, perhaps with shorter planktonic stages, have unique regional forms in the Maldives.
- Species diversity – the Maldivian atolls are home to a remarkably diverse array of marine species, including over 1100 species of fish and 250 species of coral. Other marine groups have comparable diversity. Terrestrial species diversity is relatively low, but does include a significant number of endemic subspecies.
- Threatened species – the Maldives is a major feeding and breeding ground for two globally endangered sea turtle species, the green and hawksbill turtles. Whales (including endangered blue whales) and dolphins are especially abundant. The Maldives also has globally significant

populations of other threatened species including giant clam, whale shark and Napoleon wrasse.

- Ecosystem diversity - the Maldives atoll chain lies across the prevailing currents, promoting upwellings and plankton productivity, and supporting a biodiverse oasis in the midst of an oceanic desert.
- Other communities – in addition to the coral reefs, the Maldivian atolls support a variety of other habitats and communities, including seagrass, mangroves, sand flats and deep slopes.

4.7 Economic Basis of Incremental Global Benefits. From an economic perspective the significant global benefits stem directly from the fact that these ecological characteristics of the atoll marine environment are abundant within the project area but relatively scarce on a global scale. The standard economic approach when a resource is locally abundant but globally rare is to sell that globally rare resource into the world market and use the proceeds to procure the locally rare food, clothing, and energy that the people of the Maldives need. Although the Maldives is able to sell some of the globally rare biodiversity benefits to the rest of the world via the tourism industry, much of the benefit of biodiversity can be "consumed" by one person without diminishing the consumption of others. In economic jargon, these benefits are non-excludable in supply and non-rival in consumption. Like global climate stability and air for breathing, they are known as "pure public goods." Much of the benefit of conserving pure public goods such as biodiversity for the long run does not accrue to, and cannot be captured by, the local population or the national government. Economic theory assures us that such goods must be preserved through collective action by a global entity.

4.8 The specific values that fall most clearly into this category of pure public goods are the scientific values, genetic option and insurance values, and existence values of the coral reef environment and the associated ecosystems.

4.9 Scientific knowledge. The value of the protected ecosystems as scientific laboratories could be theoretically captured by selling the rights to conduct research in the Maldives, but no one could afford to pay very much for these rights because much of the resulting knowledge about basic ecosystem structure and function is itself a public good.

4.10 Since large-scale eco-tourism is a profitable private sector enterprise, one might ask why market forces cannot be relied upon to ensure the preservation of atoll ecosystem integrity for these direct use values. There are three principal reasons. First, the private sector does not own their main product – a healthy atoll ecosystem -- that is marketed to the rest of the world, so there is little incentive for each individual resort to conserve it. Secondly, the social mobilization required to conserve these values is beyond the capacity of any one resort or government entity. When property rights and technologies are highly uncertain, private actors cannot invest in the resources. Third, other actors who had not contributed to maintaining the resource would benefit in equally measure from its maintenance. Knowing this, no individual firm will enter into a financially significant contract to purchase options for maintenance of these resources. Thus, while there is some long-term potential for the assembly of a consortium of private interests to invest in the retention of biodiversity in the Maldives, this type of collective action cannot be expected from market forces alone.

4.11 Genetic insurance for coral and other species. Global genetic insurance values arise from the significant genetic diversity in the Maldives that could prove crucial to the revitalization of other coral reef areas if they are degraded by future environmental shocks from climate change or other sources. For example, recent events demonstrate that recent coral bleaching events are due to climate fluctuations. In the future, the potential acceleration of such climate shocks due to greenhouse gas forcing could abruptly destroy the viability of large areas of coral reef previously adapted to that region. Maldivian coral or other species could easily provide the best source for rebuilding these depleted areas. Just as the Maldives benefits from the insurance value of the vast genetic diversity in the rest of the Indian and Pacific Oceans, the rest of the world benefits from the protection of similar resources in the Maldives.

4.12 Genetic Insurance in the Global Fisheries Portfolio. Finally, it is important to emphasize the contribution of large biodiversity resources to a portfolio approach to global fisheries and mariculture management. Numerous governments, multilateral organizations such as FAO, and professional fishery managers are emphasizing the use of the Precautionary Principle in global fisheries management using a portfolio of resources and policy approaches[11]. A significant fund of genetic reef fishery diversity, preserved in vivo, is a key component of such a portfolio. It serves as a global insurance policy against overly aggressive manipulation of other fisheries for short-term productivity gains, thus allowing managers and policymakers additional freedom of short-term action while still managing long-term risks consistent with the precautionary principle.[12]

4.13 Existence Value. The project sites will preserve an important repository of globally important flora and fauna, including the rare and endangered species at risk in other parts of the world. It is well known that the existence, or passive use, values of these species are nontrivial on a per capita basis, at least to people of reasonably high income and education.[13] Both the population and income per capita of the developed economies outside of the Maldives far exceed the levels within. Thus, simple arithmetic leads to the inevitable conclusions that 1) there is a large total existence value associated with the Maldives' overall biodiversity and 2) much of this value accrues to people outside the Maldives who cannot be made to pay directly for it. The significant global existence value arises from nontrivial per capita existence values multiplied by the hundreds of millions of developed country citizens who hold these values and live outside of the Maldives.

4.14 Importance of Varying Discount Rates. Preservation of atoll ecosystem integrity and biological diversity provides a stream of future benefits. The total economic value, also known as the net present value, of those future benefits depends upon the discount rate used to convert the stream of benefits to a single dollar value. The discounting process is important to decisionmaking because the stream of future and/or uncertain benefits must often be compared to current and certain costs. It is likely that the relevant discount rate for the Maldives when calculating the present value of economic benefits which flow to the Maldives may be higher than the relevant discount rate for the rest of the industrialized world that should be used when calculating the present value of global benefits. There are several reasons for this:

Lower levels of income in the Maldives probably result in a higher rate of "social impatience" as people focus on immediate needs.

There are many competing demands in the Maldives for public and private investment.

There are numerous competing demands in Maldives for investment in environmental protection.

4.15 The global benefits of atoll ecosystem diversity conservation will accrue for many years into the future, but with some uncertainty. People in the industrial high-income countries place a relatively high value on such future and/or uncertain benefits because these people have a relatively low rate of "time preference" that is reflected in low market interest rates. In technical terms, at the international level, the net present value of future global benefits from diversity preservation is relatively high because the industrialized high-income countries have low economic discount rates. In the Maldives, the net present value of future global benefits is relatively low.

4.16 Difference Between Sustainable Development Baseline and Full Project Alternative. It is important to consider whether targeted and incremental GEF support is necessary in order to secure

[11] Hilborn, Ray, J.J. Maguire, A.M. Parma, and A.A. Rosenberg., 2001. "The Precautionary Approach and risk management: can they increase the probability of success in fishery management?" *Canadian Journal of Fisheries and Aquatic Science* 58: 99-107.

[12] As stated in Principle 15 of the 1992 Rio Declaration on Environment and Development, the precautionary principle says that, "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

[13] See, e.g., Pearce, 1993. *Economic Values and the Natural World*. Cambridge MA, USA: MIT Press. Also see the discussion and examples on the *Environmental Valuation Reference Inventory.* (Environment Canada, et. al. 1998. This database of over 2,000 empirical environmental benefits studies is available online at http://www.evri.ec.gc.ca/evri/.)

the above-mentioned global benefits, or whether the benefits can reasonably be expected as a byproduct of shifting to more sustainable atoll resource development practice. The shift to sustainable management practice will require greater scientific understanding, more careful management to preserve species, and effective resource management. All of these actions will contribute to increased biodiversity. However, there are several reasons why the Sustainable Development Baseline (SDB) outcome is unlikely to secure the major global biodiversity benefits enumerated above. First, the SDB maintains commercially valuable or important species, not all species. And second, management under the SDB is not directly concerned with maintaining ecological processes. For all of these reasons most of the incremental global diversity benefits are unlikely to be generated as a byproduct of the SDB. Thus, even under the SDB the Maldives would be faced with assuming all of the costs of diversity conservation but could expect to capture only a portion of the net benefits. This situation clearly discourages management for maximum diversity.

4.17 Summary. Over the long term, atoll ecosystem health and diversity conservation are likely to provide a mix of global and domestic benefits. The global benefits include the protection of biodiversity at the community, species, and genetic levels. This diversity in turn generates direct use, indirect use (option) and passive use (existence) values. Some of the direct use value and much if not most of the scientific, genetic vitality, genetic insurance, and existence values will accrue to large populations of people outside Maldives. These values are unlikely to be generated as a byproduct of the sustainable development baseline because the values cannot be captured by the Maldives through market transactions. Although the Maldives does capture some domestic benefit from biodiversity conservation in the form of tourism revenue, much of the benefit of conserving pure public goods such as biodiversity for the long term does not accrue to, and cannot be captured by, the local population or the national government. In addition, incremental learning and management costs associated with biodiversity conservation discourage government from mainstreaming biodiversity conservation objectives into productive sector work. The Maldives therefore has little or no incentive to incur the incremental costs necessary to generate the benefits. Without external support from a source such as GEF, acting on behalf of the global population, these benefits are likely to be forfeited.

4.18 Incremental Cost Matrix. The matrix that follows shows how funds will be used to carry out the project, and the benefits resulting from each activity. Both costs and benefits are broken down according to benefit type. Costs incurred under the current programmatic baseline and the sustainable development baseline are shown as non-incremental. The right side of the table shows costs and benefits that are incremental to the production-oriented SDB. Within this category, GEF-supported costs are shown separately from other sources of incremental funding.

Incremental CostMatrix:

Note: Shaded area indicates the GEF Project "Alternative" to the Baseline.

	Non-Incremental		Incremental	
	Baseline (5 years)	**Sustainable Development Baseline Co-financing**	**GEF Financing**	**Incremental Co-financing**
Outcome #1: Biodiversity Mainstreamed into Sectoral Institutions and Policies	MoFAMR- SDMS 470,000 MoFAMR - Mngmnt 80,000 MoFAMR: Awareness 135,000 MRC-monitoring 125,000 MoHAHE (NCPE, EIA) 87,500 MoHAHE-ERC 50,000 CoHE-FMC 95,000 CoHE-FoE: 85,000 MoE-EDC (curriculum) 675,000 MoE-B. Atoll (educatn) 860,000 Customs: (Aggregate) 875,000 Sonevafushi-Ecocare:135,000 VOM (env prog) 150,000 TVM (env prog) 300,000 MoT: STMP impl. 88,000 MoT: Master Plan Rev 150,000 MoT: School Awareness 136 000 MoT: Awards 20,000 MoT: Enforcement 165,000 MoT: Regultns Rev 86,000 MoT: Dive promotn 495,000 *Total = US$ 5,261,475*	MoFAMR – SDMS 141,000 MoFAMR – Mngmt 80,000 MoFAMR: Awareness 67,500 MRC-monitoring 62,500 MoHAHE (NCPE, EIA) 45,000 CoHE-FMC 23,750 MoE-EDC (curriculum) 168,750 MoE-B. Atoll (educatn) 86,000 CoHE-FoE: 4,000 MoHAHE-ERC 12,500 Japan/ADB/MFAMR 87,000 FAO/MFAMR 142,000 Sonevafushi-Ecocare: 135,000 VOM (env prog) 75,000 TVM (env prog) 150,000 MoT: STMP impl. 62,000 MoT: Master Plan Rev 38,000 MoT: School Awareness 14,000 MoT: Awards 20,000 MoT: Enforcement 16,000 MoT: Regultns Rev 21,000 MoT: Dive promotn 49,000 **TOTAL: US$ 1,500,000**	GEF: 823,900 **TOTAL: US$ 823,900**	**TOTAL: US$ 0.00**

	Non-Incremental		Incremental	
	Baseline (5 years)	**Sustainable Development Baseline Co-financing**	**GEF Financing**	**Incremental Co-financing**
Domestic Benefits	Decisions made at sectoral levels have unintended negative impacts upon biodiversity and the gradual degradation of atoll ecosystem health. Inadequate information-based decision making is causing. Knowledge and capacity barriers prevent institutions from adopting integrated approach to resource management and decision making. Inadequate understanding of ecosystem benefits and biodiversity values means that biodiversity does not receive adequate attention in sectoral decision making processes.	Strengthened cross-sectoral management improves sustainability of existing economic development practice.	New understanding of ecosystem benefits and long-term sustainability directs investment toward foreclosing ecosystem degradation and toward other actions to preserve natural capital, enhancing long-term prospects for beneficial tourism development.	
Global Benefits	Information sharing and awareness raising are inadequate to the task. Social, economic and demographic changes overwhelm traditional low-impact lifestyles and practices and lead to habitat loss and gradual loss of biological diversity.	Increased awareness of ecosystem benefits and empowered constituency strengthens inter-agency coordination and informed decision making for economic development, leading to improved ecosystem health.	New policy prescriptions, decision making tools and methods advance integrated ecosystem management objectives and create a foundation for sustaining management and conservation over time. Institutional ability to access and apply information to informed decision-making results in minimized impacts of development and enhanced efficacy of natural resource management and conservation actions.	

	Non-Incremental		Incremental	
	Baseline (5 years)	**Sustainable Development Baseline Co-financing**	**GEF Financing**	**Incremental Co-financing**
Outcome 2 Stakeholders Pilot Model Biodiversity Conservation Practices in Baa Atoll	MoFAMR: MoFAMR Mngmt 20,000 MRC: monitoring 350,000 MRC: biodiv Asmt & Res. 430,000 MoFAMR: Ecosystm Plng 15,000 Resorts: monitoring 130,000 MoHAHE-ERC:GIS 90,000 MPND: Spatial planning 200,000 MoT: Spatial planning 200,000 **TOTAL = 1,435,000**	Resorts: monitoring 130,000 MoHAHE-ERC:GIS 90,000 MPND: Spatial planning 40,000 MoFAMR Mngmt 20,000 MoT: Spatial planning 40,000 ***Total = US$ 320,000***	GEF: $1,283,200 **Total: US$ 1,283,200**	MRC: monitoring 175,000 MRC: biodi Asmt & Res 260,000 Fisheries: Ecosystm Plng 15,000 Private Sector: 375,000 MoFT: 225,000 UNDP: monitoring & eval: 70,000 **Total: US$ 1,120,000**
Domestic Benefit	Lack of effective protection of priority habitats threatens the loss of direct use values from ecosystem-based tourism, fish harvesting, and future-use values of biodiversity gene pools. No long-term funding to develop Maldivian expertise in atoll ecosystem and coral community management.	NA	Effectively conserved and managed atoll environment provide more direct use benefits to support future development of fisheries and tourism sectors, physical protection to coastal environments. Replicable models of community participation in monitoring and assessment are tested and adapted. New locally based decision making instruments for resource management are developed. Maldivian expertise developed in biodiversity conservation and ecosystem management.	

	Non-Incremental		Incremental	
	Baseline (5 years)	**Sustainable Development Baseline Co-financing**	**GEF Financing**	**Incremental Co-financing**
Global Benefit	Inadequately protected atoll ecosystems threaten the gradual decay of refugia needed to maintain globally significant biodiversity, important for future medicinal and other benefit options. Inadequate community participation, site-based information and monitoring hamper prioritization, and effective adaptation of conservation and development efforts to abate threats to global environmental values. Biodiversity values decline over the long-term.	NA	Effectively conserved and managed atoll ecosystem preserves the full extent of global existence and option values and sustains priority habitats and species, maintaining future direct and indirect use values for species, habitats, and ecosystems. Preserves the value of leaving use and non-use values to future generations. Maintains the existence value of atoll ecosystems and habitats, and species dependent on atoll ecosystem integrity. Participatory, information-based management and collaborative protected area management practice conserves global biodiversity values. Long-term sustainable funding supports ongoing conservation. Effective monitoring and research bolsters scientific understanding of biodiveristy and atoll ecosystems and maintains option to rebuild, preserve, or augment the genetic vitality of other habitats. Foresees new information from avoiding irreversible losses of species, habitats, biodiversity.	
Outcome 3: Stakeholders Pilot Sustainable Natural Resources Management and Livelihood Development Practices in Priority Areas.	MRC: Mariculture 500,000 MoFAMR: BFAD 570,000 MCPW: SWM 4,000,000 Community: SWM 305,000 Resorts: SWM 590,000 Resorts: Sewage Dis 205,000 Resorts: Coastal mod. 355,000 MAA: Harbour dev 2,723,000 MoT: Mooring bouys 80,000 Total = US$9,247,500	UNDP/ADP/Baa: 350,000 UNDP/JHRDF/MFAMR: 400,000 UNDP/ICT: 150,000 Communities: ADP 325,000 MRC: Mariculture 250.000 MoFAMR: BFAD 570,000 Community: SWM 305,000 MCPW: SWM 80,000 Resorts: SWM 194.700 Resorts: Coastal mod. 177,500 MHAHE:SWM 50,000 MoT: Mooring bouys 8,000 Other government 122,000 **Total US$ 2,988,200**	GEF: $263,000 Total: US$ 263,000	**NA**

	Non-Incremental		Incremental	
	Baseline (5 years)	**Sustainable Development Baseline Co-financing**	**GEF Financing**	**Incremental Co-financing**
Domestic Benefit	Financial, policy and knowledge-related barriers prevent people from breaking out of the cycle of environmental degradation and increasing poverty.	People overcome financial, policy and knowledge-related barriers and successfully develop new, sustainable livelihoods.	Sustainability of reef fishery and tourism development is improved. Consumptive use benefits are created from the improved management of reef fishery harvests in priority areas. Future use values derived from recreational use and option values for natural genetic diversity are protected. Tourism;s direct use values, dependent on ecosystem integrity, are conserved.	
Global Benefits	People are empowered to systematically integrate ecologically benign, sustainable livelihood systems into the productive systems, thus eliminating the root causes of biodiversity loss and ecosystem degradation.	N/A	Community-based reef fishery practices incorporate diversity management criteria. Information on coral reef community ecology is collected, interpreted and applied to reef fishery management, resulting in informed adaptive diversity-oriented management in priority demonstration areas of Baa atoll. Demonstration of biologically, social, and economically viable means of generating income for people and maintaining biological diversity and atoll ecosystem integrity. Transferable lessons, techniques, and policies can be applied to other areas facing similar threats.	

TOTALS		
Baseline		*US$15,944,000*
GEF Project Alternative		
	SD Baseline Co-financing	US$4,680,200
	GEF financed Incremental Costs	Total: US$2,370,100
	Co-financed Incremental Costs	US$ 1,242,000
Sub-total		**US$8,292,300**
Block-A Preparatory Funding **Block B Project Preparation Financing** *Sub-total*	GEF Financing Co-financing:	US$25,000 US$ 335,000 US$ 45,000 **US$ 405,000**
Project Alternative Total		US$ 8,695,300

ANNEX B: LOGICAL FRAMEWORK

PROJECT	VERIFIABLE SUCCESS INDICATORS	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
Goal: The conservation of globally significant biological diversity in Baa Atoll.	1. Surveys in year six show coral reef diversity levels maintained and atoll ecosystem health indicator levels at similar or improved levels. 2. Populations of indicator and flagship species remain at current levels or increase (reef sharks, sea turtles, grouper, sea birds). 3. Quality of priority habitat maintained or improved (nesting beach extent, area of roosting and nesting forests, coral communities, shark nurseries maintained). 4. Baseline level of diversity in coral reef ecosystems is conserved/remains unchanged in MPAs and other priority areas. 5. Hermatypic coral communities continue to recover, colonizing bleached areas (increased density of coral in monitored areas).	1. Biannual surveys of biological and environmental parameters and indicators developed under monitoring program. 2. Biannual ecosystem health surveys. 3. Monitoring records/evaluation results. 4. Survey and monitoring results 5. Survey and monitoring result.	1. Continued GoM support for coral reef and atoll ecosystem conservation 2. Natural factors/disasters/sea level rise will not harm coral reef communities.
Purpose: Public and private stakeholders are conserving biological diversity by mainstreaming biodiversity into productive sector activities; applying new alliances to conservation at the local level, and pursuing new livelihoods, thereby reducing pressure on reef resources.	1. Biodiversity objectives incorporated into Ministerial Advisory Group mandates, national development planning methodology, and sectoral policies for Atoll Administration, Tourism, and Fisheries. 2. Ecosystem benefit/biodiversity value studies yield results that significantly influence policy debate. 3. Approved guidelines and codes of practice for incorporating biodiversity conservation and ecosystem health into sectoral programs in circulation. 4. Water pollution indicator levels reduced by 40% by end of year 5. 5. # of unmanaged solid waste sites reduced by 40% by end of year 5. 6. Reef fishery resources are not over-harvested in Baa Atoll by end of year 5. - Pressure on baitfish in reef areas is reduced by 40% due to the BFADs. - Large predator populations are stable such as reef sharks and grouper. 7. Up to three MPA established and effectively managed in Baa Atoll. - Conservation agreements with at least six (6) communities and three (3) resorts, increasing	1. Government policy docs with new mandates, nat'l planning methods; GoM policy docs 2. Study results; field interviews; newspaper clippings; policy documents reflecting changes. 3. Guideline document. 4. Field surveys/ monitoring results 5. Monitoring and evaluations; field surveys; interviews. 6. Fishery management records/interviews; field surveys. 7. Field Surveys/monitoring results; field interviews; 8. Field interviews; project records; Resort hiring records. 9. Analysis of coastal development projects; monitoring; field assessments.	1. Biodiversity conservation will continue to be a government priority. 2. MoHAHE will continue to support diversity conservation and ecosystem management. 3. Pollution will not become a problem for atoll sites.

PROJECT	VERIFIABLE SUCCESS INDICATORS	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	enforcement by 100% by end of year 5. - Funding from BACF sufficient to operate these areas sustainably. - #s of key species and condition of key habitats in these areas unchanged or improved. - Physical damage to corals and related habitats reduced to negligible level. - Disturbance of priority nesting and roosting sites reduced to negligible levels. 8. New income streams (jobs) and employment opportunities enable at least 15 families to pursue more sustainable livelihood options by MTE and 15 more by end of project. 9. Trend towards increased shoreline erosion reversed by end of year 5. 10. **Milestone:** at least two project partners mainstreaming biodiversity objectives into their productive sector programs policies and practice by middle of year 3 and two more partners by end of year 4; Progress satisfactory by MTE and reasonably complete by project closure. 11. **Milestone**: At least 40 km^2 brought under improved management by MTE and further 40 km^2 by project closure.		

OUTCOME 1: BIODIVERSITY IS MAINSTREAMED INTO SECTORAL INSTITUTIONS AND POLICIES	1. Ministerial advisory boards apply biodiversity objectives and ecosystem benefit/biodiversity value information to decision making processes. 2. Fisheries, tourism, infrastructure development, and planning policies incorporate biodiversity objectives and ecosystem management principles by end of year 2. 3. Competitively selected candidates secure technical capacity for conservation by completing advanced degree level programs in related disciplines by year 5 4. MoT integrated biodiversity objectives/criteria into resort island selection, development and management. 5. **CB Indicator:** Thirty (30) staff from core Ministries complete in-country information use and adaptive management training and apply lessons to their work. 6. **CB Indicator:** MoHaAHE, MoFA, MoT roles clearly defined and understood in promoting biodiversity conservation in productive sectors by end of year 7. **Milestone:** Biodiversity/ecosystem management guidelines and applied by planning and finance Ministries to development planning and financing by end of year 3. 8. Polluter pays principle becomes Gov't policy and EIA enforcement/ monitoring partnership established between MoHAHE - MoAA in Baa. 9. **Milestone:** Biodiversity conservation policy reflects species ecology and habitat conservation requirements by end of year 2. 10. **Milestone:** Quotas imposed upon shark fin and grouper exports; product exported diminishes by 25% by MTE and 50% by end of project. 11. Biodiversity curricula being used by primary, middle, and high school levels by year 3. Student scoring on ecology knowledge tests improves significantly over baseline scores beginning in year 4. 12. School groups visit local sites regularly from year 3. 13. Interpretation center and displays being used and viewed by tourists and students by end of year 4. 14. **CB Indicator**: Economic valuation studies of key biodiversity and ecosystem assets will influence the	1. Written mandates; member listings, Meeting minutes. 2. Policy docs reflect integrated guidelines and codes of practice 3. Interviews with x-section of students; Gov't service agreements. Assessment of staff training and knowledge B/A. 4. Process records; interviews with MoT officials and MoHAHE officials 5. Survey to measure staff capacity for info management and adaptive management before and after training. Follow-up interviews. 6. Policy documents. 7. Guidelines in planning documents; financing rules include guidelines. 8. Policy document and enforcement partnership agreement. 9. Policy documents; ecological criteria included. 10. Customs records/ interviews/ Monitoring records/field visits. 11. Assessment of printed material;Scores b/a ecology course administered. 12. Field visit records 13. Review of materials 14. Published results of studies; newspaper clippings; interviews with stakeholders.	1. NGOs will maintain support for outreach and education objectives. 2. Stakeholders willing to share information.

	public policy debate by end of year 4.		
OUTCOME 2: MODEL, INNOVATIVE PRACTICES CONSERVE BIODIVERSITY IN BAA ATOLL	1. **CB Indicator:** Key staff improve their capacity to manage, access and apply information measurably over pre-training level of knowledge. 2. Accessible database of information on species, communities, and processes established and being utilized by multi-sectoral decision makers. 3. Ongoing field monitoring and research generates new and valuable information being used by policy makers and practitioners. 4. Atoll ecosystem and coral reef diversity research, monitoring, and management linkages with international programs like ICCRI, GCRMN. 5. Atoll Development and Environment Plans being implemented in Baa and incorporated into atoll planning. 6. Up to three new marine and terrestrial habitat areas are protected in Baa Atoll and under community-based management by end of year 3. 7. **CB Indicator:** Feasibility of community-based reef management demonstrated, and instruments designed and approved by MoFA/MoHAHE/MoAA by middle year 3, and implemented by end of year 4. 8. Stakeholders capacity to act as effective stewards is strengthened through training and partnership building. 9. Gov't assigns sufficient and appropriate management and technical staff to protected areas by end of year 4. 10. **Milestone and CB Indicator:** Reputation of protected areas among local stakeholders changes measurably for the better, starting with MTE and improving through to project closure. 11. **Milestone:** Structural design and bylaws of Fund completed; Fund registered as a foundation in the Maldives, 4th Q year 2. 12. Board is formed by 4th Q year 2 & Staff and technical advisors are in place, 1st Q year 3. 13. Asset manager, auditors, auditing procedures in place; operations manuals drafted; funding criteria delineated by 4th Q year 2.	1. Before/After training knowledge assessments 2. Interviews, Review of database and assess quality information in the database. 3. Survey/inventory records, database, surveyor and local participants interviews. 4. Interviews/new Memos of Cooperation or Understanding 5. Atoll development committee records; project records; species conservation plans; ADEP document; interviews. 6. PA designation; Conservation agreements; interviews w/stakeholders Management plan documents; 7. Partnership agreements; Field interviews. 8. Knowledge and skill assessments before and after participatory training exercises. 9. Staff records; field visits 10. Survey in year one, year 3 and year 5. 11. Fund admin guidelines; Legal program description; Report documentation on study 12. Board records; Interviews 13. Project reports; Interviews Manuals documentation. 14. Mechanism description; 15. Training documentation; B&A testing of knowledge. 16. Financial reports from asset manager. 17. BACF reports; Interviews	1. GoM priorities may change preventing progress from being made on conservation. 2. Institutional walls blocking cross-sector collaboration can be overcome. 3. Natural conditions could alter baseline level of coral diversity and atoll ecosystem health. 4. Funding for PA staff will be made available by GoM. 5. Communities and central Gov't collaborate effectively in project-inspired activities. 6. GoM support for an autonomous trust fund will be maintained. 7. Momentum to capitalize this trust fund will be maintained. 8. Qualified people will agree to serve on Board. 9. Non-profit, foundation "culture" will take hold in the Maldives. 10. GoM and private tourism sector will be able to work collaboratively on this.

	14. BACF funding mechanism approved and in place by year 3. 15. Staff trained in non-profit management and training program in place, 4th Q year. 16. **Milestone:** Co-funding commitments of US $100,000 secured by year 3, $100,000 annually beginning year 4. 17. BACF has sufficient funding by end of year 5 to cover re-current costs of biodiversity conservation in Baa Atoll in year 6 (post project).	Revenue deposit records	
OUTCOME 3: STAKEHOLDERS REDUCE PRESSURE ON BIODIVERSITY RESOURCES BY DEVELOPING SUSTAINABLE NATURAL RESOURCE MANAGEMENT & LIVELIHOOD DEVELOPMENT PRACTICES.	1. Atoll development and environment plans specify environmental health objectives and these are met by year 5 (water quality, turbidity levels, erosion rates, etc.) 2. Water quality unchanged or improving in monitoring sites by year 4. 3. Island youth organizations have mapped boundaries of customary fishing and agricultural areas and terrestrial and marine wildlife habitat. 4. Stakeholders in more than half island communities engaged in self-help training to strengthen social capital; income levels rising by end of year 5 5. New revenue streams/jobs and employment opportunities for at least 50 people in Baa Atoll by end year 3. 6. Fisherfolk demonstrate economical mariculture practices in Baa atoll by year 4. 7. **Milestone:** Local people accessing loans from a consolidated Atoll Development Fund in Baa Atoll by end of year 3. 8. **Milestone:** Bait Fish Aggregation Device program results in fishermen making 50% fewer forays onto the reefs in search of baitfish in Baa. 9. Islanders in two islands apply their own resources in partnership with Gov't and demonstrate effective solid waste management solutions by year 3, reducing rubbish in the coastal zone of two islands by end of year 4. 10. Low-impact shoreline development practices demonstrated in Baa Atoll and extended to planning and finance Ministries for replication elsewhere by year 4.	1. Monitoring of parameters in the field. 2. Surveys/PRAs before and after 3. Maps, interviews 4. Training records/PRAs prior before and after training. 5. Employment records at local resorts; Field visits, interviews with local people; 6. Regulations promulgated; ToR for committees; Meeting notes. Written guidelines; 7. Fund lending records; 8. Interviews w/fishermen, MoFAMR staff/Field visits 9. Interviews w/Gov't and fishermen/rubbish surveys. Rubbish surveys. 10. Best-practice surveys of recent shoreline development in Baa Atoll; Planning/Finance Ministry policy papers.	1. Targeted levels of funding will be realized 2. External factors do not inhibit the development of tourism in site areas and its ability to hire local Maldivians. 3. Local residents are willing to change resource use practices given certain benefits.
MONITORING AND	1. Annual monitoring and evaluation exercises	1. Monitoring and evaluation	4.

EVALUATION INDICATORS	completed, demonstrating acceptable accomplishment of results measuring against milestones and indicators of capacity building. 2. Key decision makers' understanding of adaptive management strengthened and measurably improved over baseline levels in two project site areas by end of year 2 and in remaining site areas by end of year 4. 3. Use of project partners to replicate the project's outcomes in other regions of the Maldives. 4. **Milestone:** Three or more cases of successful replicating and applying project's useful experience in other places among fisherfolk, resorts, tourists, Atoll and national Ministry officials by the mid-term evaluation (MTE). At least three more underway by end of project. 5. Knowledge transfer & dissemination of lessons through project result documents and SHARK Network. 6. **Milestone:** At least 20 individuals from project partners in MoFA, MoHAHE, MoT, Resorts, MoAA involved in project's lessons learned round-tables, training workshops to capture lessons learned and replicate them by the MTE and 20 more by close of project.	reports; technical progress reports. 2. Before/After training knowledge assessments 3. Assessment of who is replicating – which institutions/individuals. 4. Project evaluations and progress reports; Field visits. 5. Documentation; SHARK web-site postings and responses 6. Training and workshop records; expert evaluator field interviews.	

ANNEX C: STAP REVIEW

Title: Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives' Baa Atoll

PROFESSOR I FAGOONEE
Pro-Vice-Chancellor/1st Vice-President

University of Mauritius
Tel: (23) 454 1041/464 9958; Fax: (23) 4667900; e-mail:goofa@uom.ac.mu

OVERALL THE PROPOSAL IS COMMENDABLE, AND WOULD STAND THE TEST OF INTERNATIONAL SCRUTINY AND VALIDATION ON THE BASIS OF ITS SCIENTIFIC, TECHNICAL, SOCIAL AND GLOBAL M ERITS.

As a fully independent reviewer, I herewith submit the following observations with a view to:

(a) Supporting the project proposal on the one hand, and
(b) Enhancing it on the other.

The project, in a nutshell, wishes to:

(a) Integrate stakeholders/community participation in environment protection and conservation initiatives;
(b) Undertake scientific and socio-economic research in biodiversity conservation in a holistic manner;
(c) Develop policy guidelines;
(d) Set up the institutional framework to manage the project, and thereafter to implement the ensuing recommendations, and
(e) Envisage comprehensive training and capacity building, as well as awareness creation and preparedness at all levels.

The author/team of authors who carried out the comprehensive baseline review and the proposal write-up deserve(s) our congratulations. The document, as it is, could be recommended to funding agencies. I am nevertheless submitting some observations and minor suggestions only to contribute towards the enrichment of the document and to provide an "independent-observer's" perspective, being given my professional '*deformation*'.

I am at the disposal of any party/agency for additional clarifications and/or assistance.

MALDIVES PROJECT REVIEW

KEY ISSUES

1. Scientific and Technical Soundness of Project

1.1 The project is well prepared, with adequate scientific, technical, social and economic justification even to the extent of evoking 'existence value' of the Maldives Atoll Ecosystem(s).

The proposal warrants the pressing support of the national and, more importantly, that of the international community. The findings are essential for the sustainability of the project and the economy of Maldives, as they are to the global community, from several points of view that are quite extensively elaborated in the project document and its annexes.

The logical framework and time frame for its realisation is reasonable, but would justify a GANTT chart for ease of implementation, monitoring and evaluation. The implementing agency may require, at some stage, a logistic framework too.

1.2 The choice of Baa Atoll has been a scientific and judicious one.

1.3 Baseline review is adequate and sets the basis for the development of the 'alternative' proposal.

1.4 It is a pity that Maldives Atolls being such a delicate/fragile ecosystem as a whole suffer from inadequate legal enforcement. This is being addressed in the proposal.

2. Global Benefits and/or Drawbacks

2.1 These issues are extensively covered. No drawbacks as such are expected and any foreseeable risks have been adequately dealt with, except for the issue of Sea Level Rise.

2.2 The proposal does not consider the issue of Sea Level Rise (SLR) probably on purpose. It is however well-known that Maldives is the 'favourite' example cited in most literature on the effects of SLR - that it would be the first group of islands to get submerged over the next 50 years or so. *SLR should be discussed as one of the Risks in the context of the proposal.*

2.3 Having said that the risk-factor exists, one should not remain complacent about it, even if it is merely on humanitarian grounds. From an extreme (fatalistic) point of view, one could contemplate delocation of the inhabitants! But from a global, scientific and also socio-economic viewpoint, the project is fully justified. The atolls of Maldives epitomize (for the world at large) a rich sanctuary-cum-conservation site of marine biodiversity. To this effect the multiplicity of international conservation conventions and the ever increasing scientific interest for field research in the region is timely and vouches very much in support of the project. The benefits to science generally, and to knowledge and data acquisition for the global community need not be over-emphasised. More so, the project is also targeting the 'salvaging' of several, listed threatened/critically endangered marine species. The potential for accrued harvesting of marine products, including for pharmaceutical purposes, has also been highlighted, as well as the accrued 'value' to world tourism. The proposal to develop the Bait Fish Aggregation Devices (BFADs) to

'redress' the Tuna industry is also commendable as this will also relieve pressure on the already heavily-taxed upon coral reef resources.

2.4 From another perspective, even the eventually submerged islands would continue to interest the scientific community as the 'modified' biotypes would still be there in the form of natural 'laboratories'.

2.5 It is now established fact that the first major ecosystem to be impacted on a large scale due to atmospheric carbon dioxide rises and global climate change is the coral reefs. Maldives, for example, suffered severely (more than 95% coral mortality rate) from the widespread coral bleaching event during the 1998 El Nino. Fortunately corals demonstrate a fair degree of natural resilience to such events, if and only if other anthropogenic 'smothering' factors are mitigated/removed.

3. GEF Goals

The proposal amply satisfies UNDP/GEF goals and strategies and ensuing international conventions (CBD included) and other operational instruments (OP2). Maldives does have work experience with UNDP-GEF projects, with UNDP-country programmes extending top priority to biodiversity conservation.

4. Regional Context

The Maldives Atolls act as fertile nursery grounds for myriads of marine species that benefit the whole of the Indian Ocean coastal countries.

The participation of Maldives in the Coral Reef Monitoring Networking (GCRMN) is a clear demonstration of regional (and international) collaboration.

5. Replicability

5.1 The project herewith proposed should serve as models for replicability purposes elsewhere (in support of ICRAN initiatives too), such as in the Caribbean islands, the Philippines-Indonesia islands complex, the Australian Great Barrier Reef, Seychelles, Mauritius, etc.

Possible international sites need therefore be enumerated that run similar risks of ecosystem impacts by coastal degradation, pollution, tourism, climate change, sea level rise, resource over-exploitation, etc.

5.2 Ways and means of sustainable disposal of Solid and Liquid waste that would emerge from the project could serve as model solutions (at least partially, and customised as appropriate) elsewhere.

6. Sustainability

6.1 The scientific and technical sustainability of the project is ensured through the training and capacity building programme at all levels, but the financial sustainability will depend on the successful establishment of the Trust Fund which is well argued for. The political sustainability can be insured to a large measure by the 'alliance' of the grassroots-stakeholders.

6.2 Noteworthy is that the project takes up the challenge to adopt a holistic ecosystem approach whereas 'ecosystem integrity is not a priority objective of island modification and development practice in the Maldives' (cf. Section 28 of the proposal). It also provides the framework methodology to tackle, same thereby at the same time, catalyzing cross-agency interaction/ coordination, which is so much wanting in the Maldives.

6.3 It is suggested that mention be made under monitoring that the project aims at collecting and maintaining time-series data during and after the project life, to enable appropriate modeling exercises (see e.g. Fagoonee, Science 1999 v. 283). It may be implicit but it's better that this be made explicit. The sustainability of the project and its success depend to a large extent on these quantitative parameters. I understand that GEF/World Bank is also planning accordingly.

7. Improved definition of implementation of GEF's strategies and policies, etc.

These aspects are adequately documented and need no further elaboration.

SECONDARY ISSUES

8. Linkages to other Focal Areas

The project proposal fits perfectly with the Biological Diversity Focal Area (FA) of Action, but would transcend the other FAs, namely Climate Change, International Waters and the recent ones: Land Degradation as well as Pollution generally.

9. Linkages to other Programmes

9.1 These are fully documented in the baseline review and are relevant.

9.2 In addition, the following linkages to international and other programmes exist with, for example, the

- IUCN Global Coral Reef Monitoring Network (GCRMN)
- Maldives Protected Areas System (MPAS) with AusAID funding
- Development of Regional Economic Centres with Asian Development Banks funding
- Atoll Development Project with UNDP support
- Sewage Disposal with Islamic Development Bank funding.
- Mariculture development with Japanese Fund for Human Resources Development.
- Etc.

10. Degree of involvement of Stakeholders

10.1 The proposal has the merit of involving all categories of stakeholders – from fishermen and their families, through the youth, to private sector and a good blend of public officers from key government ministries. This is commendable as it provides for community outreach, addresses the gender factor, caters for 'ownership' of the project and its outcomes by the Maldivian population as a whole, hence paving the way for its sustainability, being given that field training in monitoring skills is also provided for within the overall comprehensive capacity building programme.

10.2 The project as proposed has the additional merit of addressing human dimensions, a key element for holistic and successful integration of policy. A multilevel approach is recommended, including roping in of amateurs, and provides for community-resource interaction, indispensable for managing socio-economic status of communities. The political 'community' is very sensitive to socioeconomic arguments. Economic evaluation of the resources and services is a must too, that would furnish indicators to better assess alternative livelihood options for poverty alleviation. Hence, the close interaction of social and natural scientists has to be stressed.

11. Capacity Building Aspects

11.1 Awareness creation and education come up again and again in the write-up and is a strong component of the broad capacity building objective, but it does not appear as an Activity by itself. It is suggested that all that is training and capacity building be lumped together under a common generic umbrella Activity, and that specific target groups be addressed under sub-activities.

11.2 With the rapid developments/revolution taking place in the Internet and Information and Communication Technology sector, and given the geographical (sparse) distribution of so many islands in Maldives and their population, it is recommended that the capacity building activity makes optimal use of web-enhanced/e-learning media. Provision must be made for digital cameras (video included) to capture as much as possible the marine biotypes/study sites to that end. Sharing such materials to the global community will certainly be more efficient and is highly recommended; nothing else, at least Maldives will have better informed visitors.

11.3 Furthermore, it is suggested that this Activity be more structured and phased, taking essentially different target groups into consideration; it is unfortunate that whilst one of the core thrusts of the proposal is capacity building and training, yet it is so loosely presented activity-wise. Output deliverables - that again could be shared globally - could also be spelt out at this time.

11.4 I would be tempted to move Activity 1.4 to be an additional Sub-Activity under Activity 2.1, as it provides hard scientific data and information that would serve as the reliable foundation and springboard for the remaining activities, i.e. training, education and awareness creation, development of institutional framework, conservation programmes, zoning, mapping etc.

11.5 It is essential that appropriate budget provisions (capital and recurrent) be made for GIS equipment and software acquisition to support, amongst other activities, the zoning programme, and comprising appropriate training programmes.

12. Innovativeness of the Project

12.1 Probably the Maldivian Atolls provide a unique set of ecosystems which warrant a mobilization of one and all for its success.

12.2 It is expected that the project will come up with novel methods of solid and waste disposal that the specificities of the Atoll ecosystem impose.

12.3 The other major innovation is the creation of an international Trust Fund, on the well argued and justifiable grounds that the project site and its outcomes will benefit the entire mankind in more ways than one, as well as future generations.

13. Additional Comments/Suggestions for Enhancing the Proposal

13.1 Literature citation is minimal; but that's understandable and would be available/accessible in the public domain, known to the local scientists and officers participating in the project but needs to be made available to eventual external consultants recruited for the project. Perhaps a shortlist of key reference could be annexed to facilitate the implementation phase.

13.2 Section 30 mentions that "excessive use of reef areas by divers and snorkellers is causing considerable damage, etc. etc. ……"; it would be desirable to give a few credible publications/documents as reference, especially as quantitative data are available (e.g. C Sheppard, Sheffield University, J Turner, UCNW, Bangor, Wales, and S Clark, Newcastle, UK, and why not H Zahir and H Naeem, MRC, Maldives, have latest (authoritative) publications on these).

13.3 It is not clear in the baseline review whether EIA is a legal pre-requisite to all developmental projects, particularly as all Maldives is 'coastal zone' (see e.g. Section 65). But it is mentioned in Annex A under Section 39; the question is whether or not this legal requirement is actually implemented for all developmental projects, given the paucity of 'physical and technically trained personnel'? This could be elucidated a little further.

13.4 It would be desirable to mention that UNEP, NOAA/NASA, SPOT, Landsat TM and other satellite imagery/data would complement sea-truthing activities that would feed into the information data base and eventually for all GIS work. Much of these are available in the public domain.

13.5 Activity 1.3.3 could be inspired by UNESCO/IOE/CSI's 'Wise Coastal Practices' guidelines (http://www.csiwisepractices.org, or http://www.unesco.org/csi).

13.6 Section 105 expresses some apprehension that the level of tourism might dramatically decline; if ever this occurs, it is bound to be short-term and in the long run, it would be a lot better to have better 'informed', 'green', eco-friendly tourists. The conservation/protected areas would attract hundreds of scientists too.

IF/July 25 2002

Annex C1: Response to Review by Professor I. Fagoonee, University of Mauritius

The reviewer's comments are much appreciated and helped us to improve important aspects of the project. The key issues and secondary issues identified and observed by the reviewer are gratifying to the project development team after so much hard work in developing this proposal.
The following are responses to concerns and recommendations raised by the reviewer. Positive comments made by the reviewer, of which there were many, are not addressed here.

Paragraph 1.1: The logical framework and time frame for its realization is reasonable, but would justify a GANTT chart for ease of implementation, monitoring and evaluation.

Response: Implementation procedures involve the preparation of annual workplans. A GANTT timeline chart will certainly be included as part of that process.

Paragraph 2.2: SLR should be discussed as one of the Risks in the context of the proposal.

Response: This has been done in the risks section with more explicit language included as to how the project will contribute to the monitoring effort on this front. The First National Communication of the Republic of Maldives to the UNFCC identifies land loss, erosion and damage to coral reefs as vulnerabilities to climate change and recognizes the importance of reduction of human impacts on coral reefs as an adaptation measure to climate change. At the same time it recognizes the limitations of resource managers in the Maldives in controlling impacts due to climate change.

Paragraph 6.3: It is suggested that mention be made under monitoring that the project aims at collecting and maintaining time-series data during and after the project life, to enable appropriate modeling exercises (see e.g. Fagoonee, Science 1999 v. 283).

Response: This has been done under the Activity description,

Paragraph 11.1 Awareness creation and education come up again and again in the write-up and is a strong component of the broad capacity building objective, but it does not appear as an Activity by itself. It is suggested that all that is training and capacity building be lumped together under a common generic umbrella Activity, and that specific target groups be addressed under sub-activities.

Response: Capacity building is one of the major cross-cutting emphases of the project. An estimated 50% of the budget of the project will go to some kind of training or capacity building exercise. Although some activities explicitly relate to training, really, one could make a strong argument for the entire project being one of capacity building: of helping people in the Maldives develop effective and appropriate ways of conserving and sustainably utilizing biological diversity. Each major activity will be measured and assessed in part according to how much key stakeholders learned during the process. Capacity will be strengthened under each of the three outcomes for the related kinds of capacities – from information management and use to ecosystem management processes to community-based resource and protected area management to teaching people how to pursue alternative livelihoods.

Paragraph 11.2-11.3. With the rapid developments/revolution taking place in the Internet and Information and Communication Technology sector, and given the geographical (sparse) distribution of so many islands in Maldives and their population, it is recommended that the capacity building activity makes

optimal use of web-enhanced/e-learning media… Furthermore, it is suggested that this Activity be more structured and phased, taking essentially different target groups into consideration.

Response: Government is working to develop a network within Male' which will connect all government offices and in its second phase connect to Atoll and then island offices. The UNDP's ICT project aims to help develop ICT policy in the Maldives, formulate business models for ICT centers in the Maldives and in the next phase establish 10 telecentres in the atolls. The project will utilize these linkages for capacity building purposes in terms of improving understanding of policies, policy implementation, and sharing of information. The project will be phased under implementation, targeting local government offices, women's development groups, fishermen's groups, and the private sector.

Paragraph 11.5: It is essential that appropriate budget provisions (capital and recurrent) be made for GIS equipment and software acquisition.

Response: This is already in the brief under Activity 2.1.4., focusing on updating software for what is a relatively good existing equipment baseline.

Paragraph 13.2, "…it would be desirable to give a few credible publications/documents as reference, especially as quantitative data are available."

Response: Reference documents will be listed in an Annex.

Paragraph 13.3. It is not clear in the baseline review whether EIA is a legal pre-requisite to all developmental projects

Response: EIAs are mandatory for all development projects, as stated in the baseline.

Paragraph 13.4. It would be desirable to mention that UNEP, NOAA/NASA, SPOT, Landsat TM and other satellite imagery/data would complement sea-truthing activities that would feed into the information database and eventually for all GIS work. Much of these are available in the public domain.

Response: This has been included. One staff member from the Marine Research Center is doing his PhD using imagery from these satellites. The PhD thesis examines how this information can be used to study the formation of the two atoll chains of the Maldives and the relation to seasonal changes. This bodes well for future use of this information in the Maldives.

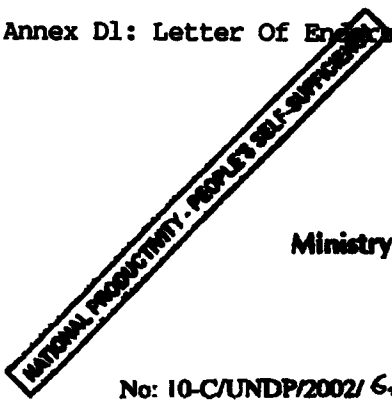
Optional Annexes

to UNDP-GEF Project Brief entitled:

"Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives' Baa Atoll"

Annex D1:	Letter of Endorsement
Annex D2:	Co-Funding Confirmation Letters
Annex E:	Threats and Root Causes Diagram
Annex F:	Trust Fund Description
Annex G:	Institutional & Stakeholder Involvement Summary
Annex H:	Maps
Annex I:	Ecosystem Approach Example
Annex J:	List of References

Annex D1: Letter Of Endorsement



Ministry of Home Affairs, Housing and Environment
Male', Republic of Maldives

No: 10-C/UNDP/2002/66

1 August 2002

Mr. Minh Pham
UNDP Resident Representative
UNDP, UN Building
Male' Maldives

Dear Mr. Pham,

GEF Funding for Atoll Ecosystem – Based on Conservation of Globally Significant Biological Diversity in the Maldives' Ban Atoll (Coral Reef Biodiversity) Project

We are pleased to inform that the formulation of the above project has been completed. The formulated project supports the broad development objectives in the Maldives as reflected in the Sixth National Development Plan and the Second National Environment Action Plan and the National Biodiversity Strategy and Action Plan. I take this opportunity to thank UNDP for its role played in developing this proposal.

I request the UNDP, on behalf of the GEF Operational Focal Point, to submit this proposal for funding from Global Environment Facility. As biological diversity is an important area highlighted in number of policy documents, we believe this project would pave the road to address the objectives of sustainable development.

Thanking you

Yours Sincerely,

Mohamed Ali
GEF Operational Focal Point

CC: Department of External Resources
Ministry of Planning and National Development

Home Affairs: Tel: (960) 321752 Fax: (960) 324730 E-mail: mhahe@dhivehinet.net.mv
Environment: Tel: (960) 324861 Fax: (960) XXXXXX E-mail: xxx@environment.gov.mv
Huravee Building
Male', Republic of Maldives

بسم الله الرحمن الرحيم

Ministry of Home Affairs, Housing and Environment
Male' , Republic of Maldives

10C/MISC/2002/

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E. 45th St. , 10th floor
New York, New York

21 July 2002

Dear Mr. Pinto,

Subject: Letter affirming Ministry of Home Affairs, Housing and Environment co-funding of UNDP-GEF project.

The purpose of this letter is to confirm the US $ 198,000.00 co-funding figure as included in the project brief entitled *Atoll Ecosystem Management & Coral Reef Conservation in the Maldives.* This figure is realistic and was developed through detailed discussions with the project team and our staff during the PDF-B preparatory period.

The Ministry of Home Affairs Housing and Environment currently conducts several activities related to environment conservation in the Maldives and plan to continue these activities in the coming years. These include developing environment policy and regulations, evaluation of EIAs, conducting awareness programs, information management, awards for accomplishments in the area of conservation and development of appropriate solid waste management measures. The project objectives are complementary to those of this Ministrys' and we look forward to working with the project to strengthen environmental conservation in the Maldives and particularly in Baa Atoll through improved environment planning, policy implementation and management.

Sincerely,

Mohamed Ali
Director, Environmental Research

Home Affairs: Tel: (960) 321752 Fax: (960) 324739 E-mail: mhah@dhivehinet.net.mv
Environment : Tel: (960) 324861 Fax: (960) 322286 E-mail: env@environment.gov.mv
Huravee Building
Male' , Republic of Maldives

Annex D2: Co-Funding Confirmation Letters

بسم الله الرحمن الرحيم

Ministry of Home Affairs, Housing and Environment
Male' , Republic of Maldives

10C/MISC/2002/

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E. 45th St. , 10th floor
New York, New York

21 July 2002

Dear Mr. Pinto,

Subject: Letter affirming community co-funding for waste management of UNDP-GEF project.

The purpose of this letter is to confirm the US $ 305,000.00 community co-funding figure as included in the project brief entitled *Atoll Ecosystem Management & Coral Reef Conservation in the Maldives*. This figure is realistic and was developed after detailed consultations with the community by our staff and a waste management expert during the PDF-B preparatory period.

Solid waste management is a community activity in which the island community invests a great deal of time and effort. During the Block B project consultations the community expressed their commitment to improve waste management practices on the islands and were excited about the potential for the GEF-funded project to demonstrate improved waste management measures for the island community.

Sincerely,

Mohamed Ali
Director, Environmental Research

Home Affairs: Tel: (960) 321752 Fax: (960) 324739 E-mail: mhah@dhivehinet.net.mv
Environment : Tel: (960) 324861 Fax: (960) 322286 E-mail: env@environment.gov.mv
Huravee Building
Male' , Republic of Maldives

بسم الله الرحمن الرحيم

Ministry of Home Affairs, Housing and Environment
Male', Republic of Maldives

Subject: Letter affirming Ministry of Home Affairs, Housing and Environment co-funding of UNDP-GEF project.

Ref 10-C/MIS/2003/1324

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E. 45th St., 10th floor
New York, New York

12 September 2003

Dear Mr. Pinto,

This is to confirm the Ministry of Home Affairs, Housing and Environment commitment to the Baa Atoll Conservation Fund to be established under the Maldivian government executed UNDP-GEF project entitled *Atoll Ecosystem-based Conservation of Globally Significant Biological Diversity in the Maldives' Baa Atoll.*

In consultation with the Ministry of Finance and Treasury we agree to contribute a total of USD 225,000.00 for the Baa Atoll Conservation Fund provided that the right legal framework is in place and project activities have created the right enabling environment and for such a fund. The co-funding includes a one time contribution of US$ 50,000.00 for capitalizing the fund and US$ 25,000.00 annually thereafter for a duration of seven years.

Sincerely,

Aslam Rasheed
Director General

Environment: Tel: (960) 324861 Fax: (960) 322286 E-mail: env@environment.gov.mv
Home Affairs: Tel: (960) 321752 Fax: (960) 324739 E-mail: mhah@dhivehinet.net.mv
Huravee Building
Malé, Republic of Maldives

بسم الله الرحمن الرحيم

MINISTRY OF FISHERIES, AGRICULTURE & MARINE RESOURCES
MALE'
REPUBLIC OF MALDIVES

Reference: 30-G/MIS/2002/ 8/3

08 July 2002

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E. 45th St., 10th floor
New York.

Dear Mr. Pinto,

Letter confirming Ministry of Fisheries, Agriculture and Marine Resources co- funding of UNDP – GEF project.

I am writing to confirm US$ 1,641,000.00 co-funding figure as included in the project document entitled Atoll Ecosystem Management and Coral Reef Conservation in the Maldives. Additionally we also confirm US$ 142,000.00 and US$ 87,000.00 through two projects, which the ministry is currently implementing with assistance from FAO and Japan-ADB respectively. These figures are realistic and were developed through detailed discussions with the project team during the PDF-B preparatory phase.

Ministry of Fisheries Agriculture and Marine Resources currently conducts several activities relating to Reef resource management and coral reef conservation in Maldives. These include formulating and implementing regulations and management measures pertaining to reef fisheries management, developing and implementing fisheries policies, conducting various research programs aimed at rational exploitation of marine resources, conducting public awareness programs and implementing monitoring and assessment programs on reef environment. These programs will continue for the period of next five years.

The project objectives are complementary to those of these ministry's in above areas specially in the area of reef resource management.

We look forward to working with the project.

Best Wishes,

Yours sincerely

Mohamed Zuhair
Assistant Director General

MINISTRY OF HOME AFFAIRS, HOUSING AND ENVIRONMENT		
ENTRY		
Number: 5682	Date/Time: 10/7/2002 1447	Initials:
Action		

Environment Research Centre		
	ENTRY	
Number: 1418	Date: 10/7/02 Time: 09:15	Initials:
Action		
File:		

ﷺ
ﷺ ﷺ ﷺ ﷺ - ﷺ ﷺ ﷺ
Ministry of Planning and National Development
ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ
4th Floor, Ghazee Building, Ameer Ahmed Magu, Male', 20-05, Rep. of Maldives
ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ
Fax(960)322361 :ﷺ Website: http://www.planning.gov.mv :ﷺ

100-DP/10/2002/60 :ﷺ

ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ ﷺ

Ministry of Planning and National Development
4th Floor, Ghazee Building, Ameer Ahmed Magu, Male', 20-05, Rep. of Maldives
Fax(960)327351 Website: http://www.planning.gov.mv

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E. 45th St., 10th floor
New York, New York

10th July 2002

Dear Mr. Pinto,

The purpose of this letter is to confirm the $ 40,000.00 co-funding figure as included in the project brief entitled *Atoll Ecosystem Management & Coral Reef Conservation in the Maldives*. This figure is realistic and was developed through detailed discussions with the project team and our staff during the PDF-B preparatory period.

The Ministry of Planning and National Development is planning to complete a GIS for the Maldives, incorporating information necessary for the development planning process. The block B project consultative process has successfully resulted in our programs being complementary and we are excited about the potential for the GEF-funded information management input in Baa Atoll to build upon the baseline work we will be carrying out.

We are pleased to be involved with this kind of partnership among the Maldivian government, the local community, the private sector and the UNDP and GEF.

Sincerely,

Ibrahim Hussein Zaki
Minister of Planning and National Development

PABX: (960)323919, 322965, 313830, 324205, 334910, 334911, 334912
Admin & Finance admin@planning.gov.mv 316780
Development Planning dexplan@planning.gov.mv 320763
Strategic Plng. & Research spr@planning.gov.mv 320040
Resource Management rm@planning.gov.mv 320046
Projects project@planning.gov.mv 320720
Spatial Planning spatial@planning.gov.mv 332731
Population pop@planning.gov.mv 332079
Communication & Information it@planning.gov.mv 325011
Statistics stats@planning.gov.mv 325409
Minister's Bureau minister@planning.gov.mv 316791

بسم الله الرحمن الرحيم

MINISTRY OF TOURISM
Republic of Maldives

Ref. No. MT-ES/88/2002/391

17 July 2002

Mr. Franko Pinto
Executive Coordinator
UNDP – GEF
304 E. 45th St., 10th floor
New York

Dear Mr. Pinto

Sub: letter affirming Ministry of Tourism co- funding of UNDP – GEF project.

We are pleased to confirm the US$ 268,000 co-funding figure as included in the project brief entitled Atoll Ecosystem Management & Coral Reef Conservation in the Maldives. This figure is realistic and was developed through detailed discussions with the project team and our staff during the PDF – B preparatory period.

The Ministry of Tourism currently conducts and plans to continue activities related to coral reef conservation in the Maldives. These include awareness programs, awards for accomplishments in the area of conservation, environmental assessments and tourism planning. We look forward to working with the project to strengthen our planning process through atoll level planning and improved information management.

Best Regards.

Yours sincerely

Mohamed Saeed
Deputy Minister of Tourism

MINISTRY OF HOME AFFAIRS, HOUSING AND ENVIRONMENT		
ENTRY		
Number: 6137	Date/Time: 24/7 12:45	Initials:
Action :		

H:\ENVIRONM.LETTERS\UNDP-GEF.DOC

Ministry of Tourism, 1st Fl. Ghazee Bldg., Malé 20 - 05, Republic of Maldives
Tel. (960) 323224, 321216 Fax: (960) 322512, E-mail: tourism@dhivehinet.net.mv

Maldives

NATIONAL PRODUCTIVITY - PEOPLE'S SELF-SUFFICIENCY

TELEVISION MALDIVES
MALE'
REPUBLIC OF MALDIVES

NO. 86/mis/2000/76

Mr. Frank Pinto
Executive Coordinator
UNDP – GEF
304 E. 45th St., 10th floor
New York, New York

22 July 2002

Dear Mr. Pinto

This is to confirm the US$ 225,000 co-funding figure as included in the project brief entitled Atoll Ecosystem Management & Coral Reef Conservation in the Maldives. This figure is realistic and was developed through detailed discussions with the project team and our staff during the PDE – B preparatory period.

The Voice of Maldives and TV Maldives of this Ministry are constantly looking for ways to improve their programmes. The Block B project consultative process has successfully resulted in our programs being in our programs being integrated within the project. We look forward to project input supporting the improvement of our current environment programs.

We,re pleased to be involved with this kind of partnership among the Maldivian Government, the UNDP and GEF.

Sincerely

The Minister of Information Arts and Culture

MINISTRY OF HOME AFFAIRS, HOUSING AND ENVIRONMENT
ENTRY
Number: 4138
Date: 25/7
Initials:
9:45
Action :

TELEVISION MALDIVES
BURUZU MAGU,
MALE'
REPUBLIC OF MALDIVES

TELEPHONE: 323105, 324105
TELEX: 66183 TVM MF.
FAX: 325083

WASTE MANAGEMENT SECTION

MINISTRY OF CONSTRUCTION AND PUBLIC WORKS

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E.45th St., 10th floor
New York, New York

NO : 20F/MIS /2002/5

24 June 2002

Dear Mr. Pinto,

The purpose of this letter is to confirm the US$ 80,000.00 co-funding figure as included in the project brief entitled Atoll Ecosystem Management & Coral Reef Conservation in the Maldives. This figure is realistic and was developed through discussions with the project team and government staff from offices concerned with Waste management in the Maldives, during the PDF-B preparatory period.

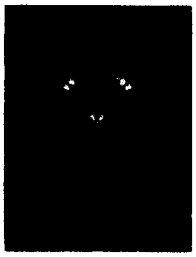
The Ministry of Construction and Public Works together with other relevant Ministries are working on developing better Waste Management systems in the atolls. The Block B project consultative process has successfully resulted in our programs being complementary and we're excited about the potential for the GEF- funded pilot Waste Management venture in Baa atoll to assist us in identifying a feasible system in the atolls.

We're pleased to be involved with this kind of partnership among the Maldivian Government, island community, tourist resorts and the UNDP and GEF.

Sincerely,

Mohamed Latheef
Deputy Director

WASTE MANAGEMENT SECTION
MA. MAAFAIYTHAKURUFAANU MAGU,
MALE', REP. OF MALDIVES.
TEL: 32 3859, FAX: 313801.



Maldives College of Higher Education,
Jamaaluddeen Complex,
Nikagas Magu,
Male' (20-03)
Republic of Maldives
8th July 2002

Ref No: 153/MIS/2002/170

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF,
304 E. 45th St., 10th Floor,
New York.

Dear Mr. Pinto,

The purpose of this letter is to confirm the $ 28,000.00 co-funding figure as included in the project brief entitled Atoll Ecosystem Management & Coral Reef Conservation in the Maldives. The figure is realistic and was developed based on baseline figures provided by us to the project team during the PDF-B preparatory period.

The faculty of Management and Computing and the Faculty of Education of the Maldives College of Higher Education conduct an Island Administration Training Program and a teachers training program respectively. We are excited about the potential for the GEF- funded inputs to strengthen the environmental conservation components of our programs.

We look forward to working with the GEF-funded initiative.

Yours sincerely

Hassan Hameed
Rector

بسم الله الرحمن الرحيم

Royal Island

VILLA HOTELS

TEL: (960) 230088. FAX: (960) 230099. Email: info@royal-island.com.mv, Baa Atoll, Horubadhoo, P.O Box 2073, Republic of Maldives

Mr. Fank Pinto
Executive Coordinator
UNDP-GEF
304E. 45th St, 10th floor
New York

21 March 2002

Sub – Letter affirming Royal Island Resort co-funding of UNDP-GEF project

Dear Mr. Pinto,

The purpose of this letter is to confirm the US $ 37,185.00 co-funding figure as included in the project brief entitled *Atoll Ecosystem Management and Coral Reef Conservation in the Maldives*. This figure is realistic and was developed by the project team in consultation with us during the PDF-B preparatory period.

Our current practices in waste management, shoreline modifications and environmental monitoring already follow certain standards and guidelines by the World Bank and the Ministry of Tourism as well as the Ministry of Home Affairs, Housing and Environment. We are excited about the potential for the GEF – funded inputs to demonstrate and thus improve upon the current standards and practices.

We are pleased to be involved with this kind of public-private partnership among the Maldivian Government, the tourist resorts and the UNDP and GEF.

Regards,

FAISAL NASEEM
Manager, Royal Island

MDV00g41 cor cofinance sonevafushi

Subject: FW: Coral Reef Conservation Project - UNDP-GEF
Date: Thu, 12 Sep 2002 09:01:48 +0500
From: "Aminath Nazra" <Naju@environment.gov.mv>
To: <hudha.ahmed@undp.org>

-----Original Message-----
From: Ahmed Jameel
Sent: Thursday, August 08, 2002 7:45 AM
To: Aminath Nazra
Subject: FW: Coral Reef Conservation Project - UNDP-GEF

-----Original Message-----
From: Charles Morris - Six Senses [mailto:clm@six-senses.com]
Sent: Wednesday, August 07, 2002 5:08 PM
To: env@environment.gov.mv
Subject: Fw: Coral Reef Conservation Project - UNDP-GEF

Dear Sir,

Further to your request we are pleased to confirm to co-fund the project to the tune of $37,185 as requested by Ministry of Home Affairs, Housing & Environment as long as this will not not add any extra costs to our current expenditure nor will it be a binding legal commitment.

Best regards,

Charles L Morris
General Manager, Soneva Fushi Resort & Spa
Area Director, Maldives
"Intelligent Luxury"

Soneva Gili Resort & Spa - the first all Water Villa Resort in the Maldives
Please visit our web site at <http://www.six-senses.com/sonevagili> http://www.six-senses.com/sonevagili and
for further information please contact
<mailto:sonresa@sonevagili.com.mv> sonresa@sonevagili.com.mv

Tel: 00 960 230 304/5 Mobile: 00 960 788 811 Fax: 00 960 230 335
Email : <mailto:clm@six-senses.com> clm@six-senses.com Website: <http://www.six-senses.com/sonevafushi> http://www.six-senses.com/sonevafushi

Managed by Six Senses Hotels, Resorts & Spas Limited

----- Original Message -----
From: "Hudha Ahmed" < <mailto:hudha@environment.gov.mv> hudha@environment.gov.mv>
To: < <mailto:clm@six-senses.com> clm@six-senses.com>
Sent: Monday, August 05, 2002 5:19 PM
Subject: RE: Coral Reef Conservation Project - UNDP-GEF

Dear Sir

I understand that Sovevafushi could not give us a reply to the fax below in your absense. We would highly appreciate your assistance with the request below.

Best regards

Ms. Hudha Ahmed

-----Original Message-----
From: Charles Morris - Six Senses [mailto:clm@six-senses.com]
Sent: Thursday, June 27, 2002 11:30 AM
To: <mailto:env@environment.gov.mv> env@environment.gov.mv
Subject: Re: Coral Reef Conservation Project - UNDP-GEF

Dear Mr. Ahmed,

We received your faxes sent to us, Mr. Charles Morris is on holiday for a month and will return by 19th July, he will reply to you upon his return, or do you like me to forward your fax to our Deputy General Manager? Please let me know.

thanks and regards
manjula amarasinghe
PA to Charles Morris

Charles L. Morris
Area Director & General Manager
SONEVA FUSHI RESORT & SPA and SONEVA GILI RESORT & SPA, "Intelligent Luxury"

Soneva Gili Resort & Spa - the first all Water Villa Resort in the Maldives.
Please visit our web site at <http://www.six-senses.com/sonevagili> http://www.six-senses.com/sonevagili
< <http://www.six-senses.com/sonevagili> http://www.six-senses.com/sonevagili> and
for further information please contact <mailto:sonresa@soneva.com.mv> sonresa@soneva.com.mv
< <mailto:sonresa@soneva.com.mv> mailto:sonresa@soneva.com.mv>

Tel: 00 960 230 304/5 Ext: 301, 537 Fax: 00 960 230 374 or 230 335(direct) Mobile: 00 960 788 811

Email: <mailto:clm@six-senses.com> clm@six-senses.com < <mailto:clm@six-senses.com> mailto:clm@six-senses.com> Web : <http://www.six-senses.com/soneva-fushi> http://www.six-senses.com/soneva-fushi
< <http://www.six-senses.com/soneva-fushi> http://www.six-senses.com/soneva-fushi>

Managed by SIX SENSES HOTELS, RESORTS & SPAS LIMITED

----- Original Message -----
From: Ahmed < <mailto:env@environment.gov.mv> mailto:env@environment.gov.mv> jameel
To: <mailto:clm@six-senses.com> clm@six-senses.com < <mailto:clm@six-senses.com> mailto:clm@six-senses.com>
Cc: Moosa < <mailto:info@visitmaldives.com> mailto:info@visitmaldives.com> Zameer (E-mail)
Sent: Wednesday, June 26, 2002 14:18
Subject: Coral Reef Conservation Project - UNDP-GEF

Dear Charles L. Morris

Please find attached a copy of the letter (dated 25 June 2002, No: 10-C/MIS/2002/522) faxed to you from this office and the project document reffered to in the letter. If you need any more information

please write or call us

History of consultations with your resort during the project development process:

* May 2001: Visit by the tourism consultant Mr. John Robinson and the Tourism Ministry counterpart Mr. Moosa Zameer Hassan and other project team members to gather information and consult on the issues to be addressed

* September/October 2001: The distribution of John Robinsons report for comments

* November 2001: Visit by waste management team

* December 2001: Report on the above waste management trip was sent

* December 2001: Visit by a waste management consultant

* January 2002: Visit by Environment Trust fund consultant Mr. Barry Spergel and project staff

* February 2002: Fax sent requesting baseline budget figures on resort activities related to conservation.

Thank you for your cooperation and support

Hudha Ahmed
Project Manager, Coral Reef Biodiversity Project
Environment Section
Ministry of Home Affairs, Housing & Environment
Tel: 324861 (ext. 422), Fax: 322286
email: <mailto:env@environment.gov.mv> env@environment.gov.mv
Web: <http://www.environment.gov.mv> www.environment.gov.mv

<<Atoll_Ecosystem_Management_Project_GEF.pdf>> <<Soneva Fushi letter1.doc>>

United Nations Development Programme
Partnerships to Fight Poverty

Tuesday, July 23, 2002

File: MDV/00/G42

Subject: Letter of UNDP Maldives' Cofunding Commitment for the GEF Coral Reef Project in Maldives

Dear Mr. Pinto,

The purpose of this letter is to confirm the co-funding figures of UNDP projects as included in the project brief entitled *Atoll Ecosystem Management & Coral Reef Conservation in the Maldives*. These include: US$ 350,000.00 from the Atoll Development Project (UNDP/ADP), US $ 325,000.00 which represents the community contribution to the UNDP/ADP project, US $ 150,000.00 from the Information Communications Technology project (UNDP/ICT) and US$ 400,000.00 from the pearl culture project (UNDP/JHRDF/MoFAMR). This figure is realistic and was developed through detailed discussions with the UNDP-GEF team and our partners during the PDF-B preparatory period.

The UNDP is planning to support all the above projects in the Maldives. The Block B project consultative process has successfully resulted in our programs being complementary. The UNDP is planning to extend the UNDP/ADP project to Baa Atoll and we look forward to the potential of the UNDP-GEF project to integrate environmental conservation components into our activities. Similarly the UNDP-GEF project will add to the other UNDP projects.

We're pleased to be involved with this kind of public-private partnership among the Maldivian government, the local community, the private sector and the GEF.

Yours Sincerely,

Minh H. Pham
Resident Representative

Mr. Frank Pinto
Executive Coordinator
UNDP-GEF
304 E. 45th St., 10th floor
New York, New York

UNDP. UN BUILDING . BURUZUMAGU . MALE' . REPUBLIC OF MALDIVES
PHONE: (960) 32 4501 • FAX: (960) 32 4504 • P.O. BOX 2058 MALE'
EMAIL: registry.mv@undp.org • INTERNET WEB ADDRESS: http://www.mv.undp.org/

Maldives

29 August 2002

File: MDV/00/G41

Subject: Letter affirming United Nations Development Programme, Maldives, co-funding of UNDP-GEF project

Dear Mr. Pinto,

The purpose of this letter is to confirm the $ 70,000.00 co-funding figure as included in the project brief entitled, *Atoll Ecosystem-Based Conservation of Globally Significant Biological Diversity in the Maldives' Baa Atoll.* This figure is realistic and was developed through discussions with the UNDP-GEF team during the PDF-B preparatory period.

The UNDP will carry out standard monitoring and evaluation of the above project as with its other projects over the course of the project period. Of special relevance to this GEF project is the Atoll Develop Programme, implemented by UNDP, which will be complementary to the GEF project.

We look forward to working closely with government, the community and the private sector on this initiative.

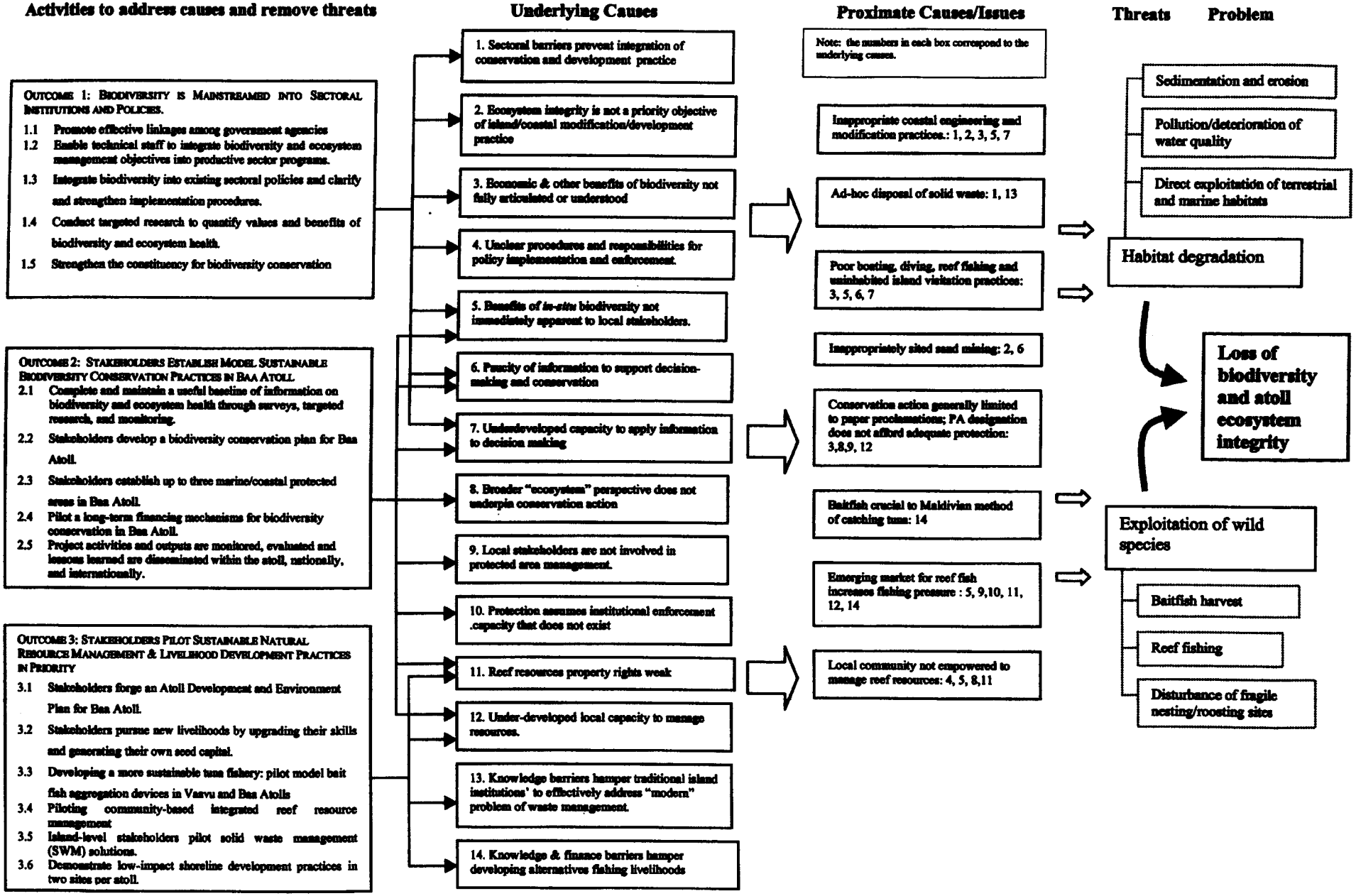
With best regards.

Yours sincerely,

Janthomas Hiemstra
Deputy Resident Representative

Mr. Frank Pinto,
Executive Coordinator,
UNDP-GEF,
304 E. 45th St., 10th floor,
New York, New York

Annex E. Problem, Threats, Proximate/Root Causes Activities to address causes and remove threats



Annex F: The Baa Atoll Conservation Fund

1. Objectives & Explanation of Assumptions

The objective of the BACF is to enable stakeholders to conserve globally significant biodiversity and atoll ecosystem integrity by financing innovative, public-private partnerships in protected area management, monitoring and research, education and sustainable coastal development.

The purpose of the fund is to secure *sustainability* for conservation of globally significant biodiversity and atoll ecosystem health in Baa Atoll. Sustainability in this case is defined not only in financial terms. A recent GEF study on sustainability has shown that forming alliances among diverse groups of stakeholders is also key to sustainability. The BACF will be designed to create the institutional space for the nurturing of a novel alliance in the Maldives among Government, local communities, and private stakeholders for achieving conservation and sustainable development in Baa Atoll. Block B consultations pointed to the prudence of piloting such an innovative initiative in the Maldives in one atoll initially. Appropriately designed and successfully managed, the BACF will become a permanent funding mechanism for atoll ecosystem and coral reef diversity conservation in Baa Atoll and a model for replication in other atolls throughout the Maldives.

There are compelling reasons justifying the need for the long-term investment in biodiversity conservation and ecosystem health in the Maldives. First, the Maldives' pristine marine environment is the most valuable asset the country possesses. In 2001, over 400,000 tourists visited the Maldives to see and experience the pristine island and marine environment. Many of them were repeat visitors. Tourism generates approximately 30% of the country's GDP, and if indirect benefits are included the figure increases to over 50%. Given these facts, it makes good business sense to reinvest revenue generated from tourism back into maintaining the Maldives' most important tourism asset: a healthy atoll ecosystem. In addition to these national benefits in need of conservation, there are global biodiversity values in need of conservation that justify the investment by GEF and international entities, especially for a pilot initiative in one atoll that can be replicated in other atolls.

Second, there is a significant gap between the financing that is needed to support conservation activities and what Government is able to provide. Government lacks the resources to bridge this financial gap by simply increasing the amount of money that is allocated in the national budget each year for activities related to coral reef conservation. In fact, current government budget allocations for these activities may even have to be cut in the short term due to the decline in government tourism revenues caused by post-September 11th slow-down in international travel.

2. Design, Legal Status and Capitalization the BACF

Design. Building upon Block B stakeholder consultations, GEF resources will support extensive consultations on the most appropriate operational structure, by-laws, funding priorities and disbursement procedures, asset management arrangements, board composition and appointment of board members, and good fiduciary management (including fund procurement mechanisms and auditing procedures. This will be done in an open, trust-building way, drawing upon recommendations from the GEF Evaluation of Conservation Trust Funds and relevant "best practice" experiences. GEF resources will provide technical expertise to draft simple but clear and comprehensive bylaws for the revolving fund, and prepare an operations manual defining the rules and operational procedures of the fund during the years 1-3 of the project. Eligibility criteria for activities to be supported by the revolving fund will be articulated clearly to ensure that the fund's objectives are not ignored. A monitoring and evaluation plan will establish clear performance indices and assessment procedures. All of this will be done to ensure that the BACF is designed to function effectively.

The BACF's structure will be open and participatory in its design and approach. The Fund will be governed by a board of directors comprised of 50% non-governmental members from the tourism

community, from NGOs and from local community groups such as fishers or women's groups. And the BACF would have an annual meeting open to all stakeholders in order to facilitate stakeholder input. This design work will be completed during years 1 and 2 of project implementation (Table 1) and would result in a Deed of Trust or Foundation Charter.

Table 1: Fund establishment milestones.

Activity / Project year	1	2	3	4	5
Participatory design of Trust Fund structure, procedures, by-laws and so on.	X	X			
Review and approval by stakeholders of trust fund structure, revolving fund capitalization mechanism.		X			
Establishment of Trust Fund.			X		
One-time contributions from Government, Private Sector and GEF.				X	
BACF begins funding re-current costs of conservation in Baa Atoll.					X

Legal Status, Capitalization and Funding Priorities:

In accordance with GEF's 'best practices' for conservation trust funds[1], the Fund will be established as an atoll-based non-profit legal entity outside of government. There are two different options for the legal establishment of the BACF currently under consideration by Government: 1) to pass a new general law on Charitable Trusts and Foundations and register the BACF as such a Trust or Foundation; or 2) establish the BACF by an act of Parliament.

Two different types of fund mechanisms were considered during the Block B consultations: an endowment fund and a revolving fund. The revolving fund mechanism makes the most sense for the Maldives because it does not require a large endowment in order to generate sufficient funding for conservation. The BACF will be designed as a revolving fund. Preliminary consultations with private sector tourism stakeholders indicate strong support for a voluntary contribution/revenue capture mechanism in Baa Atoll.

The revolving fund will secure its financing by way of annual contributions from Government and the resort community in Baa Atoll totaling at least $100,000/year. Government will contribute $25,000/year and the resort community the remaining $75,000/year. Each of the five resorts would have the flexibility of determining how it would meet its $15,000/year allotment, be it from a per tourist contribution, or a diver or snorkelers fee, or both. An endowed core of US$350,000 will "anchor" the fund's corpus and enable it to begin full funding of the recurrent costs of conservation in year 3 of the fund's existence.

The GEF contribute US$250,000 in year 5 of the project to the BACF's corpus; the Government and private sector would contribute $50,000 each, for a total of $350,000 core of the fund. Additional ad hoc contributions to the BACF are also likely from individual foreign tourists, prominent Maldivians, and tourism companies in the Maldives. But they are not included in these projections.

Upon the conclusion of the GEF project at the end of its fifth year, the BACF would be capitalized at US$593,000, enabling it to begin funding on a long-term basis the recurrent costs of conservation upon conclusion of the GEF project in year 6 (See Table 2 for details). A professional financial management company will be selected to manage the assets in an open and competitive process. Based upon a return of 5.5% annually, the Fund's capitalization would grow to a total of approximately US$751,000 by the end of year 10. Under these assumptions, the BACF's capital would be sufficient to cover the estimated

[1] See the Global Environment Facility's *Evaluation Report 1-99: Experience with Conservation Trust Funds*, which is available on line at: www.gefweb.org , under the section titled "Monitoring and Evaluation".

$90,000 (growing by 3% per annum) in recurrent costs for at least 20 years under current projections (see Table 4).

Table 2: Long-term funding for Atoll Ecosystem Conservation in Baa Atoll

Year	Project funding (GEF & Co-financing)	BACF Income		BACF Expenditure
		One-time contributions	Annual contributions to the revolving fund	
1	X			
2	X			
3	X			
4	X	X	X	
6			X	X
7			X	X
8			X	X
9			X	X
10			X	X

The fund will support the recurrent costs of core conservation-oriented activities initiated by the project, primarily to activities such as: community-based enforcement, implementing management plans, training personnel, conducting monitoring and research, developing effective, local resource management regimes, education and public awareness activities, and incremental activities to reduce the impacts of coastal development activities on atoll ecosystem integrity. Specific funding priorities will be detailed by the Baa Atoll ecosystem management and biodiversity plans that will be completed under this project. Table 3 summarizes the types of activities the BACF will support and the estimated re-current costs of those activities.

Table 3: Recurrent Costs of Biodiversity Conservation Activities in Baa Atoll.

Activities for which the re-current costs will be covered	**Annual Baseline**	**Annual Funding Needs**	**Est. Annual Recurrent Costs**
Protected Area management and enforcement	$0	$35,000	$35,000
Monitoring (incl. EIA monitoring), targeted research	$15,000	$40,000	$25,000
Ongoing education & awareness of the real value of biodiversity	$25,000	$35,000	$10,000
Capacity building and training	$ 0	$20,000	$20,000
Total:	**$40,000**	**$135,000**	**$90,000**

Background on how GEF best practice recommendations have impacted design strategy for the mechanism:

1. Is the biodiversity resource of sufficient global and national importance to attract funding?

The biodiversity of Baa Atoll is globally and nationally important. Prospects for attracting international financing for the BACF are excellent due to the high level of interest in coral reef conservation among

major funding entities in developed countries. Sixty percent of the tourists who come to the Maldives are repeat visitors, who may therefore be assumed to have a particular appreciation for the Maldivian environment. Over fifty percent of tourists are from northern European countries where interest in coral reef conservation is especially high.

Prospects for being able to secure sufficient funding locally, in the long-term, for a revolving funding mechanism are promising due to the extremely high importance of a healthy atoll ecosystem to the tourism industry.

2. *Is the conservation action required long term, and can it be addressed with the finance a trust fund could produce?*

Some of the major, urgent threats to coral reefs ecosystems in other tropical countries (such as destructive fishing practices) have never been a serious problem in the Maldives. This is due among other things to the country's small population; the replacement of fishing by tourism as the country's main source of employment; and the government's policy of not allowing foreign vessels to fish in coastal waters.

Many of the current threats (such as overexploitation of reef resources and inappropriate waste management) have developed from traditional practices that had only minor environmental impacts in the past. Formerly, the Maldivian population was much smaller; reef exploitation was minimal and unrestricted; new construction was very limited; and almost all wastes were biodegradable. As population has grown and social conditions have changed, traditional practices now need to be changed. This will only happen through long-term interventions such as environmental education and awareness raising, and by providing people with technical assistance and economic incentives to adopt alternative practices. It is also essential to build up the government's capacity to monitor ecological changes and threats, and to enforce environmental regulations and policies. Addressing all these needs will require a steady stream of funding over a long period of time, rather than the expenditure of a large amount of funds in a short period to deal with an immediate, acute threat. A long-term trust fund is the most appropriate mechanism for financing the actions that are needed.

The project is designed to deliver a sizeable, one-time investment which is required to strengthen the infrastructure and capacity for managing and conserving atoll ecosystem diversity at the level required to protect global biodiversity values. This is to be followed up with a much lower annual level of predictable financing from the BACF. This long-term funding is required to ensure sustained action and to cover the remaining deficits, particularly in relation to maintaining effective management of protected areas, core research and planning activities. These activities and outcomes are to be sustained for at least 25 years by the BACF revolving fund, which will be largely locally-supported.

3. Does the Maldives' legal framework permit establishment of a trust fund, foundation or similar organization and do tax laws allow such a fund to be tax exempt, and provide incentives for donations from private contributors?

The Maldives has no laws providing for the establishment and operation of non-profit, non-governmental trust funds or foundations. The closest equivalent under Maldivian law is a "voluntary association", of which there are a number in the Maldives. But this would be insufficient for the BACF. Therefore, there are two options under consideration by Government for the establishment of the BACF: 1) to pass a new general law on Charitable Trusts and Foundations and register the BACF as such a Trust or Foundation; or 2) establish the BACF by an act of Parliament. There are no income taxes or profits taxes of any kind in the Maldives, so tax exemption is not an issue for the trust fund.

4. Is there a critical mass of people with a common vision (people from NGOs, the academic and private sectors, and donor agencies – the environment community) who can work together despite their different approaches.

The concept of a non-profit, non-governmental organization that establishes a strong partnership among Government, the private sector and local communities is a new one in the Maldives. However, wide-ranging consultations do show a critical mass of people with a common vision of effective conservation and sustainable resource use in the atolls. The support and involvement of business leaders in particular will be crucial to bring in private sector finance and financial management skills. In preliminary consultations, business leaders have shown to be very much in agreement with the purposes and approach of the BACF.

The creation of a pilot financial mechanism for coral reef conservation in the Maldives in Baa Atoll is fully supported by the Government. It furthers national priorities as expressed in the National Environmental Action Plan, the National Biodiversity Strategy and Action Plan, the 6th National Development Plan, and government policies that promote decentralization.

In addition, the concept of an environmental trust fund has the support of local environmental NGOs of the tourism industry, *provided,* however, that these groups feel they have an opportunity to participate significantly in the design and the operation of the trust fund. Such participation would be achieved through stakeholder meetings during the design phase, and through permanent representation of NGOs and the tourism industry on the trust fund's management board once it becomes operational. The Government has already agreed to the principle that at least half of the members of the management board would come from outside of government, i.e., NGOs, the private sector and prominent individuals in the field of conservation. Private sector management skills would be leveraged from relevant stakeholders during the establishment phase and fund-raising campaign.

5. Is there a basic fabric of legal and financial practices and supporting institutions (including banking, auditing and contracting) in which people have confidence?

A number of international banks and accounting firms have branch offices in the Maldives. These offices are able to provide a range of financial services in Malé, including accounting and management consulting services. In addition, the Bank of Maldives has a successful track record in delivering high quality banking services to local communities in the outer atolls, and in administering international donor-funded small loan programs for such communities.

The Maldives has no controls or restrictions on transfers of foreign or local currency into or out of the country. Maldivian currency is freely convertible with major international currencies. The Government has agreed that investment of the trust fund's endowment should be contracted out to a highly reputable international asset manager chosen through a public solicitation of proposals, similar to the process used in the case of the Bhutan Trust Fund. This will be a pre-condition for the release of seed capital by the GEF into the endowment.

Table 4: The Baa Atoll Conservation Fund's Projected Finances:

Year of Operation	Revolving Fund Mechanism[1]	One-time contributions of seed capital	Total Funding available	Recurrent costs	Administration costs[2]	Balance	5.5% interest	Fund corpus remaining each year
Year 1 (4)	$100,000	$100,000	$200,000	0	0	$200,000	$11,000	$211,000
Year 2 (5) *	$102,000	$250,000	$563,000	$0	$0	$563,000	$30,965	$593,965
Year 3	$104,040	$0	$698,005	$90,000	$20,000	$588,005	$32,340	$620,345
Year 4	$107,161	$0	$727,506	$93,600	$25,000	$608,906	$33,490	$642,396
Year 5	$109,304	$0	$751,701	$93,600	$30,000	$628,101	$34,546	$662,646
Year 6	$112,584	$0	$775,230	$97,344	$31,200	$646,686	$35,568	$682,254
Year 7	$115,961	$0	$798,215	$101,238	$32,448	$664,529	$36,549	$701,078
Year 8	$119,440	$0	$820,518	$105,287	$33,746	$681,485	$37,482	$718,966
Year 9	$123,023	$0	$841,989	$109,499	$35,096	$697,395	$38,357	$735,752
Year 10	$126,714	$0	$862,465	$113,879	$36,500	$712,087	$39,165	$751,252

Note:
"( )" indicates GEF Project Year
1. Revolving Fund Mechanism funding estimated to increase with inflation at 3% per annum.
2. Administration activities will include contingency planning regarding the development of a reserve fund to cover *ad hoc* measures in case of unexpected or external events.

ANNEX G: INSTITUTIONAL & STAKEHOLDER INVOLVEMENT

MINISTRY OF HOME AFFAIRS, HOUSING AND ENVIRONMENT

Environment Section

- Host the satellite office in Malé (5 years from early 2003)
- Review and if necessary update mandate of National Commission for the Protection of the Environment
- Develop and implement ecosystem management (EM) framework and plan for Baa Atoll
- Recommend legal and policy developments for EM
- Co-produce coastal and marine resources and uses atlas with MRC/MoFAMR.
- Develop EIA capacity, including guidelines, training materials, workshops
- Contribute to the development of trust fund for long-term financing of coral reef conservation
- Develop solid waste management capacity, including trial on one selected island (co-funded)
- Co-host ecosystem management specialist/consultant (10 months over 5 years)
- Co-host waste management specialist with MoAA. Position co-funding to be determined
- Co-host Environmental Health VSO volunteer to work with waste management/environmental health issues (VSO) (2 years, but to be finalized)

Environment Research Centre (ERC)

- Conduct surveys of coastal habitats, developments and pollution impacts
- Conduct and review on-going coastal and terrestrial monitoring programs
- Prepare conservation action plans for reef and coastal biodiversity within Baa Atoll in cooperation with MRC and ADC/IDCs and resorts
- Work with project in developing new environmental guidelines/regulations for coastal modification and apply them during review of coastal modification projects
- Host coastal processes consultant (2 months over 3 years)

[Protected Areas Unit]

- Develop multi-purpose, participatory coastal and marine protected areas management plans in cooperation with MRC and ADC/IDCs and resorts
- Develop local capacity for participatory coastal and marine protected areas management
- Establish protected areas in Baa Atoll
- Host coastal and marine protected areas specialist/consultant (3 months over 3 years)
- Co-host with MRC and work with fisheries and marine conservation JPO and/or volunteer in Baa Atoll (2 x 2 years)

MINISTRY OF ATOLLS ADMINISTRATION

Baa Atoll Office

- Host project office in Baa Atoll (5 years from early 2003)
- Oversee social mobilization activities in Baa Atoll
- Establish Baa Atoll Development Fund with UNDP support
- Build capacity of atoll and island offices and committees
- Facilitate the work of other Ministries in Baa Atoll
- Facilitate project's collaborative work with Baa ADC and IDCs and WDCs

- Participate in atoll-level natural resource management, and ecosystem/conservation planning initiated by the project in Baa Atoll
- Develop sustainable micro-enterprise capacity in Baa Atolls (co-funding)
- Host small business development consultant (co-funded by UNDP)
- Co-host waste management specialist with Environment Section of MoHAHE (co-funding source to be determined)
- Host community mobilization national consultants (co-funded by UNDP)
- Host Environmental Health VSO volunteer to work with waste management/environmental health issues (VSO) (2 years, to be finalized)
- Host fisheries and marine conservation JPO and/or volunteer in Baa Atoll (2 x 2 years)

MINISTRY OF EDUCATION

Education Development Centre (EDC)
- Review environmental and fisheries curricula
- Develop additional teaching materials for environmental and fisheries curricula, adopt the curricula and familiarize teacher trainers with new materials
- Pilot the new curricula and teaching materials in Baa Atoll
- Host environmental educator/curriculum international volunteer (2 years)

MINISTRY OF TOURISM

- Develop new environmental guidelines for resort island selection (required within 1 year)
- Review and if necessary update mandate of Tourism Advisory Board to include ecosystem management objectives
- Develop tourism component of AEM strategy and plans
- Assist development and production of environmental education materials and courses for tourism operators and staff
- Participate in atoll-level conservation and resource management planning, contributing MoT's perspective and then using these plans to assist MoT with future plans for Baa Atoll.
- Liase with resort owners and safari boat operators
- Co-host ecosystem management consultant (3 months over 3 years)
- Co-host Trust Fund Consultant (3 months over 3 years)

MINISTRY OF FISHERIES, AGRICULTURE AND MARINE RESOURCES

Resource Management Services (RMS)
- Apply ecosystem approach to fisheries management
- Review and if necessary update mandate of Fisheries Advisory Board to include ecosystem management objectives
- Develop a participatory reef resources management strategy and action plan for Baa Atoll
- Develop a fisheries enforcement strategy and action plan
- Host fisheries management consultant (4 months over 3 years)

Fisheries Development and Extension Services (FiDEx)
- Deploy and monitor up to three baitfish aggregating devices (BFADs) in Baa Atolls

- Promote community participation in fisheries management
- Pilot community-based reef fisheries management in Baa Atoll

Statistical Database Management Services (SDMS)
- Develop reef fishery catch recording program and analytical capability
- Host and develop national coral reef monitoring database
- Host reef fisheries statistician international volunteer (2 years)

Marine Research Centre (MRC)
- Survey and monitoring in Baa Atoll - reef fisheries, reef corals, other representative components of reef biodiversity, and turtle nesting and bird nesting and roosting sites
- Compile traditional knowledge on fisheries, reef biodiversity, turtles and seabirds within Baa Atoll
- Develop technical and business expertise for giant clam mariculture (co-funding)
- Co-produce coastal and marine resources and uses atlas with ERC
- Co-host Coral Reef Management specialist/consultant (10 months over 5 years)
- Host mariculture consultant co-funded by UNDP-JHRDP?
- Co-host with [protected areas unit] fisheries and marine conservation JPO and/or volunteer in Baa Atoll (2 x 2 years)

MINISTRY OF PLANNING NATIONAL DEVELOPMENT

- Review and if necessary update means of incorporating ecosystem management objectives into national planning process
- Develop GIS for Baa AEM; acquire satellite imagery and aerial survey data to complete coverage of project area
- Participate in Atoll-level planning for resource management and conservation
- Work with project's information management activities
- Host GIS consultant (2 months over 3 years)

MINISTRY OF FINANCE AND TREASURY

- Assist with development of Baa Atoll Conservation Fund
- Facilitate Government contribution to trust fund for Baa Atoll as to leverage GEF and private sector money and as a model for possible extension nation-wide.
- Co-host Trust Fund Expert Consultant (3 months over 3 years)

MINISTRY OF INFORMATION, ARTS AND CULTURE

- Develop capacity for environmental journalism
- Host environmental media trainer/consultant (3 months over 3 years)

PRIVATE SECTOR AND NGOs

Tourist Resorts

- Participate as full partners in the atoll ecosystem management process in Baa Atoll, including protected area management and participatory reef monitoring practice
- Participate as full partners and contribute financially in some way to the Baa Atoll Conservation Fund (to be determined)
- Improve waste management practices
- Improve beach sediment management practices
- Improve diver and snorkeller awareness in collaboration with project.

Safari Boats operating in Baa Atoll

- Participate as full partners in the atoll ecosystem management process in Baa Atoll, including protected area management and participatory reef monitoring practice
- Improve waste management
- Improve diver and snorkeller awareness
- Participate as full partners and contribute financially in some way to the Baa Atoll Conservation Fund

NGOs

- Production of awareness materials for all stakeholders
- Environmental awareness activities for island communities and children
- Where appropriate, participate in the atoll ecosystem management process in Baa Atoll, including protected area management and participatory reef monitoring practice
- Mobilize tourism community input to atoll ecosystem management process in Baa Atoll (MATI)
- Mobilize business community input to atoll ecosystem management process in Baa Atoll (MNCCI)

Media

- Improve environmental reporting

ISLAND COMMUNITIES

- Work with the project in developing all aspects of participatory atoll ecosystem management, including waste management, reef monitoring and protected areas management
- Participate as full partners and contribute financially in some way to the Baa Atoll Conservation Fund

UNDP

- Oversight of project finances; recruitment of consultants
- Day-to-day management support provided by UNDP project officer
- Key co-funder of livelihood activities at the atoll level
- Substantial technical input provided on at national policy and programmatic level
- Advocate for project's main objectives with Government counterparts and international co-funders
- Play key role in solidifying public-private partnerships for conservation and development and securing co-funding for the trust fund
- Monitoring and evaluation of project progress

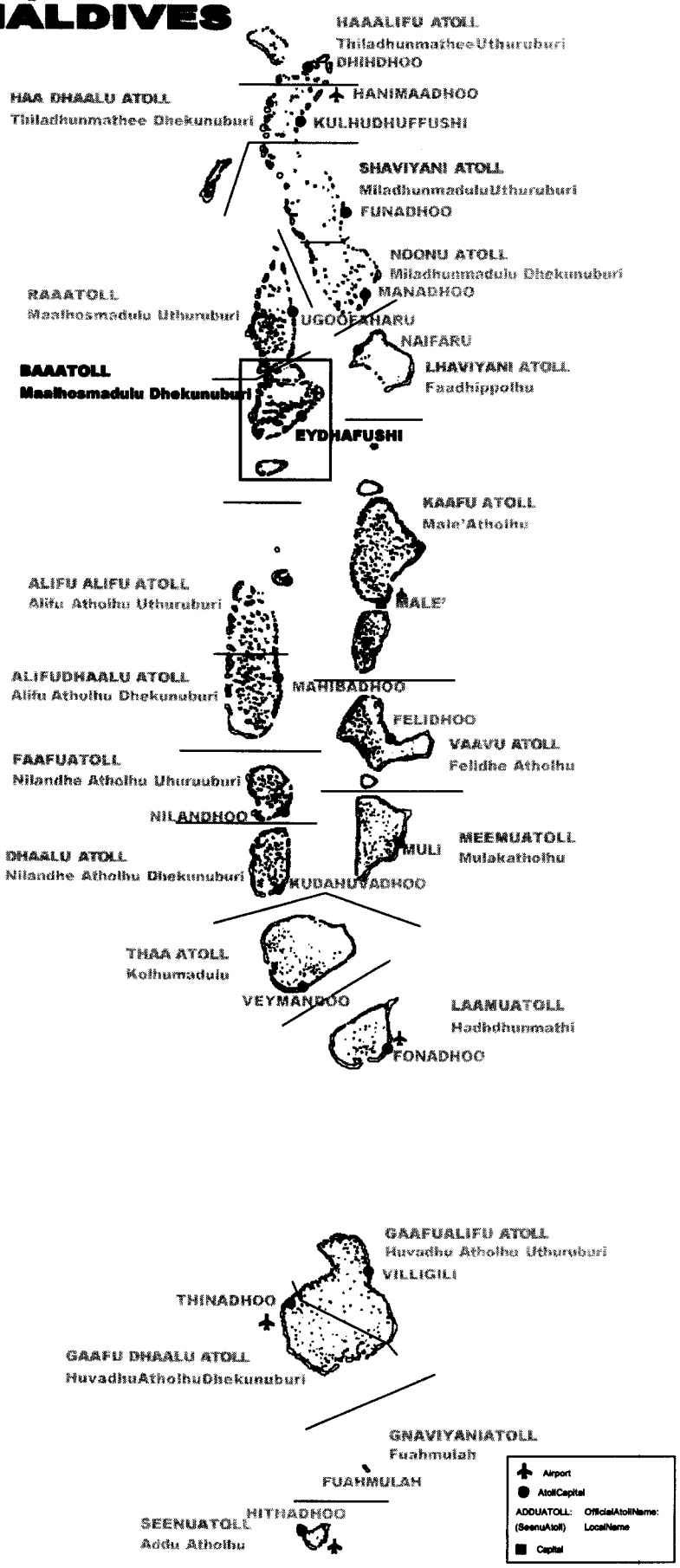
Annex H: Maps

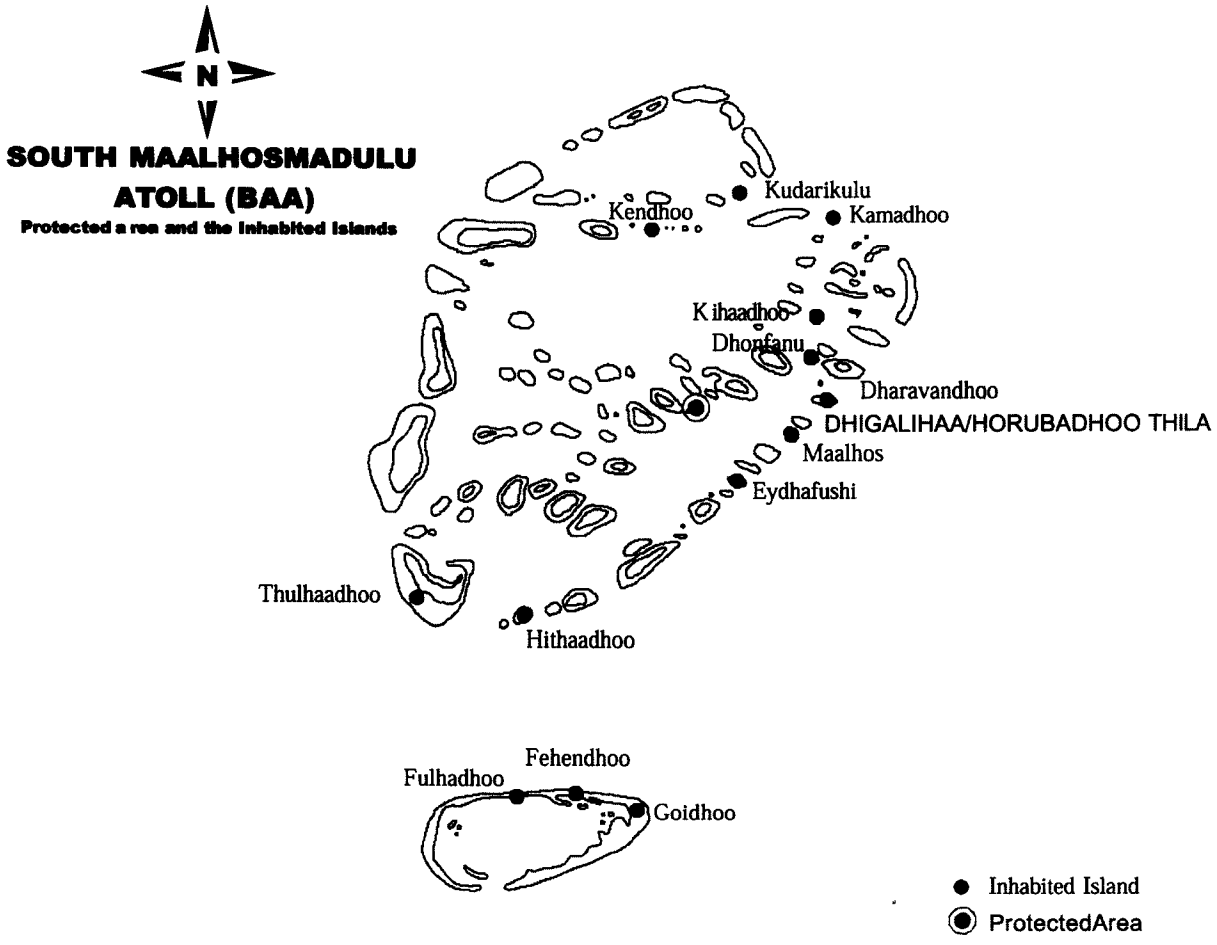
Baa Atoll: Location in the Maldivian Archipelago

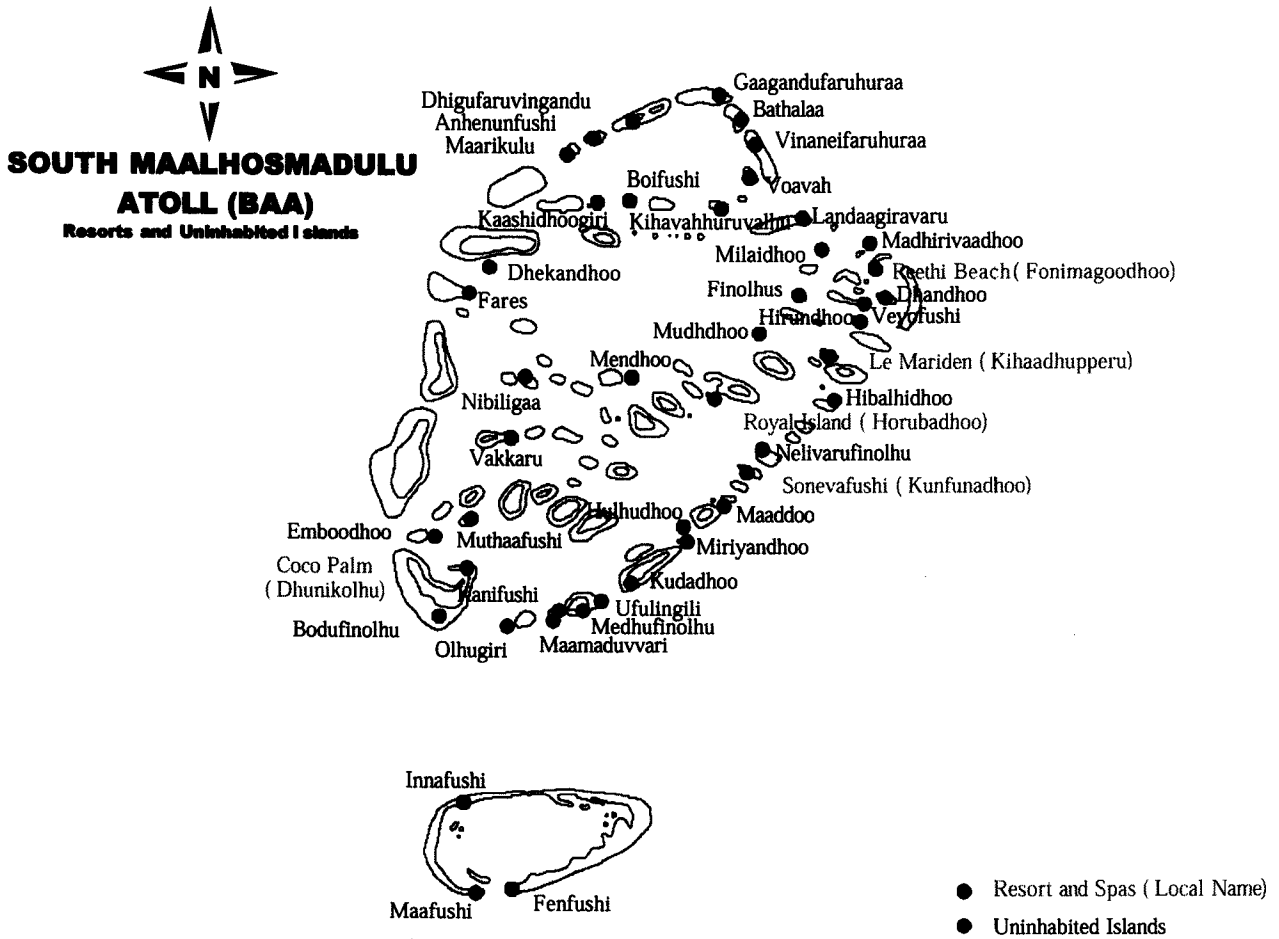
Baa Atoll: Inhabited Islands and protected area

Baa Atoll: Uninhabited Islands and Resort Islands.

Republic of MALDIVES




N
SOUTH MAALHOSMADULU
ATOLL (BAA)
Protected a rea and the Inhabited Islands
Kudarikulu
Kamadhoo
Kendhoo
Kihaadhoo
Dhonfanu
Dharavandhoo
DHIGALIHAA/HORUBADHOO THILA
Maalhos
Eydhafushi
Thulhaadhoo
Hithaadhoo
Fehendhoo
Fulhadhoo
Goidhoo
Inhabited Island
ProtectedArea


N
SOUTH MAALHOSMADULU
ATOLL (BAA)
Resorts and Uninhabited Islands
Gaagandufaruhuraa
Dhigufaruvingandu
Bathalaa
Anhenunfushi
Vinaneifaruhuraa
Maarikulu
Boifushi
Voavah
Kaashidhoogiri
Kihavahhuruvalhi
Landaagiravaru
Madhirivaadhoo
Milaidhoo
Dhekandhoo
Reethi Beach(Fonimagoodhoo)
Finolhus
Fares
Dhandhoo
Hirundhoo
Veyofushi
Mudhdhoo
Mendhoo
Le Mariden (Kihaadhupperu)
Nibiligaa
Hibalhidhoo
Royal Island (Horubadhoo)
Vakkaru
Nelivarufinolhu
Sonevafushi (Kunfunadhoo)
Hulhudhoo
Maaddoo
Emboodhoo
Muthaafushi
Miriyandhoo
Coco Palm
(Dhunikolhu)
Kudadhoo
Hanifushi
Ufulingili
Bodufinolhu
Medhufinolhu
Olhugiri
Maamaduvvari
Innafushi
Maafushi
Fenfushi
Resort and Spas (Local Name)
Uninhabited Islands

Annex I: Differences Between Traditional Fisheries Management and an Ecosystem Approach to Fisheries Management (adapted from WRI 2000)[2]

	Traditional Biodiversity Conservation	**Ecosystem-oriented Biodiversity Conservation**
Objectives	▪ Maximizes commodity production ▪ Maximized net present value ▪ Aims to maintain harvest or use of fisheries products at levels less than or equal to their growth or renewal.	▪ Maintains the coral and marine ecosystem as an interconnected whole, while allowing for sustainable commodity production. ▪ Maintains future options ▪ Aims to sustain ecosystem productivity over time, with short-term consideration of factors such marine environment aesthetics and the social acceptability of harvest practices.
Scale	▪ Works at the catch-aite level	▪ Works at the ecosystem and seascape level.
Role of Science	▪ Views fisheries management as an applied science with little recognition of ecological connectivity.	▪ Views fisheries management as combining science and social factors and seeks to understand and maintain connectivity.
Role of Management	▪ Focuses on outputs (goods and services demanded by people). ▪ Strives for management that fits commercial production. ▪ Considers fish to be the most important marine output. ▪ Strives to avoid impending fish catch decline. ▪ Views coral reefs as production system for fish. ▪ Values economic efficiency.	▪ Focuses on inputs and processes like water quality, biological diversity and ecological processes b/c these give rise to goods and services. ▪ Strives for management that mimics natural processes and productivity. ▪ Considers all spcies – plant and animal – important and the full range of goods and services (tourism, other species,) are on equal footing. ▪ Strives to avoid biodiversity loss and coral reef degradation. ▪ Views coral reefs as a natural system, more than the sum of its parts. ▪ Values cost-effectiveness and social acceptability.

[2] 2001. World Resources Institute. 2000. People and Ecosystems: The Fraying Web of Life. Washington, D.C. USA. p. 227.

Annex J: Reference List:

Anderson, Charles. July 2001. Fisheries Report for GEF PDF-B Project Preparation of "Maldives Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives Project" Unpublished.

Australian Marine Science and Technology Ltd.. April 2002. Maldives Protected Areas and Sustainability Management System. AusAID. Maldives Protected Areas Project.

Clark, Susan. July 2001. Coastal Management and Coastal Marine Biodiversity Report for GEF PDF-B Project Preparation of "Maldives Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives Project" (Draft) Unpublished.

Robinson, John. July 2001. Tourism Management Report for GEF PDF-B Project Preparation of "Maldives Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives Project" (Draft) Unpublished.

Sirur, Harsha, September 2001. Socio-economic/Community Stakeholder Report. GEF PDF-B Project Preparation of "Maldives Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives Project". Unpublished.

Spergel, Barry. April 2002. Maldives Coral Reefs Conservation Fund. GEF PDF-B Project Preparation. of "Maldives Atoll ecosystem-based conservation of globally significant biological diversity in the Maldives Project" Unpublished.