

## Required Annexes

### ANNEX A

### INCREMENTAL COST ANALYSIS

#### **Broad Development Goal**

This project aims to address the common coastal and watershed management issues experienced by 13 GEF-eligible small island developing states within the Caribbean region. Although these 13 countries are quite diverse in their social and political structure and origins, they share a common interest and concern in managing their coastal and watershed resources. Nowhere is this more apparent than in their support for such regional agreements as the Convention for Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) and the Convention on Biological Diversity. The Caribbean SIDS are also partners in a post-WSSD regional initiative called White Water to Blue Water (WW2BW) the aim of which is to stimulate partnerships that promote integrated watershed and marine ecosystem-based management in support of sustainable development in four focal problem areas (watersheds, marine ecosystems, marine transportation, tourism). This initiative plans to identify gaps and new opportunities, promote an active exchange of ideas and information, rely on lessons learned, improve collaboration and communication, and to build on existing partnerships, mechanisms, and organizations.

Critical environmental and economic resources are currently at stake within the Caribbean. These include important national and regional fisheries, along with the coral reefs and coral sand beaches, all of which represent an important global biodiversity element, and all of which combine to make the Caribbean a prime vacation destination within the Americas. Each country has provided national reports on water resources and coastal areas as part of the PDF B process. Participating nations were fairly consistent in their identification of the major threats to the management of watersheds and coastal areas. The primary threats are related to pollution, land-use patterns, inappropriate development practices, over-exploitation and poor management of natural resources (particularly freshwater), and the competing interests of different stakeholder groups over such limited resources. Opportunities for economic development in the Caribbean SIDS are often limited and the economic dependence on international tourism and agricultural exports is unusually high.

The Caribbean islands are also acutely conscious of concerns related to fisheries and open water marine resources *per se*. However, such concerns are being addressed through another GEF initiative which will focus on the Caribbean as a Large Marine Ecosystem. Furthermore, the Caribbean SIDS are all-too-aware of the threat to their welfare and livelihoods presented by the long-term effects of climate change and associated sea level rise. Once again, these issues are being addressed by yet another GEF regional project which seeks to mainstream adaptations to climate changes within the islands.

The overall consequence of current economic development practices and associated threats to watershed and coastal resources and ecosystems is a growing concern for both terrestrial and marine biodiversity within the region (much of which is endemic at the national and regional level), along with an equal concern for the overall welfare of the Caribbean ecosystems in the context of transboundary stresses from land-based and coastal pollutants and from regional over-exploitation of natural resources, coastal and freshwater resources.

**The broad development environmental goal of this project is to achieve a sustainable balance between development and the protection/conservation of coastal and watershed resources by integration and coordination of management and planning approaches.**

## **BASELINE**

Inadequate and ineffective management of land and water resources within the Caribbean SIDS is threatening the welfare of globally-important biodiversity and biological ecosystems.

The Caribbean nations occupy a region of the world in which providing adequate supplies of freshwater presents a substantial challenge to local governments. The region is highly dependent on intermittent rainfall to replenish groundwater supplies. Changing rainfall patterns often result in interspersed severe droughts followed by increased flooding and inundation. Sea level rise, coupled with over-extraction, is resulting in saltwater intrusion, which is impairing the water quality of public water supplies. Poor land use planning and soil management in watersheds reduce freshwater capturing capacity (while threatening to contaminate water supplies), and affect coastal water quality and aquatic biodiversity. The excessive use of agrochemicals coupled with soil erosion due to poor land-use are generally considered the main causes for deterioration of water quality and public health. This problem is exacerbated by poor management of supply and demand in the face of water shortages (often as a result of the lack of adequate staffing levels along with insufficient technical and financial management skills), inadequate or absent pricing and tariff policies, and a lack of incentive for more efficient water usage and management. Institutional fragmentation, inadequate policies, funding, institutional constraints and lack of an integrated approach all act to compound these problems.

Demand for more land for development on small islands is creating serious conflict at the socio-economic and political level, which in turn have causal linkages to the obvious environmental and sustainable development problems of biological habitat degradation and destruction. Approaches to land use and management practices involve issues of land tenure, traditional use and economic livelihood. Many farmers hesitate from using sustainable farming techniques, which may be due to insecurity over land rights, as well as limited economic resources and lack of knowledge.

Coastal degradation and erosion is being exacerbated by inappropriate and misplaced development practices as well as extraction activities such as sand-mining. The end result is the destruction of critically-important biological habitat types such as mangrove, seagrass beds and coral reefs, as well as exposure of the coastal hinterland to wave action and storm surge.

Increased solid and liquid pollution are a result of rapid population growth and urbanization. Wastewater treatment facilities are inadequate in many locations and indiscriminate waste disposal and unlined landfills allow hazardous leachates to enter the groundwater. Inadequately treated sewage waste contributes to health-related problems but also represents a hazard with respect to changes to biological community structure. Furthermore, the implications to fisheries, both from the point-of-view of health problems and catch reduction, are a serious human concern. The industrial sector frequently discharges untreated effluent directly into rivers and/or storage in unlined holding ponds. Industrial pollution is a particularly pressing problem for the larger countries including Trinidad and Tobago, Jamaica, Guyana and the Dominican Republic, given their comparatively higher level of industrialisation.

Caribbean Governments have at various times registered strong concern over the state of the environment, along with a commitment to arrest the causes of environmental degradation both at the national and regional level. As such, the leaders of all Caribbean Governments without exception have, through various pronouncements (such as those made at the UNCED and UNSIDS) and subsequent actions, conveyed a keen appreciation of the inextricable linkages between environment and development. Generally, Caribbean Governments have tried, with limited resources, to meet the many commitments that they have given to embrace the concept of sustainable development.

In 1981, with assistance from UNEP under its Regional Seas Programme, the various countries of the wider Caribbean region established the Caribbean Environment Programme and adopted the Caribbean Action Plan in 1981 to address environment and resource protection and development in the coastal area. The programme objectives embraced by the Caribbean Action Plan include: assistance to all countries of the region, recognising the special situation of the smaller islands; strengthening existing national and sub-regional institutions; co-ordination of international assistance activities; technical co-operation in the use of the region's human, financial and natural resources. As the increasing pollution of coastal and marine areas in the Wider Caribbean Region has become more apparent, legal instruments focusing on the reduction, abatement and control of coastal marine degradation in the region have been put in place.

The only regional legal instrument for the wider Caribbean is the Cartagena Convention (Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region), which was adopted in 1983 and came into force in 1986. Under the Convention, the contracting parties agreed to prevent, reduce, and control pollution from ships, land-based sources, air-borne sources, and sea-bed activities. The Convention also commits the parties to preservation of unique and fragile ecosystems and habitats of endangered species. More specifically, under *General Obligations* in *Article 4* of the Convention, Contracting Parties are obligated to *...ensure sound environmental management, using for this purpose the best practicable means at their disposal...* The same Article further states that Parties *shall endeavour to harmonise their policies in this regard* and that they will cooperate regionally for the effective implementation of the Convention. Ten of the 13 project participatory countries are Contracting Parties to the Cartagena Convention (1983). Three Protocols give effect to the Convention: the 1983 Oil Spills Protocol, the 1990 Specially Protected Areas and Wildlife (SPA) Protocol, and the 1999 Land-based Sources of Marine Pollution (LBS) Protocol. The implementation of these Protocols provides the focus for co-operative action. The protocols are:

- **The Protocol (to the Cartagena Convention) Concerning Cooperation in Combating Oil Spills** (adopted in 1983). Pursuant to this Protocol, the countries of the Eastern Caribbean have collaborated, with assistance from the International Maritime Organization (IMO), in preparing an oil spill contingency plan for cooperating in the event of a major oil spill. The plan establishes policy and addresses the responsibility of participating states in response operations, requests for assistance, mutual cooperation, and the use of dispersants. The proposed GEF project will add further support to this agreement on cooperation by providing closer collaboration and coordination of management, along with more effective sharing of data and regional human resources.

- **The Protocol Concerning Specially Protected Areas and Wildlife (SPAW) to the Cartagena Convention** (signed in Jamaica in 1990). This framework for coordinated regional action on protected areas and biodiversity is designed to create a network of national parks and protected areas (including coastal and marine parks and protected areas) in the Wider Caribbean Region and to provide mechanisms to encourage and support their establishment and management. The proposed GEF project will provide support through a better understanding of the current threats and the status of habitats, and the sharing of this information on a regional basis so as to better define the priority needs for protection of species and biodiversity.
- Recognising the significance of terrestrial and watershed impacts on the coastal area, and after years of negotiations, the Contracting Parties adopted the **Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol)** to the Cartagena Convention on 6 October 1999. 16 Contracting Parties to the Cartagena Convention signed the Final Act of the LBS Protocol. The final Protocol, as adopted, is perhaps the most significant global agreement of its kind with the inclusion of regional effluent limitations for domestic wastewater (sewage) and requiring specific plans to address agricultural non-point sources. Specific schedules for implementation have also been included in the Protocol. *Article III on General Obligation* states that Parties will ...*use the most appropriate technology and management approaches, such as integrated coastal area management.* The LBS Protocol also elaborates on regional cooperation for monitoring and assessment, stakeholder participation and education and awareness, all of which have significant roles in the proposed project.

However, despite these very real legal commitments to from the countries of the region, the concepts and objectives of such regional agreements are rarely captured effectively under national policies and legislation, and existing practices for coastal and watershed management are generally out-of-date and uncoordinated. In the absence of any integrated planning and management approaches Caribbean countries suffer from a profusion and redundancy of institutions, jurisdictions and legislated responsibilities dealing with various aspects of resource management, and resulting in the development and implementation of policies and programmes in isolation from one another. This has encouraged a compartmentalised and isolated approach to environmental management. Furthermore, there has been a notable absence of any realistic involvement of civil society in sustainable development initiatives, accompanied by an overall lack of understanding and awareness of the principles of sustainable development and the inseparable linkages between environment, social and economic issues.

Vital improvements to human resource development are necessary. These include the development of mechanisms for greater technical cooperation between the regional SIDS; increased training of personnel in critical planning and management areas (e.g. water resources, EIA, community resource management, legislation, etc); improvements to national and regional educational curricula to reflect a more updated approach to planning and management, and; the development of policies which will encourage the retention of trained expertise within the region. It must also be noted that the small size of the island populations generally results in manpower limitations in terms of qualified experts available to manage resources on a sustainable basis. Regional approaches that strengthen the sharing of experience and expertise are therefore of critical importance.

The countries of the region need to adopt a more sustainable and economically realistic approach to the valuation and management of their resources. In general, there is no practice of transfer of benefits, so

the main productive sectors do not contribute to environmental maintenance and waste management costs, in proportion to their reliance on the natural resource base. The Tourism industry impacts freshwater resources through clearance of vegetation (leading to flooding, soil erosion, destruction of terrestrial habitats, and poor aquifer recharge), and through a greater demand for freshwater for irrigation and washing (which contributes to over-extraction from aquifers and the rapid depletion of surface resources). In addition, wastes from the tourist industry are frequently responsible for contamination of the watershed and coastal areas.

The combination of these particular environmental, social and economic characteristics makes it imperative that issues of freshwater resources management and related coastal water quality and biodiversity are addressed in an integrated manner (through multi-sectoral planning and management of island ecosystems) and that sectoral policies and activities are modified to sustain and protect both freshwater supplies and coastal and marine aquatic resources.

The absence of a coordinated and integrated management approach is causing the very real loss of important biological habitats and communities, which have been shown to be of global significance. Without the proposed necessary modifications to policies and attitudes, the sustainability of these globally important biological resources and related ecosystem functions, is at best questionable and, at worst, a lost cause. Furthermore, the lack of such management approaches at both a national and regional level is encouraging uncontrolled land-based sources of pollution from the watersheds, into the coastal waters and the wider Caribbean Sea area. It is against this background that support for the sustainable use of watersheds and coastal areas can be seen to be both essential and vital.

Detailed Analyses of the national and regional baselines delivers a baseline figure for the entire project of **\$954,214,303**. Table A.1 shows the breakdown of the baseline by component relative to the countries, agencies and regional bodies:

**TABLE A.1: NATIONAL AND REGIONAL BASELINE-COMPONENT ESTIMATES FOR IWCAM**

COUNTRIES	Demonstration, Capture and Transfer of Best Practices	Development Of IWCAM Process, Stress Reduction and Environmental Status Indicators	Policy, Legislation and Institutional Reform	Regional and National Capacity Building and Sustainability	Regional Project Management and Coordination	All Components
ORIGIN	BASELINE	BASELINE	BASELINE	BASELINE	BASELINE	BASELINE
Antigua & Barbuda	\$50,000	\$40,000	\$127,000	\$140,000	\$290,000	\$647,000
Bahamas	\$30,000	\$1,978,000	\$493,000	\$1,030,000	\$876,430	\$4,407,430
Barbados	\$35,000	\$2,000	\$84,000	\$25,000	\$40,000	\$186,000
Cuba	\$135,000	\$1,296,000	\$2,410,600	\$161,000	\$300,000	\$4,302,600
Dominica	\$12,000	\$307,200	\$657,408	\$607,614	\$201,852	\$1,786,074
Dominican Republic	\$2,000,000	\$12,100,000	\$85,700,000	\$616,900,000	\$500,000	\$717,200,000
Grenada	\$12,000	\$8,000	\$11,000	\$13,000	\$10,000	\$54,000
Haiti						\$0
Jamaica	\$615,450	\$166,200	\$2,573,800	\$45,206,900	\$81,000	\$48,643,350
St Kitts & Nevis	\$0	\$2,200	\$7,550	\$55,000	\$1,680	\$66,430
St Lucia	\$21,567,789	\$406,254	\$8,404,751	\$28,206,461	\$633,153	\$59,218,408
St Vincent & Grenadines	\$5,000	\$60,000	\$201,000	\$22,000	\$110,600	\$398,600
Trinidad & Tobago	\$18,224,200	\$11,308,894	\$992,582	\$57,441,167	\$1,532,672	\$89,499,515
UNDP	\$350,000	\$544,619	\$188,679	\$7,578,441	\$471,300	\$9,133,039
UNEP	\$268,600	\$311,135	\$662,500	\$10,590,552	\$25,000	\$11,857,787
Intergovernmental	\$994,450	\$1,343,940	\$678,290	\$2,020,330	\$457,260	\$5,494,270
NGOs	\$18,500	\$70,000	\$111,000	\$1,052,300	\$68,000	\$1,319,800
<b>TOTAL</b>	<b>\$44,317,989</b>	<b>\$29,944,442</b>	<b>\$103,303,160</b>	<b>\$771,049,765</b>	<b>\$5,598,947</b>	<b>\$954,214,303</b>

### Global Environmental Objectives

As a result of the relatively small geographic area of these islands, most of the critically important coastal habitats are located in close proximity to terrestrial habitats, watersheds and their related threats. In essence this frequently means that what represents a threat to the terrestrial environment, and within the watershed, also represents a threat to the marine environment. The uniqueness of both the marine (coastal and offshore) and the terrestrial (watershed) environment has been discussed and justified in the main document under **Global Significance**. Although over 13 percent of the world's coral reefs are found in this region and although some 30% of these are now considered to be at high risk from anthropogenic threats, funding for their conservation and management has been minimal. The freshwater ecosystems, although incredibly unique and more threatened than the terrestrial ecosystems, have also been under-represented in terms of protection and donor funding. For example, if the total funding for conservation projects within the entire Latin America and Caribbean region between 1990 and 1997 is analysed, it can be seen that the percentage of funds allocated to the 13

Caribbean SIDS participating in this project amounts to less than 4% of total donor funding throughout the entire region throughout that period<sup>1</sup>.

This project is the result of a commitment by the 13 participatory SIDS of the Caribbean Region to resolve the concerns regarding the inadequate and inappropriate approaches to sustainable development and natural resource management. Specifically the countries would wish to seek support in the development of a more integrated approach to coastal and watershed issues, processes and policy development. The direct causal linkages between the threats to the coastal and watershed environment and socio-economic/political issues are recognised. The need to address these linkages and the root causes in a sustainable manner at the socio-economic and policy level is paramount.

By implementing the project activities the country of the region will significantly contribute to the protection of globally-significant biodiversity within the Caribbean region through the long-term sustainable management of biological resources and ecosystems, while mitigating or eliminating regional transboundary threats to those resources and ecosystems.

This project will create the necessary conditions and framework for concerted actions to protect globally important environmental resources. The present project is consistent with the GEF Operational Strategy of April 1996, specifically with the GEF's strategic emphasis on International Waters and Biodiversity, as well as April 1997 GEF Operational Programme (#9) for integrated land and water multiple focal area; contaminant-based, and coastal and freshwater ecosystems. The project will incorporate the priorities delineated in the relevant environmental agreements to which any or all of the participating countries are involved.

The latest GEF Business plan from 2003 recognises the concerns and requirements highlighted during the World Summit on Sustainable Development in 2002. GEF notes that the International Waters focal area will place greater emphasis on implementation while expanding coverage of GEF assistance to other transboundary water bodies. In particular certain strategic priorities represent an evolution of the international waters programme. These include (a) Catalyze Financial Resource Mobilization - to implement stress reduction measures and policy/legal/institutional reforms agreed through TDA-SAP or equivalent processes; (b) Expand Global Coverage to Other Transboundary Waterbodies - to undertake crosscutting and foundational capacity building needed to facilitate initial multicountry collaboration and complement this with targeted learning; (c) Undertake Innovative Demonstrations – to reduce contaminants and address water scarcity issues. These GEF policies are very relevant in the development of the current project objectives and outputs.

## **GEF PROJECT ALTERNATIVE**

Under the alternative GEF scenario, IWCAM approaches and planning procedures will be re-shaped and strategies re-defined for the greater benefit of long-term sustainability of resources and biological diversity. Sectoral coordination and networking will be essential to this process, both at the national and the regional level. Progress and efficiency will be carefully monitored and the project realigned to capture best lessons and practices as necessary. The incremental cost of the alternative activities of this

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<sup>22</sup> Castro, G., and I Locker. 2000. Mapping Conservation Investments: An Assessment of Biodiversity Funding in Latin America and the Caribbean. 80pp. Washington, D.C.: Biodiversity Support Programme.

project will ensure that all plans and investments will be designed with global environmental considerations in mind.

Demonstration activities will be a principal element employed in the capture and transfer of lessons and best practices both nationally and regionally. Through a rigorous process of transparent selection, the project development phase has identified 9 eligible and replicable Demonstration projects throughout the participatory countries that will nest within the main project. The outputs and outcomes from these demonstrations are linked logically into the other Components dealing with information transfer, partnership forums for replication, and most importantly into a Component that will use the lessons and practise to develop and drive policy and legislative reform, as well as to advise on institutional realignment of IWCAM coupled with capacity-building and training.

Countries will be provided with assistance to undertake these alternative (See **Table A.2** below for requested GEF funding) IWCAM approaches through the following project components:

**Component 1** will focus on specific national/regional hotspots and the IWCAM issues and barriers that prevail within those specific areas. The Demonstration Projects will aim to demonstrate actual working examples of IWCAM within a defined watershed and/or coastal system boundary, addressing priority issues as identified in the root cause analysis, and priority areas as identified by national Hotspot assessments. These demonstration activities constitute a major focus of the project and will deliver real global benefits within the participating countries through the selection and implementation of actual ‘on-the-ground’ activities to support and promote IWCAM through practice, experience and transfer of lessons and knowledge. Critical to this component is the capture and replication of best practices and appropriate technological and conceptual solutions.

The principal global significance of Component 1, therefore, will be to show actual demonstrations of IWCAM. Such demonstration will not only help to develop and identify applied and appropriate technology, but will also aim to capture workable approaches to policy and legislative reforms to alter and improve the IWCAM ‘landscape’. It is intend that these lessons and best practices will also be globally transferable to better facilitate the management and conservation of other globally significant biodiversity.

**Component 2** focuses on the development of indicators of process (PI), stress reduction (SRI) and environmental status (ESI). Such measurable indicators are essential both to ensure A. that changes to the IWCAM ‘landscape’ are actually driving improvements with respect to the primary impacts, threat and root causes, and B. to provide reliable and irrefutable information to justify policy decisions and to realign legislation in support of IWCAM. Countries will be given assistance to develop workable indicators and to establish national programmes for indicator measurement. This will be linked to specific problems associated with identified national hotspots and sensitive areas (so that the indicators address the actual issues and needs). This strategy will aim to deliver real linkages between actual ground measurements of IWCAM impacts and threats, policy and legislative amendments to address those threats, and on-going monitoring to show positive feedback from such amendments reflected as improvements within the IWCAM ‘landscape’. There is an urgent need to develop such a mechanism of linkages for IWCAM, both in the Caribbean SIDS and throughout global coastal and watershed systems. There are clear opportunities to establish valuable and transferable lessons in support of this



process. Within the regional project this component is critical to the promotion and implementation of vital reforms in policy and legislation.

**Component 3** links and builds on components 1 and 2. This component is the core development and delivery point for policy, legislation and institutional reforms. The component aims to build on information provided by the indicators showing the environmental problems, successful improvements to these problems, and monitoring of the process that drives these improvements (all of which are elements of Component 2), and to link these to pertinent lessons and best practices for improvement developed from the Demonstration Projects in Component . Using this approach, models and guidelines for reform can be delivered at the national level. The regional process of policy reform will be an active rather than a passive initiative, with the IWCAM regional project identifying incentives and providing resources to assist in the process. An essential element of this component will be the requirement to incorporate the aims and intentions of such regional Agreements as the Cartagena Convention and its protocols within national policy and legislative reform. A strong element of general public awareness, as well as policy-level sensitisation will be critical to the success of this component. The regional and global significance of this within the GEF Alternative is apparent. Improvements to policies and legislation in support of IWCAM have evident benefits within GEF's global objectives. Encapsulation within national laws of the concepts and aims of critical regional and global multilateral agreements in support of environmental issues and sustainable development will be an enormous step in support of both the project's objectives and those of GEF at the global level.

**Component 4** aims to achieve long-term sustainability for management and protection of globally significant biodiversity and for mitigation of transboundary IWCAM issues. This component captures the need identified under component 3 for greater awareness of IWCAM issues across all sectors, but particularly at the policy level. It also provides the opening for stakeholder input and involvement which will be essential to promote 'ownership' of the project objectives. The component recognises the need for capacity building. through training and education, to provide the institutional strength to ensure long-term implementation and sustainability of IWCAM objectives. The intention is that the countries and their partners (private sector, regional and international IGOs and NGOs, etc) should, through a partnership of common interest and concern, work together to develop a long-term sustainable strategy for IWCAM at the regional level, and in support of national IWCAM initiatives. On a practical level, this will require the development of incentives, mechanisms for the transfer of benefits (through the development of a 'Beneficiary-Pays' formula), identification of long-term funding mechanisms (also at the national and regional level), etc. An essential support system for this will be through project networking at the level of national and regional institutions as well as with other IWCAM-related projects. The natural evolution of this process will be through a Partnership Forum which would be established and implemented through this component. Finally, the component will support sustainability through the development of an IWCAM Information Clearing House with an intended life-time beyond the life of the project.

The overall aim of this component, with respect to global significance, will be to develop an active and functional environment for regional intergovernmental coordination and management of IWCAM issues for the better management and conservation of significant biodiversity and the removal of transboundary threats (e.g. land-based sources of pollution, over-fishing, etc) within the region. Within this process, priority areas of concern will be identified and activities will be implemented to guide countries of the region in mitigating and resolving barriers to IWCAM. Other SIDS and other countries

with globally significant biodiversity and transboundary issues share many of these barriers and can therefore benefit from activities. The GEF-related regional and global benefits from this component can be summarised quite simply under the need to ensure the long-term continuation of the IWCAM objective within the Caribbean SIDS thereby realising and protecting the GEF investment. However, there will also no doubt be valuable lessons and demonstrations arising from the component on the implementation of networking approaches and partnership fora (as well as other mechanisms in support of sustainability) which will be transferable to other global situations.

**Component 5** will address regional project management and coordination. This component encapsulates the project management requirements for this regional initiative. It delivers day-to-day management needs through a Project Coordinating Unit (supported by management guidance from the Implementing and Executing Agencies), along with the national and regional policy bodies and a regional technical advisory body. Outreach to all stakeholders in respect of project delivery is captured through a process of reporting and evaluation. The importance of making such information is recognised through a Project Information Management System, which will also provide a one-stop shop for technical support and linkages to specialist and private sector interests. From the GEF Alternative point-of-view, this component will provide the ‘life-time’ sustainability for the project, and will ensure that valuable information relating to IWCAM activities and guidelines is captured and disseminated throughout the participatory countries (and beyond, to other relevant IW projects).

The requested sum from GEF comes to a total of \$13,382,691 as shown in Table A.2 (below)

**TABLE A.2: GEF PROJECT FUNDING BY COMPONENT**

COMPONENT TITLE	GEF
1. Demonstration, Capture and Transfer of Best Practices	\$5,474,970
2. Development Of IWCAM Process, Stress Reduction and Environmental Status Indicators	\$3,154,800
3. Policy, Legislation and Institutional Reform	\$585,350
4. Regional and National Capacity Building and Sustainability	\$804,600
5. Regional Project Management and Coordination	\$2,725,700
Sub-Total	<b>\$12,745,420</b>
Support Costs	\$637,271
<b>TOTAL</b>	<b>\$13,382,691</b>

## **CO-FINANCING SUPPORT TO GEF FUNDING**

This project has an estimated **\$98,269,493** from governments and regional bodies to co-finance the sustainable management and protection of global significant island (terrestrial and marine) biodiversity and associated natural resources within the Caribbean, along with the mitigation of transboundary threats including land-based sources of pollution.

Much of this co-financing has been directly leveraged as a result of the Project Development Phase. Some \$82 million is a direct response to the development of the Demonstration Projects associated with the overall regional project, and reflects carefully considered and developed partnerships for IWCAM. As an example, detailed discussions were held with IDB regarding their intentions within Tobago. On the basis of these discussions the GEF project decided not to focus on wastewater treatment (which IDB was intending to fund) but to target land degradation and erosion issues which are threatening the watershed and coastal areas with high levels of sedimentation. In concert with IDB, the project has developed a complementary suite of activities. The two partners have agreed formally to work closely together and to share information on a regular basis, even through attendance of each other's formal management forum. As another example, the GEF project is partnering with an international not-for-profit scientific organisation called Coral Cay Conservation in The Bahamas. CCC is providing over \$1 million dollars in real co-funding which consists of scientists and field-workers, boat, equipment, etc to support both the Andros and the Exuma Demonstration projects. CCC has also opened up a dialogue with other Caribbean countries to develop potentials for support during the project lifetime.

The Private Sector has offered to provide facilities for Indicator Analysis and water quality survey by way of donating a suitable vessel and some support costs. This is dependent upon GEF agree to provide some of the maintenance costs and crew salaries for the project period. This vessel will also act as a training platform for technical capacity building, especially under the component which addresses the development of indicator mechanisms and a model framework.

The various sources of co-financing, supported by GEF incremental assistance, will develop the necessary national and regional support structures for, and realign national and regional policy, legislation and attitudes to IWCAM. The countries recognize the need to address many IWCAM issues at the grassroots level and the need to tackle the root causes, be they social, economic or political in nature. Detailed Analyses of the national and regional co-financing for the entire project can be identified by country, agency and regional body as follows:

**TABLE A.3: NATIONAL AND REGIONAL CO-FINANCING ESTIMATES FOR IWCAM**

COUNTRY	CO-FUNDS
Antigua and Barbuda	\$582,800
Bahamas - Andros	\$2,234,370
Bahamas - Exuma	\$739,188
Barbados	\$141,000
Cuba	\$2,007,018
Dominica	\$694,000
Dominican Republic	\$642,750
Grenada	\$24,000
Haiti	
Jamaica	\$629,340
St. Kitts and Nevis	\$22,362,380
St. Lucia	\$2,122,418
Trinidad and Tobago	\$50,719,700
UNDP	\$1,771,029
UNEP	\$116,500
Sec. Cartagena Conv.	\$3,075,000
CEHI	\$1,908,000
NGO	\$7,091,000
Private Sector	\$1,409,000
<b>TOTAL</b>	<b>\$98,269,493</b>

### **Incidental National and Regional Benefits**

It is inevitable that the GEF alternative will produce additional national and regional benefits. Indeed, were this not so then it is unlikely that any GEF-eligible country would be stimulated into endorsing and supporting such projects. In this case the additional benefits can be summarized as follows:

- A more sustainable resource base supporting the economy (especially in areas of critical economic importance to the countries such as tourism, agriculture, fisheries, etc.);
- Improved living conditions for local populations (cleaner water, better waste management, reduced threats to health, alternative livelihoods, reduced poverty);
- Improved land management providing more secure livelihoods for farmers and possible resolution to tenure issues;
- Better training for human resources opening opportunities for employment security and career improvement;

- Improved policies on development protecting the rights of the general public over the ambitions of the private sector;
- Resolution of some economic globalisation issues (e.g. inability to compete with international markets, collapsing resource base due to over-exploitation); and
- Equity in the advantages gained from access to natural resources, as well as in the cost incurred in their management.

These benefits should be seen as an integral part of the IWCAM management process, encouraging policy realignment and redefinition of legislation and responsibility.

### **System Boundary**

The area of intervention is defined as follows:

The island watersheds, down to the coastal zone and out to the limits of the territorial waters of each participating country within the Caribbean.

**ANNEX B:**

**LOGICAL FRAMEWORK ANALYSIS**

This Annex presents the Logical Framework Matrices for the overall project objectives and then by component activity. The outcome from the overall objectives and then for each component heads each table. The LogFrame identifies the results which would verify the objectives and aims of each outcome and activity, how this will be realistically measured and ascertained as part of an effective monitoring process, and what assumptions this process makes and the potential risks which might present barriers to the process.

The Demonstration Projects (9) which fall under Component 1 have been broken down as sub-components and treated with their own LogFrame analysis by Outcome.

After each Component the assumptions and risks are reviewed and explanations given as to how the project intends to resolve or bypass such assumptions or risks.

**LOGFRAME MATRIX: OVERALL PROJECT OBJECTIVES**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>OVERALL OBJECTIVE</b>			
<b>PROJECT OUTCOMES:</b> An overall national and regional reform in support of the IWCAM approach as a necessary and vital strategy for sustainable management and protection of coastal and watershed resources.	Reforms in policy, legislation and institutional arrangements in support of IWCAM. Effective regional cooperation and sharing of information and lessons on IWCAM. Development and transfer of more appropriate technologies and IWCAM-related techniques. Overall improvements in coastal and watershed status and related community welfare.	Environmental Stress Indicators show measurable improvements within the natural environment (water quality, coral diversity, mangrove cover, etc). Stress Reduction Indicators show measurable and successful efforts to control pollution and better manage potential threats. Process Indicators demonstrate measurable improvements at policy and legislative level, with associated supportive institutional modifications.	Indicator mechanisms successfully developed and deployed. National policy makers prepared to act on indicator results. Necessary incentives and support structure for regional cooperation. Sufficient political will and recognition of need to manage and protect coastal and watershed resources
<b>OBJECTIVE DESCRIPTION:</b> Demonstrate environmental and developmental benefits of an integrated approach to watershed and coastal zone management in small islands developing states	Reduced environmental stress on watershed and coastal area resources	Mitigation/removal of threats (see threats and root causes analysis) confirmed through Environmental Stress Indicators. 5 out of 9 demo hotspots show significant improvements by mid-term evaluation. 20% improvement in ESIs as regional average by Final Project Evaluation.	Appropriate ESIs selected in parallel with existing databases, and mechanisms/capacity established for on-going monitoring

	Creation of a long-term mechanism for sustainable development in parallel with management and conservation of coastal and watershed resources	Equitable development and resource management/conservation adopted by all stakeholders and confirmed through Stress Reduction Indicators. 30% increase in positive SRI by Final Evaluation of project	Stakeholders support concepts of IWCAM (through training, education and awareness), and political will allows for participatory process. Correct SRIs established.
	Integration and coordination of the resource management and planning process (including institutional realignment)	Adoption of national integrated and cross-sectoral management and planning processes confirmed through Process Indicators. 20% improvement (on average across region) in positive Process Indicators by Final Evaluation	Removal of cross-sectoral 'territorial' barriers driven by revised policies and legislation. Adequate capacity developed. Correct PI s established.
	Demonstration of applied solutions and technology within selected hotspot and sensitive areas	Delivery of concrete solutions at geographical hotspots, capture of lessons and best practices, and replication through further examples. Replication of Demo lessons and practices at 7 other regional hotspots by Final Evaluation	Demonstration projects achieve their objectives. Effective mechanisms developed for capture and replication of lessons and practices.
	Adoption of appropriate policy and legislation in support of IWCAM objectives at the national and regional level	Capture of policy and legislative lessons from demos manifested through ratification of relevant MEAs, particularly the LBS protocol. 70% of countries (9) ratify LBS protocol by Final Evaluation	Political commitment toward need for policy and legislative reform. Recognition of importance of MEAs and need to encapsulate in national policies and legislation

### Resolution of Assumptions and Risks from Overall Project Objectives

The development of effective indicators is critical to the successful monitoring and confirmation of a sustainable IWCAM strategy at both the national and regional level (see Discussion of Assumptions and Risks for **Component 2** below). Project resources and capacity building have been allocated to this need to ensure that appropriate ESIs are selected (wherever possible keeping these compatible with current and past monitoring initiatives and datasets). It is also essential that the development of indicator monitoring mechanisms ensure that such mechanisms are sustainable in the long-term and beyond the project lifetime. It is intended to demonstrate to the countries the value of such indicators in assessing the welfare on resource management and sustainability (placing a real value on such renewable resources) and the critical importance of supporting and justifying policy decisions and legislative amendments based on solid, measured data. Inevitably, national monitoring capacities will need strengthening, a requirement which will be captured through reforms to support overall institutional review and strengthening outputs (see Component 3). Similarly, it will be important to establish effective Stress Reduction and Process Indicators by which to measure the overall efficacy of

IWCAM realignment, and the improvements both to the system (process) and to real actions to reduce stress to coastal and watershed resources.

Stakeholder participation is an overarching requirement of the entire project which runs through the heart of every component and output. Stakeholder support will be evolved and developed through the awareness campaigns as well as through partnership fora and close participation and networking. It is intended to demonstrate to all stakeholders the value of working together for the long-term integrated management of coastal and watershed resources. There will be a need to change the political mind-set away from government-dominated management to a more participatory process. However, there are many examples of this having been successfully demonstrated within the Caribbean and these can be captured and built on.

Similarly, it will be essential to the overall integrated nature and success of the project to alter mindsets at both the policy and senior technical level within government with respect to interdepartmental participation and co-management. Many government departments are very 'territorial' which is a reflection of budget allocations and accountability. The project will need to work closely with government to demonstrate the improvements to be gained from a more integrated approach without a necessary loss of departmental authority and resources. Policy reforms and revised legislation will assist in this process, as will the demonstration of best practices and lessons.

There is a strong emphasis on monitoring and evaluating the progress and efficacy of each demonstration project within the overall management structure. The Demonstration projects are a core component of this regional project and it is essential that they deliver timely and effective demonstrations of technical achievements as well as best practices at a policy, legislative and institutional level. It is equally as essential that these lessons and practices are stored and disseminated and output into action through replication where appropriate. To this effect the project has a substantial set of outputs under Component 1 to address mechanisms for replication. An effective Clearing House for information along with a strong network between project partners will also assist in reducing any risks of failure in this particular area.

Political commitment to IWCAM-aligned reforms will need to be fostered. Generally, within the Caribbean there is a fairly advanced awareness of the need for sustainable management of coastal and watershed resources. Demonstrating this as a real process in the presence of strong political support for development will be a challenge, but one that will be addressed through Component 3 which looks at policy reform as well as through various partnership and awareness initiatives. The linkage between national policy and the need to embrace the requirements of regional/international agreements has not been overlooked and will be a driving force behind this process with incentives and encouragement being developed through various project activities.



**LOGFRAME MATRIX: COMPONENT ONE**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>DEMONSTRATION, CAPTURE AND TRANSFER OF BEST PRACTICES</b>			
<b>COMPONENT OUTCOME:</b> Successful demonstration of concrete solutions and mitigations to specific threats to IWCAM. The development and distribution of best lessons and practices arising from these demonstrations. Models and guidelines for policy, legislative and institutional reform available to countries. Best lessons and practices being effectively replicated in other hotspots and critical areas	A series of individual but closely coordinated demonstrations of IWCAM techniques and resolutions at specific IWCAM-related hotspots. Effective transfer and replication of lessons and best practices to other hotspots/countries. Experienced-related, proven models for IWCAM policy, legislative and institutional reform.	A coordinated set of lessons and best practices evolved into an overall IWCAM regional strategy linked to national strategies. Assimilation of the lessons from the demonstration activities into national actions and initiatives to replicate tried and proven deliverables at relevant alternative hotspots. Effective reforms adopted as per Component 3 below.	Demonstration projects will deliver replicable lessons and practices. Countries will be willing and able to adopt new approaches and technologies and to replicate them at applicable sites. Political commitment to adopt new models for IWCAM reform into their policy, legislative and institutional structure
<b>1.1 Demonstration Implementation</b>			
Initiation & management of demonstration projects	Demo Projects all implemented to schedule and delivering to schedule	PCU reports identify Demo project start-up and status. Confirmed and endorsed through PSC reports and project evaluations. All demos under implementation by mid to end of year 1. All completed by Final evaluation	Effect Demo project management, reporting and steering. Timely feedback from demo management to PSC through PCU. Clear and effective ToRs for demo management
Development of complementary MSPs and non-demo hotspot concepts	Concept papers submitted and accepted for further IWCAM-related Demonstration Projects in various portfolios	New concept papers received by EAs and IAs with PSC endorsement. Funding for additional selected concepts flowing during IWCAM project lifetime	Further hotspots identified and justified. Adequate support to countries in development of concepts and submissions. Funding available to support new concepts

	Demo Project support (Monitoring and Evaluation)	Effective UNDP Monitoring and Evaluation Process. Day-to-day support from PCU. Regular technical evaluations of demo project progress. Successful delivery of demo outcomes	Annual reports available on Demo status and progress. Annual review by PSC and recommendations given on fine-tuning and steering of demo projects. Full review at Mid-Term Evaluation. Confirmation of success of demos at Final Project Evaluation. ESI, SRI and PI measurements at hotspot level confirm efficacy of interventions	Effective formal relationship adopted between Demo projects and UNDP country offices. Sufficient capacity within PCU and elsewhere in project structure to guide and assist project management and delivery. Effective national programmes for Indicator measurement and reporting. Effective Indicator evaluation mechanisms within demos
1.2	<b>Capture of Lessons and Best Practices</b>			
	Review of reports from Demo projects	Timely reporting and effective mechanisms in place for capture and storage of lessons and best practices	Annual PSC endorsement of Demo reports. Info on Lessons and Practices disseminated and driving policy and legislative reforms where appropriate. Confirmation of effective mechanism through evaluation process.	Timely delivery of reports by Demo Management. Early identification of mechanism for transfer of Lessons and Practices to countries. National commitment to appropriate policy and legislative reforms
	Reports from R-TAGS on general IWCAM lessons and practices	Review of technical outputs from demos by R-TAG. Synthesis of these for review by PSC	Endorsement of R-TAG reports and syntheses by SteerCom and re-confirmation of effective nature by UNDP monitoring process and project evaluation process. First report available by end of year 1. subsequent reports available to subsequent PSCs.	R-Tag reports are provided to PSC in timely manner (via PCU). Demos produce valuable transferable lessons and practices. UNDP have capacity to review reports and syntheses on Demos by R-TAG
	Development of and access to a regional Demo Project database	Database created and functional (sufficient capacity). Database fully accessible to all project partners and stakeholders	Project partners and stakeholders confirm use and efficacy of database through Partnership Forum (Year 2) and Stakeholder Meetings (year 2)	Institutional arrangements, equipment and capacity available to implement and maintain database. Full transparency and accessibility of information
	Input of information into Clearing House	Clearing House is networking Demo Lessons and Practices database, and providing linkages to other pertinent information databases	Inclusion of Lesson and Practices and R-TAG reports and syntheses into Info-Sys and Clearing House. Other databases linked and accessed (confirmed through Partnership and Stakeholder Forums year 2)	Sufficient institutional capacity to maintain Clearing House and Info Databases. Accessibility to non-IWCAM project databases and info systems

	Regional stakeholder review of lessons and practices from Demos and general IWCAM approaches through Partnership Forum	Regional Stakeholder Review reports back on Lessons and Practices through PSC to IAs	Reports from Stakeholder Meetings to PSC. Stakeholder confirmation through mid-term evaluation process.	Effective process of stakeholder involvement and full accessibility to information
<b>1.3</b>	<b>Transfer and Replication of Lessons and Practices</b>			
	Development of mechanisms for transfer of lessons and best practices throughout region	Effective transfer of lessons and practices associated with a sustainable mechanism for same	Adoption of lessons and practices in relation to new technologies, policies, institutional arrangements, etc outside of demo system boundaries (national, regional and global) ESI, SRI and PI monitoring shows positive relationship between applied lessons and practices and improvements within IWCAM landscape. Positive use of lessons and practices within 7 countries by beginning of year 4	National mechanisms for capture of information and for application of IWCAM lessons and practices at hotspot level. Political will to address hotspot issues and to undertake reforms
	Development of Website Pages	Effective website maintained showing significant rate of access and good linkages to other global websites	Evidence of continuous usage of website (number of hits). Confirmation of value of website from stakeholders and other related projects (evaluation process)	Capacity available to create and maintain website. Sufficient interest in website. Appropriate linkages to other websites to feed in interested users and stakeholders
	Linkages to IW:LEARN	Lessons and practices captured by IW:LEARN process, as well as being fine-tuned by information from IW:LEARN. The IW:Learn process embraces IWCAM as a mechanism to be taught and disseminated	IW:LEARN providing a structured IWCAM course by end of year 3. IWCAM lessons and practices incorporated into other IW:Learn subject areas. IW:LEARN evaluation process endorses effective use of IWCAM inputs	IW:LEARN has capacity and willingness to capture IWCAM concepts and to use them. Sufficient interest in an IWCAM-related course or learning material. Effective IW:LEARN evaluation process

### Resolution of Assumptions and Risks from **Component One**

This section discusses the overall Analysis for Component One. The actual Demonstrations are dealt with as Sub-Components 1A-1D below.

Each Demonstration Project has its own built in management system which closely mirrors the management structure for the overall Regional IWCAM Project (with some logical distinctions). It will be of the utmost importance to the overall success of the project that these demonstration project management systems work effectively and efficiently. In this respect, significant resources have been identified and allocated to oversee and monitor the demonstration projects, and to evaluate their

progress and delivery, especially where this relates to the success of other regional project components and outputs. A separate evaluation process is envisaged and budget for the demonstration projects although this will be clearly linked to (and inform) the mid-term and final GEF project evaluations. This process is considered to be essential as each of the demonstration projects is, in effect, a full national project in its own right. The value of UNDP's Country Offices will be apparent throughout the demonstration project monitoring and evaluation process, especially with respect to the reporting requirements.

Although the PDF process identified priority hotspots which drove the selection of the demonstration projects, it will be important to clearly define all national hotspots and sensitive areas and their needs and requirements (especially in relation to Indicators and Reforms) in order to assist in (and prioritise) the transfer and replication of lessons and best practices. Furthermore, the HDA will help to prioritise those areas in need of associated concept preparation and development of linked IWCAM projects. Countries will need support and assistance with this project and this has been budgeted within Component 2. Funding to support new concept and projects would need to be identified through Partnerships and Stakeholder Fora.

Some capacity building and institutional support will be necessary for the development and maintenance of databases. In this respect the project can realise the advantages of its EAs. An equitable balance between GEF funding and in-kind support and resource contribution should ensure the regional institutionalisation for information management, analysis and reporting. CEHI has offered its physical base as a repository for the IWCAM Clearing House and for the development of the requisite databases within and linked to the project. This will be supported by some in-kind resource contribution of personnel and utilities, as well as the strong linkages which this respected regional body has within and between the various Caribbean countries. The information and databases within the Clearing House would be closely linked to those of the other project EA (CAR/RCU) which will also provide resources and capacity in this respect. GEF funds are allocated to assist in this overall process and to fulfil an important remit of regional institutional strengthening.

Stakeholder input to the overall project and to the national demonstrations is a paramount need to attain success in project delivery. This will be promoted and strengthened through the Stakeholder Workshops and the Partnership Forum meetings.

The activities related to the Hotspots are discussed under Component 2.

The development of a project website has already progressed some way under the PDF phase. This would be expanded through the medium of CAR/RCU and linked into the project information system established at CEHI. Logical linkages to IW:LEARN would be developed with the aid of the IAs.

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>DEMONSTRATION SUB-COMPONENT 1A: WATER RESOURCES CONSERVATION AND MANAGEMENT</b>			
Rehabilitation and Management of the Basseterre Valley as a Protection Measure for the Underlying Aquifer in St.Kitts			
DEMONSTRATION OUTCOME: Management and protection of a critical aquifer and well-field through a parallel process of A. Mitigation of threats from contaminants, B. On-the-ground protection, and C. Improved user-resource management.	Transformation from threatened and heavily exploited aquifer/well-field into a model water resource management area. Water abstraction carefully controlled. Groundwater and well-fields actively protected. Water resource management more efficient supply and distribution. Ecosystem functions of the valley maintained and enhanced	Measurably improved water quality within the aquifer. Adopted reforms in policy and legislation. Actual changes in land-use practice, reduced pollution, sustainable and protective management of the aquifer and well-fields. Incentives for better management and sustainable use of the water resource. Monitoring and compliance. Formal designation of Basseterre Valley Liamuiga National Park with management plan and Management Authority. Measurable improvements in waste reduction/leakage. Optional water use practices (e.g. recovery and recycling)	Public support for a designated protected area. Private sector assistance in development of protected areas and transferred benefits. Incentives to reduce wastewater are politically acceptable and promoted.
Protecting and Valuing Watershed Services and Developing Management Incentives in the Fond D'or Watershed Area of St. Lucia			
DEMONSTRATION OUTCOME: Establishment of a model approach to participatory watershed management within a specific watershed complex	Model watershed system with high standard of water quality. Effective and sustainable management of the resource from capture to delivery to recycling. Improvement in the condition of water resources. Positive community support for model. The overall condition of the watershed improved or maintained without deterioration	Fully functional, integrated and sustainable watershed management model used as guidelines for replication through a national mechanism. Quantifiable reductions in loss and wastage. Increased incentives for water conservation and recycling. Generally improved quality of life within the watershed and coastal communities	

**Resolution of Assumptions and Risks from Demonstration Sub-Component 1A**

The Basseterre Valley demonstration assumes that there is public support for such a protected area. This would appear to be true from discussions held during the Hotspot Analysis phase. One of the primary NGOs in the country (The St. Christopher Heritage Society) has undertaken a detailed study of this option and maintains that there is strong support. Also the Government, by endorsement of the

Demonstration Submission and the overall Project submission would seem to concur with that conclusion. Private Sector assistance will need to be generated through the Demonstration Project’s own awareness activities and through the public participation and stakeholder involvement components. The project background identified the fact that government is aware of the need to manage and conserve water in the face of demand exceeding supply and there does appear to be a strong government commitment to create incentives and maintain better control over water use.

In St. Lucia, A number of community-focused watershed initiatives are already underway. Furthermore, the IWCAM project is partnering closely with CANARI, a regional NGO which is undertaking initiatives throughout the SIDS region (including in Fond D’or, St. Lucia). They have an experience already in community involvement and management. However, sufficient incentive for community input and management will be necessary and this would have to be generated through the transfer of benefits and by demonstrating the value of watershed management to the communities. The recently evolved Water Management Unit within the government has a mandate and substantial separate funding to develop a national watershed strategy and would welcome any models which capture transferable lessons and best practices.

**LOGFRAME MATIX: DEMONSTRATION SUB-COMPONENT 1B**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>DEMONSTRATION SUB-COMPONENT 1B: WASTEWATER TREATMENT AND MANAGEMENT</b>			
<b>Mitigation of Groundwater and Coastal Impacts from Sewage Discharges from St. John, Antigua</b>			
<b>DEMONSTRATION OUTCOME:</b> Resolution of coastal sewage and wastewater pollution through retroactive fitting of street level treatment systems. Production of an overall plan for a cost effective solution to the problem of sewage throughout the entire City, and nationwide.	A model system for retro-active fitting of sewage handling systems. A proposal to Cabinet for upgrading sewage handling and treatment in St. John and nationwide. Resolution of septic tank sludge removal and storage. Data collection for policy and legislative reform with sustainable funding.	Upgrading of one block in city. Institutional, financial, technical capacity in place to continue the upgrade of rest of city and sustain long-term compliance and monitoring. Water quality within the harbour, bays and reefs measurably improved. Cabinet approval for final Sewage/Waste Water Handling and Treatment with associated policy and legislative reforms. Submission of proposal to the GEF for Wetland Filtration System in primary development area.	Political commitment to disruption involved in retro-fitting (suitable incentives). Political commitment to resolving national wastewater problems. Financial assistance available to expand to rest of city and for national wastewater strategy.
<b>Marina Waste Management at Elizabeth Harbour in Exuma, Bahamas</b>			

<p>DEMONSTRATION OUTCOME: Retroactive installation and sustainable management of marina facilities that resolve concerns from sewage discharge and other recreational boat impacts</p>	<p>Creation of effective wastewater reception facilities in Elizabeth Harbour. Deployment of moorings and establishment of anchorages. Legislative and policy reform to provide incentives for use of facilities and to establish responsibility for maintenance. Establishment of a sustainable and replicable management infrastructure and strategy for Elizabeth Harbour</p>	<p>Water quality within Elizabeth Harbour measurably improved. Damage to biological habitats measurably reduced. An operational cost-effective recreational vessel wastewater pump-out and treatment system in constant use and replicable. Policy and legislative reforms in place. An Elizabeth Harbour Management body for the Harbour area. Adoption by the Government of the Bahamas of a policy of replication throughout the islands.</p>	<p>Suitable incentives given to yachting community to utilise facilities. Government prepared to assist in sustainability. Government prepared to transfer and replicate technology and lessons throughout Bahamas</p>
<p>Mitigation of Impacts of Industrial Wastes on the Lower Haina River Basin and its Coast, Dominican Republic</p>			
<p>DEMONSTRATION OUTCOME: Reduction of contamination by industry in an important river basin through recycling and re-utilisation mechanisms. Collection of data and indicators on heavy metal contamination to guide policy and strategic planning. Overall integrated management programme for basin.</p>	<p>Identification and implementation of mechanisms to reduce point-source pollutants. Clean-up and Public/Private Sector Awareness. Legislative and policy review to provide incentives for reductions in discharges and emissions, and to establish responsibility for monitoring and compliance. Establishment of a management infrastructure and strategy for the Haina River Basin. Improve the quality of basin-related ecosystems and biodiversity within the river and coastal zone. Reduce population disease, morbidity and mortality rates related to pollution and poor water quality.</p>	<p>A significant and measurable improvement in water quality and industrial solid waste handling along with a reduction in contaminants emitted by the industrial sector. A mandated, politically-supported sustainable management programme and body for the hydrographic basin, with clearly defined responsibilities for EIA requirements, monitoring of basin welfare and water quality, and monitoring of compliance and enforcement. Significant improvements to legislation and regulations through the demonstrated use of data and information to guide policy. Documented transfer of mechanisms and technologies to other relevant industrial areas of the country.</p>	<p>Industrial sector commitment for clean-up. Transfer of benefits and polluter-pays principle accepted by stakeholders. Political support for policy reforms and adoption of stringent EIA practices.</p>

**Resolution of Assumptions and Risks from Demonstration Sub-Component 1B**

Antigua has been wrestling with the overwhelming problem of poorly constructed and maintained sewage holding and treatment systems for some years and is very conscious of the need to try and resolve this national issue. The government is very keen to develop models for retrofitting such holding and treatment systems has stated a genuine commitment to replicating this (although



substantial additional funding may be necessary to achieve this on a large scale). The government is equally aware of wastewater treatment as an overall national problem and is conscious of the need to develop a realistic and sustainable strategy with some urgency. The Demonstration Project will provide assistance in identifying the necessary funding once the costs and workplans have been developed. This will also help to demonstrate the value of the Partnership Forum to be developed under the Regional Project components.

Recreational vessel impacts are a problem throughout the Caribbean, The Bahamas has more recreational vessels per year entering its waters than any of the other Caribbean SIDS. The Yachting community are aware of the problem but there is no incentive for self-regulation. The project has considerable support from the Yachting fraternity however, who would welcome the provision of facilities such as pump-out stations and properly maintained mooring systems. The IWCAM project has attracted two useful partnerships on this particular Demonstration Project. ClearWater Caribbean is a private sector interest group promoting cost-effective and appropriate wastewater treatment through applied technologies within the Caribbean. CWC are providing much of the co-funding as well as the treatment systems for Exuma. The Oceanic Resource Foundation (ORF) is a non-profit organisation dedicated to the stewardship of the marine environment and with close connections to the yachting community. ORF will be partnering CWC and will provide fiscal sponsorships for grants and charitable donations to raise the necessary co-funding for replication of this Demonstration Project and its lessons and best practices. ORF will also make its own resources available to the project by assisting with the development of a website and other educational and informational materials. A third partner in this Demonstration Project will be Coral Cay Conservation, another not-for-profit international volunteer organisation which will be providing substantial resources and specialist advice on developing indicators and monitoring sweater and marine habitat quality within the harbour. The Government has expressed a strong and formal interest by letter in replicating any applicable models in other marina 'hotspots' around the Bahamas

One of the strongest challenges for the Demonstration Project targeting the Haina River Basin will be generating the necessary support within the industrial sector. However, the project aims to build partnerships with local industries for the welfare of the environment and to mitigate pollution from industrial processes in the Basin. Model incentive will be developed as part of the project to ensure such stakeholder buy-in. involvement of the industries in the project activities as stakeholder partners will hep to demonstrate an innovative approach to such management approaches. Furthermore, government are prepared to take the necessary reforms to create strict requirements for EIAs within this region.



SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>DEMONSTRATION SUB-COMPONENT 1C: LAND-USE PLANNING, ZONING AND ALTERNATIVE PRACTICES</b>			
Land and Sea Use Planning for Water Recharge Protection and Management in Andros, Bahamas			
<p>DEMONSTRATION OUTCOME: Active groundwater recharge area protection through the development of a Land and Sea Use Plan supported by an on-the-ground monitoring, surveillance and compliance mechanism. Reduction of water wastage and increase water use efficiency within the private and public sectors</p>	<p>A baseline inventory of resources and uses within the Andros chain. An effective and operational Land and Sea Use Management Plan (including zoning, monitoring and enforcement). Development of mechanisms and technologies to address specific threats to the recharge area (land-use, squatting, development, waste disposal). Replication of approaches throughout Bahamas through proposed CZM strategy</p>	<p>Measurable improvements in the quality of groundwater resources. An active management system for land-use. Effective conservation measures and improved management of groundwater extraction and water resource use measurable as lower demand and reductions in waste and leaks. No deterioration in species, habitat or biodiversity welfare throughout the project lifetime.</p>	<p>Recognition by government of need for improved land-use and planning in A. Andros and B. throughout Bahamas. Technologies available to address threats. Funding available to replicate in other island of Bahamas. Political commitment to provide incentives to reduce water resource wastage and leakage.</p>
Land-Use Planning and Watershed Restoration as part of a Focused IWCAM Demonstration in the Courland Watershed and Buccoo Reef Area, Tobago			
<p>Reduced siltation and (in coordination with other initiatives) wastewater discharges to Buccoo Reef. Improved water quality and general habitat and biodiversity welfare on reef (particularly coral cover and diversity). IWCAM Models for reduction in siltation and erosion effects within the watershed on the coastal environment</p>	<p>Design and implementation of a programme of reforestation and land restoration in Courland watershed. Diversion of artificial drainage pattern in Buccoo Village into adjacent wetland filtration system. Upgrade of Land-Use Plan and improve EIA processes in Target Area. Establishment of GIS Unit for multisectoral data collection. Training in GIS and IWCAM. Establishment of public participation and awareness programme. Development of draft Policy Paper for IWCAM in Tobago.</p>	<p>Reforestation and Community Watershed Restoration Projects implemented. Diversion of drain at Buccoo Village to reduce coastal sedimentation. Improved Land-Use Plan for Target Area. Policy reforms for ICZM in Tobago using lessons from project. IWCAM recommendations implemented in Target Area. GIS Unit established in Tobago. Multi-sectoral project team trained in principles of IWCAM and GIS. Compilation of detailed environmental GIS database for Target Area. Set of Standard Methodologies for data collection and management. Community Awareness Programme</p>	<p>Government Commitment to adopt an overall IWCAM approach after demonstration within watershed and coastal area of Tobago. Sustainable support for a GIS and data collection unit.</p>

## Resolution of Assumptions and Risks from **Demonstration Sub-Component 1C**

The Bahamas Government is very conscious of the concerns regarding the Andros aquifer recharge area and the need to raise the level of land and sea management and protection around Andros. This awareness and support runs right to the level of the Prime Minister's Office. The Demonstration Project will be partnering with a strong regional and international NGO. The regional NGO, the Caribbean Conservation Association, is supporting the development of protected amenity areas on the coastline of Andros and will be sharing and fronting many of the important activities related to the project. Coral Cay Conservation, a well-recognised international not-for-profit volunteer organisation, will be providing substantial real co-funding and resources to undertake surveys of the coastline and waterways of Andros to ascertain marine habitat conditions, water quality status, etc. ClearWater Caribbean (a partner in the Exuma Demonstration project on Marine wastewater treatment) will be adding its expertise to the problem of domestic contaminants to the aquifer. IDB has expressed strong interest in the outcomes from this project with a possible intent to assist in replicating such land and sea use management strategies and zoning practices in the other islands of the Bahamas. The issues of leakage and wastage are an important one and have been identified by the government as a high priority for resolution.

The Tobago House of Assembly has expressed full support for the Courland Watershed and Buccoo Reef Demonstration Project and has further expressed a keen desire to replicate any IWCAM-related best practices through the island of Tobago. They are also fully supportive of the need for a GIS system and other IT back-up systems, and the urgent need to address soil erosion, sedimentation and poorly-managed drainage. The Demonstration project will be partnering closely with IDB who are addressing the other major issue of wastewater that is impacting the project area through a substantial loan to the government for improving treatment facilities and stopping the discharges onto the reef system. IDB will sit on the project's Steering Committee and have expressed a strong desire to work together in a coordinated and integrated manner.

**LOGFRAME MATIX:**

**DEMONSTRATION SUB-COMPONENT 1D**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>DEMONSTRATION SUB-COMPONENT 1D: TARGETED MODEL IWCAM</b>			
<b>Application of IWCAM Concepts at Cienfuegos Bay and Watershed, Cuba</b>			
<p>The application of the IWCAM concepts to demonstrate an integrated approach to watershed and coastal management centred around a provincial authority with participatory management mechanisms targeting community involvement. Best practices will have be demonstrated in critical areas of concern (agriculture, waste reduction, recycling, soil conservation, etc) through a sustainable management infrastructure.</p>	<p>Demonstration pilot area(s) for best forest practices including reforestation. Demonstration pilot area(s) for best agricultural practices, soil conservation and soil management. Demonstration pilot area for harvesting residues and organic waste from the sugar industry to diminish water consumption. Strengthening of domestic wastewater management. A Water Quality Monitoring Programme Establishment of a local Basin/Bay Management body. Establishment of public awareness and capacity building.</p>	<p>Fully functional Local Authority. Improvement policies, legal and institutional mechanisms for integrated and responsible participation. An operational monitoring programme, actively linked to the Local. Pilot areas demonstrating best practices for land-use management and sugar mill waste recycling implemented and documented as successful. Mechanisms in place to replicate. Significant improvements in wastewater management with guidelines and regulations in place. Community involvement increased and active public awareness campaigns show noteworthy success.</p>	<p>Political commitment to clean-up within Cienfuegos Bay. Government prepared to undertake pilots to clean-up sugar industry and forestry. Political acceptance of a decentralised Management Body</p>
<b>An Integrated Approach to Managing the Marine, Coastal and Watershed Resources of east-central Portland, Jamaica</b>			
<p>Effective capture of existing best practices and lessons learned through other coastal, watershed and community management initiatives within the country. An effective Watershed Management mechanism for Eastern Portland. Effective transfer methodologies adopted by Jamaica for the replication of these lessons to neighbouring Watershed Management Units (WMU).</p>	<p>A model watershed area management mechanism including effective administrative procedures, monitoring and data collection, compliance and enforcement mechanisms and removal of socio-economic barriers through sustainable economic development. Applicable solutions to detrimental watershed activities. Demonstrations of alternative livelihoods and land-use practices. Identification of transfer mechanisms and replication potential</p>	<p>A formal management mechanism and identified accountable body with an on-going programme of data collection and environmental indicator information feeding into the management process, as well as the policy and legislative arena. Effective compliance and enforcement mechanism. Successful documented demonstrations of alternative livelihoods and community support for alternate land practices, and successful demonstrations of mitigation approaches to watershed threats. Recorded community support. An active process of transfer and replication of lessons other watersheds in Jamaica</p>	<p>Project ability to coordinate and integrate many different and complex initiatives in watershed management in Jamaica. Acceptance of a formal management mechanism. Government prepared to replicate in other watershed situations in country. Community support can be generated.</p>

## Resolution of Assumptions and Risks from **Demonstration Sub-Component 1D**

Cuba has shown a very strong commitment to both this Demonstration project and toward the overall Regional IWCAM project. They have also demonstrated an advanced capacity and an adequate human resource pool to be able to tackle this Demonstration Project. The government is prepared to commit national resources to tackling the pollution problems created by the sugar industry, and to rectifying the problems of deforestation and improper land-use. They themselves have proposed the creation of a Cienfuegos Bay Management Body.

Jamaica has had a number of initiatives over the years addressing watershed management. Some are still underway. During the development phase for this project a number of partners came forward to encourage the approach proposed by this Demonstration Project i.e. the coordination and integration of various lessons, best practices and existing management systems into one model demonstration. Jamaica already has experience in creating watershed management mechanisms involving community participation. This project will help to capture and improve on those experiences. Past experience shows that community support can be generated and is forthcoming with the right incentives.

LOGFRAME MATRIX:

**COMPONENT TWO**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>DEVELOPMENT OF IWCAM PROCESS, STRESS REDUCTION AND ENVIRONMENTAL STATUS INDICATOR FRAMEWORK</b>			
<b>COMPONENT OUTCOME:</b> Process, stress-reduction, and environmental status indicators framework established and national and regional capacities for indicator monitoring enhanced.	Indicator monitoring tested and developed as part of demonstration projects and through other project component requirements. One-country demonstration and development undertaken to produce indicator framework model. Transfer of model to all countries and establishment of an indicator network and data storage facility.	Specialist evaluation of indicator mechanism and framework. Lessons from Demonstrations captured in framework. Single country demonstration of development and use of indicators (e.g. in policy reforms) successfully completed. All countries adopt standard model/framework for indicator mechanism and establish protocol for information transfer and accessibility within regional storage centre	National capacity and commitment to development and use of indicators. Effective demonstration of value and use of indicators through demonstration projects. Country identified to take on role of national model for indicator development, monitoring and application of results. All countries willing to adopt new indicator framework model. All countries willing to share information with regional information centre.
<b>2.1 Review IWCAM indicators</b>			
Review national and regional Environmental Status Indicator mechanisms	Thorough review document available identifying current status of all indicator mechanisms at national/regional level	Review document studied and endorsed by R-TAG and other relevant stakeholders, and endorsed by PSC by end of year 1	Current indicator mechanisms actually exist. Capacity available to capture all national information and to synthesise into a report
Review national and regional Stress Reduction Indicator mechanisms			
Review national and regional Process Indicators			
<b>2.2 Develop National Indicator Templates</b>			
Harvest information from Demonstration Projects on Environmental Status indicators	ESI database established as part of Demo Lessons and Practices database	Confirmation through R-TAG and evaluation process and input to further activities of this component	Demo Projects are developing and delivering ESIs
Develop and disseminate templates for Environmental Status Indicators	Templates for ESIs formally distributed to each country	Templates disseminated by end of year 2. Feedback on templates from R-TAG and PSC. ESI mechanism being used for monitoring and development of national management strategies by 7 countries by end of year 4.	Sufficient information and capacity available to develop templates. Countries will use templates.

	Harvest information on policy and legislative process and stress reduction indicators from 4.2 and Demonstration Projects	P and SR Indicator database established with clear signs of capture of lessons and practices from demo projects	Confirmation through R-Tag and evaluation process and input to further activities of this component	Demo Projects are developing and delivering P & SR Indicators
	Develop and disseminate templates for Process and Stress Reduction Indicators	Templates for P & SR Indicators formally distributed to each country	Templates disseminated by end of year 2. Feedback on templates from R-Tag and PSC. Indicator mechanism being used to justify and drive policy reforms by 7 countries by end of year 4	Sufficient information and capacity available to develop templates. Countries will use templates. Country commitment to reforms
<b>2.3</b>	<b>Undertake National Hotspot Diagnostic Analysis</b>			
	Identify national 'non-demo' HotSpots and Sensitive Areas and their IWCAM problems and root causes	Hotspot Diagnostic Analysis completed for each country	Endorsement of HDA by R-TAG and PSC by end of year 1	Additional Hotspots and Sensitive Areas exist beyond adopted Demonstration areas. Countries have capacity to undertake HDA
	Identify required reforms	HAD includes specific section addressing requirements for reform at policy, legislative and institutional level in order to resolve hotspot issues and threats	Endorsement of Reform Needs by R-TAG and PSC. Confirmation by IAs and EAs of appropriate section completed in National HDAs. Use as justification in future concept development	Sufficient knowledge of reform needs. Capacity to undertake HAD and reform-needs study
	Develop Concept papers for follow-up activities	New Concept Papers presented for funding and assistance. Development into full project submission with appropriate HAD justification.	Review of Concept Papers and Final Submissions by PSC and IAs (including endorsement of compatability with HAD). At least one further pertinent IWCAM related project approved by end of year 2 and a further 2 by end of year 5.	Capacity exists to develop Concepts and Submissions. Countries willing to submit IWCAM-related Concepts for further support. Sufficient funding available to support submissions
<b>2.4</b>	<b>Indicator Coordination and Training</b>			

Establish a regional centre for storage of Indicator-related information	All Indicator-related information stored and maintained as current in a suitable database. Information kept up-to-date	Information System and Clearing House in existence and Indicator information available by year 2 of project. Confirmation of accessibility and use by stakeholders and project partners. Formal Confirmation of efficacy to PSC by R-TAG. Evaluation process confirms maintenance of effective mechanism, country commitment and current nature of information	Regional Institutional identity and capacity to house database. National capacity to collect and provide information. Countries willing to supply up-to-date information.
Develop regional centre as a Centre of Excellence for Indicator Training	Centre of Excellence for Indicator mechanisms in place	IWCAM Training Centre established within region by year 3 of project. Confirmed by stakeholders and evaluation process	Suitable site available with sufficient country/institutional commitment. Adequate resource capacity to maintain Training Centre
Training for stakeholders in application of process, stress reduction and environmental status indicators	Appropriate stakeholders receive training and apply the concepts/process in-country	Indicators mechanisms function in 10 countries by year 4 of project. Indicative information clearly in use in policy and legislative process through effective national reforms	Sufficient training capacity exists. Country commitment to make trainees available. Country commitment to adopt expertise as part of IWCAM process
<b>2.5 Indicator Demonstration</b>			
Establishment (including capacity building) of IWCAM process, stress reduction and environmental status indicator monitoring system in one country using new templates	One Country provides sufficient commitment to support model Indicator mechanism development and implementation process. Endorsed by PSC.	At least one country assisted in full implementation of a model Indicator mechanism through to actual application of process to reforms (and feedback process) by middle of year 3 of project	One country prepared to fully support process (including in-kind commitments) through to policy reform stage. Capacity available to assist country

### Resolution of Assumptions and Risks from Component Two

The development of measurable indicators is also essential both the success of the project and to the overall long-term effectiveness of IWCAM at the national and regional level. Current indicators may not exist. Where they do then the project should aim to use similar or at least comparable processes and data handling to ensure compatibility of historic data (where this is possible, but not at the expense of using effective measurable indicators if these have to be developed anew). National capacity may not always exist to review and present current indicator mechanisms and this addressed through budget allocations to assist each country to undertake this process.

It will be important to capture all the national information, both on-going and historic, and from within and outside the demonstration projects. All of this information will need to be carefully collated and

reviewed in order to develop an effective model template for measuring the various types of indicators. Again, budget allocations address this need at a national and regional level.

Countries will also be given financial assistance to expand their Hotspot Assessments and to prioritise the needs and reform requirements related to priority areas. Additional expertise may be required in some countries to complete this process effectively. As a next step, resources will need to be available to help develop new concepts addressing mitigation and resolution of problems at priority hotspot areas. Some budget allocations are available here but also of importance will be the assistance available from the IAs in the region, particularly the UNDP country offices as well as the UNEP regional office. The Partnership Forum and Stakeholder Workshops will need to ensure that funding leverage for deserving and eligible concepts is proactive, persistent and effective.

The indicator measurements and their analysis will need to be captured within a regional institution and again CEHI offers a suitable repository as an integral part of the regional government process and institutional structure. It is appropriate to provide capacity building and institutional strengthening in this respect, balanced as always against in-kind contributions from the countries and from CEHI itself. CEHI would also provide the obvious focal point for the various training requirements within the project, although some aspects may be outsourced to regional NGOs where appropriate. In this respect there is a close link between the development and on-going measurement of indicators, training and secondment, study tours, and the provision of a mobile survey and laboratory facility by the private sector. This will require careful management and logistical arrangements. Budget allocations also exist to ensure this occurs. Countries will need to be realistic about their training needs and the nomination of candidates. A rigorous process of selection will be undertaken through the EAs and IAs with endorsement by the PSC. Part of this selection will require guarantees from the countries regarding the future use of the newly acquired expertise.

The selection process for the development of a model indicator mechanism will also need to be rigorous as well as transparent. Clear criteria will need to be established by the PCU under guidance from the EAs and IAs and endorsed by the PSC before any selection process is initiated. Criteria would inevitably include fairly substantial commitments to financial support of the process and subsequent reforms in the policy, legislative and administrative/institutional sectors.

**LOGFRAME MATRIX:      COMPONENT THREE**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
POLICY, LEGISLATION AND INSTITUTIONAL REFORMS			



<p><b>COMPONENT OUTCOME:</b> National policies, legislation and institutional structures reformed and realigned to reflect the objectives of IWCAM and to capture the requirements of the more pertinent regional and international MEAs.</p>	<p>IWCAM Policy and Legislative reforms adopted to reflect a more integrated and intersectoral approach to coastal and watershed management, and to emphasise IWCAM priorities. Institutional structures amended and enhanced to deal with IWCAM approaches and requirements including new policy and legislative reforms and associated reallocation of responsibilities and realignment of sectoral mandates</p>	<p>Countries amend national policy and legislation as it addresses IWCAM issues. In particular, revised policy and legislation reflects requirements of regional and international MEAs. Countries actively ratifying IWCAM -related regional and international MEAs as a reflection of their policy changes. Institutional realignment and reallocation reflects new policies and supports requirements of newly ratified regional and international MEAs</p>	<p>Political commitment to reforms. Political sustainability throughout potential electoral changes. All barriers to ratification of regional and international MEAs removed. Sufficient financial and human resource capacity to meet needs of reforms and ratification requirements. No further pressures on countries to adopt yet more MEAs until they can meet existing requirements</p>	
<p><b>3.1</b></p>	<p>#</p>			
	<p>Reviews of national policies and structures</p>	<p>Detailed document outlining current status and shortfalls of all national policies, legislation and institutional arrangements related to IWCAM</p>	<p>R-TAG and PSC review and endorsement of document by end of year 1 of project</p>	<p>Sufficient accurate information released on policy, legislation and institutional status</p>
	<p>Identification of barriers to IWCAM</p>	<p>National and regional synopsis of barriers to IWCAM arising from status and shortfalls report, including proposals for barrier removal</p>	<p>National endorsements and PSC endorsement of Barriers and proposed remedial activities before 18-month implementation stage (middle of year 2)</p>	<p>Countries accept that remedial action necessary to reform.</p>
<p><b>3.2</b></p>	<p><b>Development of models and guidelines</b></p>			
	<p>Consolidation of inputs and lessons from national reviews, participatory stakeholder workshops, and demo projects</p>	<p>Collation and coordination from reports and workshops of all information into review document</p>	<p>All information from national reports plus initial inputs from stakeholder workshops and demo projects available for development of model by early year 2</p>	<p>All information available and accessible. Capacity available to undertake report synthesis</p>
	<p>Identification of specific reform requirements based on Hotspot Diagnostic Analyses</p>	<p>HDA from each country addresses reform needs.</p>	<p>Information available from HDA for incorporation into model development by end of year 1</p>	<p>Countries complete HAD analysis on time for inclusion in model development</p>
	<p>Development of a set of regional guidelines taking into account requirements of relevant regional conventions and treaties</p>	<p>Detailed regional guidelines developed and disseminated which actively embrace requirements of regional conventions and treaties (e.g. LBS protocol)</p>	<p>Regional guidelines for development of national models completed and available for use by countries by end of year 2 of project</p>	<p>Adequate capacity available for development and finalisation of models</p>
<p><b>3.3</b></p>	<p><b>Programme for regional policy, legislative and institutional reform</b></p>			

Development of an active regional programme for amendment of national legislation/policy and improvement & restructuring of institutional arrangements	Assistance provided to each country to reform legislation and policy. Reforms adopted, Institutional arrangements updated in line with IWCAM requirements	Development of a mechanism to promote reform in each country(particularly focusing on hotspot needs) by end of year 2. 5 countries effectively reformed policy and legislation and developed institutional arrangements in line with IWCAM concepts (and following regional model) by end of year 4	Capacity for assistance available. Timely implementation of regional programme and national assistance. Sufficient country commitment to reform. Awareness of importance of regional environmental agreements to IWCAM process and welfare of SIDS
Parallel development of incentives, and awareness of the need for SIDS to ratify those IEAs, Conventions and Treaties pertinent to IWCAM (Especially Cartagena Convention and Protocols)	Improved regional ratification of pertinent IEAs	9 countries ratified LBS protocol by Final Evaluation. All participating countries ratified Cartagena Convention by Final Evaluation	Regional model captures national requirements for ratification. National commitment to implement. Effective incentives and assistance in implementation and ratification process

**Resolution of Assumptions and Risks from Component Three**

This component will essentially require substantial political commitment to achieve success. National bodies will need to release information for the review process. However, many of the Caribbean SIDS are now used to this requirement and have undergone some sort of policy and legislative review in certain sectors. Careful explanation of the importance and value of this process will need to feed back from the OSC and through the NICs to the relevant government sectors. Also through the PSC/NICs linkage it will be important to demonstrate the need for remedial action and reform. Budget allocations will assist in the review and synthesis process. Again, the presence and familiarity of the EAs with the countries will help to alleviate doubts.

Resources are identified in the project to assist in the development of model guidelines for reforms. Financial commitments have been made to drive the regional reform process, and incentives will be developed to encourage countries to adopt this route. The linkages between national reforms related to IWCAM and similar requirements from regional and international agreements such as the Cartagena Convention and its Protocols should help the countries meet their ratification requirements for the latter through a funded and resourced process available through the IWCAM regional project.

LOGFRAME MATRIX:

**COMPONENT FOUR**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>REGIONAL AND NATIONAL CAPACITY BUILDING AND SUSTAINABILITY</b>			
<p><b>COMPONENT OUTPUT:</b> Improved sensitisation, awareness and capacity throughout all sectors with respect to IWCAM. An active, long-term, sustainable regional mechanism supporting IWCAM. Effective networking to share information alongside a Partnership Forum acting to build working relationships within IWCAM. An active Clearing House to sharing and dispersing information. Fully involved stakeholders and improved civil society.</p>	<p>Measurable improvement in awareness at street level. Measurable heightening of sensitivity of policy-makers within public and private sector in support of IWCAM approaches and concerns . Adoption of long-term (5-10 year &amp; reviewable) IWCAM regional mechanism with associated supportive regional agreements and institutes. Establishment of a regional Partnership Forum for IWCAM related issues with strong input from private sector and other potential funding partners. Stakeholder participation is institutionalised and adopted as policy within IWCAM.</p>	<p>Awareness, sensitivity and educational polling show positive improvements with feedback from polls into on-going awareness and education programmes. Stress Reduction Indicators show improvements to controls over major impacts on coastal and watershed environment. Process indicators show positive support and reform at policy level toward IWCAM. Environmental Stress Indicators support overall picture of improvement reflecting awareness and educational success. Regional IWCAM strategy/ mechanism adopted through regional agreement and reflected in national policies and institutions. Regional partnership forum active and showing major positive changes in approaches to IWCAM issues through both private and public sector. Private sector taking greater responsibility for cost of IWCAM including transfer of benefits and greater investment in reduction of impacts and mitigation of threats.</p>	<p>Effective awareness and sensitisation campaigns and programmes are sustainable. Sufficient in-country capacity to sustain indicator mechanisms and capture results. Countries understand value, and are in full support of an IWCAM regional and national approach and prepared to commit resources. Full support from privates sector and funding agencies for a regional Partnership Forum. Private sector understands long-term value and investment toward sustainability through transferred benefits.</p>
<p><b>4.1 Awareness and Sensitisation</b></p>			
<p>National &amp; Regional Workshops on needs and target audiences</p>	<p>Positive feedback from workshops via reports</p>	<p>Reports endorsed by PSC and recommendations adopted into awareness campaign strategy by end of year 1 and updated in subsequent years</p>	<p>Consensus agreement on targets and needs for awareness. Timescale for capture of input is sufficient. Capacity for caputre of input is available and adequate</p>

	Multisectoral awareness campaign with feedback mechanisms	National and regional awareness campaigns active and effectively targeting all stakeholders	First awareness campaigns delivering sensitisation by end of year 1. Feedback from stakeholder workshops positive by end of year 2. PSC reporting that policy level sensitisation is taking effect by end of year 2. Mid and Final Evaluation support success of awareness campaign	Continuity of targets (electoral process replaces many senior personnel in government). Senior level awareness of need for sensitisation to IWCAM issues and commitment to make personnel available for awareness-building. Adequate in-country support and capacity to awareness-building.
<b>4.2</b>	<b>Stakeholder Involvement</b>			
	Identify, strengthen and involve stakeholders	Representative involvement of broad spectrum of stakeholders in project activities and development. Project activities and deliveries targeting the strengthening of stakeholder input and management participation	Positive feedback from stakeholders through workshops in years 1-5. Stakeholder awareness significantly improved by year 3. PSC reports significant increase in stakeholder support by year 3. Stakeholder (non-Governmental) involvement in management process and recognition of 'Beneficiary-pays' concept by end of year 4	Stakeholders have an interest in the IWCAM process. Stakeholders prepared to get involved and to commit in-kind contributions to iWCAM management process. Private sector recognises advantages of its involvement. Transfer of benefits is embraced as a concept in private sector
<b>4.3</b>	<b>Education &amp; Training</b>			
	Educational Workshops (linked to Awareness Workshops)	Successful implementation of workshops	First workshop completed by end of year 1. Subsequent workshops completed by mid year 3 and end year 4	Country commitment to providing attendance to workshops
	Production of educational materials and incorporation into regional curricula	Adoption of IWCAM concepts and teachings into national school curricula. Effective teaching materials available	NIC and PSC confirm that IWCAM concepts embraced within national educational curricula in 7 countries by end of year 3	Educational bodies and establishments sympathetic to IWCAM and need to amend curricula
	Identification and implementation of training needs and regional training networks	Training needs identified and workshop logistics and coordination are established	PSC approves training workshop strategy for all countries by middle of year 1	Training properly captured and put to use by countries. Trained personnel assured positions in the long-term

	Regional training workshops & networking through IW:LEARN	Training Workshops successfully completed and outputs networked into IW:LEARN	First training workshop successful completed by end of year 1 with subsequent workshops in years 2-4. Outputs of training incorporated into IW:LEARN and outputs of first workshop available on IW:LEARN website by end of year 1. All subsequent workshop outputs available on website within 3 months of completion of workshops	IW Learn Accepts networking role for this training. Country commitment and interest continues for future workshops
	Inter-country secondment	Appropriate personnel seconded from one country to another to learn from specific IWCAM situations and practices	PCU approves first batch of secondments of 2-3 persons before end of year 1. Subsequent secondments of at least 2 persons per year for next 4 years	National agencies prepared to give leave of absence for appropriate persons to go on secondment.
<b>4.4</b>	<b>Strategy for IWCAM Regional Sustainability</b>			
	Development of IWCAM regional strategic approach	Regional IWCAM Strategic Approach adopted by PSC	Regional Strategic approach reviewed by R-TAG and PSC and endorsed in principle by end of year 2	Adequate regional capacity to develop IWCAM Strategic Approach. Timely delivery to PSC
	Assistance with identifying long term funding mechanisms for IWCAM regional strategic approach	Effective identification and formal agreements on sustainable funding for strategic approach	Partnership Forum identifies and confirms funding level and availability to PSC by end of year 2	Sufficient commitment from partners (including governments) to provide sustainable funding for IWCAM strategy
	Incentives for national and regional adoption of IWCAM strategies and arrangements	National and regional agreement on strategy and funding mechanism(s)	Adoption by countries of Strategic Regional IWCAM Mechanisms by end of year 3	Early consensus on content and funding mechanisms. This will be dependent on priority of IWCAM on national and regional agendas
	Review and Evaluation Mechanisms for Strategic Approach, including a stakeholder-sponsored mechanism for post-project evaluation of GEF IWCAM objectives	Intra- and post-project review of IWCAM strategy and objectives	IWCAM strategy reviewed through project evaluation process (Year 3 and 5) and 2 years after end of project by post-evaluation body identified during development of strategy through recommendations of partners and stakeholders	Effective IA and PSC driven GEF evaluation process. Funding and support from regional partner/body to undertake a post-project review of objectives and sustainability
<b>4.5</b>	<b>Project Networking</b>			
	Linkages to national/regional institutions	All pertinent national and regional institutions up-to-date on activities and opportunities available through IWCAM project	Institutions confirm effective dissemination of information and active involvement through stakeholder and partnership forums in year 1.	Institutional commitment to aims of IWCAM project. Effective mechanisms for networking within region and between countries.

	Linkages to other IWCAM related projects	Identification of networking partners. Development and implementation of networking procedures	Networks in place and effectively targeting 90% of relevant IWCAM partners by end of 1st year. Effective update of networking and information confirmed every year through Partnership Forum	Capacity within region to undertake networking. Partners willing to share and network. Other IWCAM-related projects have own effective networking procedures
	Development of Regional Partnership Forum	Partnership Forum meets on regular basis and provides positive recommendations which are put into action	Partnership Forum meeting within first 6 months of project and subsequently every year after. Subsequent For a confirm action taken on recommendations (confirmation provided by PCU and PSC in Forum Updates at meetings)	Partner commitment to IWCAM through attendance and through commitment of in-kind time and finances. Realistic recommendations from Partners. National support to hosting For a
4.6	<b>A Regional IWCAM Clearing House to capture and store all IWCAM information (Link to GPA-CHM)</b>			
	Development of Clearing House	Active Clearing House sited and supporting project	Physical site for Clearing House established (with in-kind support and project capacity funding) by mid to end of year 1. Confirmation by PSC and partners of efficacy of Clearing House by mid year 2	Country/Institute prepared to house facility and support it with some assistance from GEF. Sufficient capacity to implement and effective facility within 18 months of start of project
	Linkages to GPA-CHM	Cross-linkages between Clearing Houses and databases, especially through websites	Strategies for cross-linkage developed and agreed between EAs by end of year 1	No technical linkage problems. Close working contact between EAs
	Networking with countries	Use of Project Networking process to connect Clearing House to all countries and Partners	Website established and linked into GPA-CHM and countries by end of year 1	Capacity available in region to develop website

#### Resolution of Assumptions and Risks from **Component Four**

Awareness development is an area which directly relates to the stakeholders. NGOs in particular can provide a high level of capacity and assistance with this important project deliverable. Effective national and regional workshops will help to drive this process.

The sensitisation of senior and policy level personnel within both the government and private sector is a priority and continuous target for the project. This is considered to be particularly important to overcome the inherent problems associated with personnel changes at the policy and senior technical level. It is also important for the policy level decision-makers to realise the need to allocate resources (especially human) to the IWCAM process, and to commit to reforms. The project will lean heavily on existing in-country and regional experience, especially within the NGO groups.

Stakeholder participation is a thread that runs through all of the project components and outputs. It is captured in this component specifically as a requirement for long-term acceptance and sustainability of the IWCAM concept and objectives. Good transparent sharing of information and networking along with the Partnership Forum and the Stakeholder Workshops should ensure adequate stakeholder involvement and commitment to the project. Suitable representation for the education sector is important at the stakeholder workshops. Again, NGOs (with their established experience in the field of educational promotion of environmental issues) have an important role to play in this arena.

The PSC and NICs will have an important role to play in stressing the role of the training workshops and the significance of the national training secondments/ study tours. NICs will need to take an active part in selecting suitable candidates under the guidance of the PSC and the PCU. Clearly defined criteria will be necessary and would be drawn up by the PCU and endorsed by the PSC before any secondments and candidates are considered. Critical selection criteria would include the suitability of the candidate with respect to position, previous experience and qualifications, and the long-term prospects of that candidate after training.

The IWCAM Strategic Approach will reflect the regional needs as expressed at the country level through the NICs and thence through the PSC. A comprehensive 5-10 year plan for regional IWCAM will need to be developed and a mechanism for capturing this institutionally at both the national and regional level will need to be ensured. Much of this is encapsulated within various project outputs and deliverables but needs coordination. GEF assistance is identified through financial allocations to assist in this process which should be country and regionally driven to demonstrate the strength and sustainability of the institutional processes developed through the project (e.g. the PSC, NICs and R-Tag as well as the capacity building given to regional bodies such as CEHI). In this respect it will be vital important for this strategy to identify the long-term expectations (beyond the project lifetime) for these project bodies. The regional and national bodies need to be institutionalised through the strategy so that the PSC can continue in its valuable function of guiding the strategy, the NICs can ensure national commitment to the strategy and the R-TAG provide the technical advisory forum. Capacity strengthening to bodies such as CEHI should be sustainably institutionalised to ensure continued support to information clearing, indicator assessments for national and regional updates on IWCAM 'landscape' status, and training.

**LOGFRAME MATRIX: COMPONENT FIVE**

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	CRITICAL ASSUMPTIONS AND RISKS
<b>REGIONAL PROJECT MANAGEMENT AND COORDINATION</b>			



<p><b>COMPONENT OUTCOME:</b> Effective project management at the national and regional level. National Intersectoral Committees capturing and promoting IWCAM best practices. Project evaluations reflecting successful and sustainable project objectives. An active and effective sustainable regional information management system in place.</p>	<p>Regional IWCAM strategy in place. Appropriate regional institution(s) adopt(s) the functions and responsibilities of the project management structure. Regional and National Intersectoral Committees (PSC and NICs) given permanent status and responsibility for regional and national level IWCAM strategy and coordination. Permanent and sustainable institutionalisation for regional IWCAM information storage and transfer</p>	<p>Final and Post Project Evaluations reports positive. Regional IWCAM-related institutions physically in place and funded with clear mandates for responsibility. Permanent regional and national bodies established ex-project with responsibilities for cross-sectoral participatory IWCAM. Regional Centre dealing with IWCAM information storage and dissemination in place and sustainable. All of these to be sustainable politically and through identified funding by closure of project.</p>	<p>National and regional commitments to IWCAM remaining politically sustainable throughout region. Governments agree on need for permanent structures to adopt role of PSC and NICs. Host institution/country identified for information storage and dissemination centre.</p>
<p><b>5.1 Project Management</b></p> <p>Establish Project Coordination Unit</p> <p>Contract staff and consultants</p>	<p>PCU effectively coordinating management of all project activities</p> <p>Timely employment of PCU staff. Consultancies running to workplan schedule</p>	<p>Project Steering Committee (PSC) endorsement of PCU reports on annual basis. Standard GEF monitoring/evaluation</p> <p>PSC endorsement of workplan schedules. Project activities evaluated by IA/EAs</p>	<p>Effective PSC attendance and scrutiny of workplan and schedule. Effective GEF evaluation process</p> <p>Effective PSC attendance and scrutiny of workplan and schedule. Effective GEF evaluation process. Appropriate and transparent staff/consultant selection procedures</p>
<p><b>5.2 Regional Project Steering</b></p> <p>Steering Committee Meetings (project monitoring, workplan and budget reviews)</p>	<p>Effective and timely reporting from PSC on project status, workplan and budget. Country Commitment to PSC</p>	<p>Regular and full attendance annual of PSC meetings by all countries with representation at correct level. Evaluation of sequentila PSC reports show strong evidence of project steering and fine-tuning</p>	<p>Clear definition and understanding of role of PSC and relationship to PCU/Project Manager. PSC attracts high level of policy input from countries. Effective response to PSC recommendations by PCU and at National Intersectoral Committee (NIC) level</p>
<p><b>5.3 National Project Steering (National Intersectoral Committees)</b></p> <p>Meetings of National Intersectoral Committees</p>	<p>Scheduled and effective national meetings of NIC by all countries</p>	<p>NICs established in all countries before end of year 1 and prior to 2nd PSC meeting. IWCAM principles adopted at country level (confirmed by PSC reports, evaluations, Stress Reduction &amp; Process Indicators)</p>	<p>National commitment to intersectoral integration of IWCAM approaches and principles. NIC Membership allocated at correct level</p>



	Day-to-Day inputs by members	Interim input by NIC members to project activities and policy at national and regional level	Effective feedback noted by PCU and confirmed through PSC by 3rd PSC	Continuity of membership maintained at national level and appropriate membership level adopted by countries
<b>5.4</b>	<b>IA/EA Management Group</b>			
	Annual IA/EA Meetings	IA and EA representatives meeting regularly to provide guidance to project on GEF Policy issues	1st IA/EA meeting before 2nd PSC meeting and annually thereafter. Report recommendations from IA/EA meeting delivered to PCU and PSC and confirmed to have been acted on (PSC Reports and Project Evaluation process)	Availability of IAs and EAs to meet regularly. Continuity of representation. PCU responds to requirements. PSC responds to requirements
	EA Interim Management Discussions	EAs managing execution of project through strong working relationship between each other and PCU	Close links between EAs noted by PSC and Evaluation Process. Effective co-execution documented	Co-execution modalities clearly defined and understood. Relationship between PCU and EAs clearly defined and understood
<b>5.5</b>	<b>Project Technical Support</b>			
	Meetings of Regional Technical Advisory Group (To provide technical support and advice to Steering Committee)	Regular scheduled meetings of TAG resulting in effective responses to PSC queries, as well as pro-active recommendations on project/IWCAM technical issues	1st R-TAG by middle of year 1 and annually thereafter to coincide with PSC meetings. PSC reports reflect satisfaction with role of TAG. Project evaluation reflects regularity of meetings as scheduled. PSC reports valuable inputs from TAG. ESIs, SRIs and Pis show improvements that can be traced back to TAG recommendations and inputs	Appropriate persons allocated to TAG (needs endorsement by SteerCom). Effective ToRs for Tag. Full attendance and commitment by countries. Close linkages with PSC necessary
<b>5.6</b>	<b>Project Reporting</b>			
	Reports from Demo Projects to PCU	PCU confirms scheduled reporting by Demo projects	1st quarterly report received from each demo before end of year 1. Quarterly reports on file and endorsed by PCU as appropriate. Best practices and lessons being captured and transmitted to countries. PSC formally endorses Demo reports on annual basis	Accurate reporting from Demo project SteerComs. Quarterly reporting process being correctly monitored and pursued. Mechanisms in place to disseminate information on lessons and best practices. PSC meets on annual basis with effective complement of members
	Reports from PCU to Steering Committee	PSC receives and responds to PCU reports in timely manner	Steering Committee formally endorses PCU reports as part of annual agenda	Effective and appropriate representation by countries on PSC. Effective PCU management

	Reports from Steering Committee to EA/IAs	EA/IAs confirm and discuss PSC reports, EA/IA attendance at PSC to note deliver of reports at meetings	Project Evaluation process confirms effectiveness of PSC. EA/IA presence confirmed on PSC list of attendance	Project Evaluation undertaken effectively and on schedule to allow timely review and amendment of activities. EA/IA representation appropriate and continuous
5.7	<b>Project Evaluation</b>			
	IA Evaluation Requirements	UNDP and UNEP undertaking their own agency evaluations of relevant project activities	UNDP monitoring and ensuring effective quarterly reporting from demo projects. PSC adopting and endorsing these reports on annual basis. Similar reporting and endorsement through UNEP as appropriate	UNDP Country Offices fully engaged in monitoring process. Reporting requirements and formats fully understood by all demo countries. UNEP reporting requirements relevant to agency-component responsibility understood by all parties
	GEF Evaluation Requirements	Full GEF Mid-Term and Final Evaluations effectively concluded and recommendations acted on	Timely evaluations undertaken by mid to end of year 3 and by mid year 5. Full endorsement of findings by PSC and IAs. PSC acts on recommendations as confirmed in Final Evaluation	On-Schedule selection of appropriate Evaluation Team. Transparent evaluation process. PSC willing to address concerns and recommendations of Evaluation Report
5.8	<b>Project Information Management System</b>			
	Establish Regional Project Information System	Project Information System (Info-Sys) located on-the-ground and actively networking with countries and other project partners	Concrete location for Info-Sys established by mid year 2. Staff and equipment functional and effective by end of year 2. Countries and EAs confirm satisfaction through 3rd PSC. Mid-Term and Final Evaluations confirm that Info-Sys is actively supporting country's technical needs as well as aiding in policy development and justification	Sufficient and sustainable funding and support for Info-Sys. Location identified early in project. ToRs approved by PSC early in project. Information quality is appropriate to support technical and policy decisions. Technical and Policy level regional personnel aware of presence and accessibility of Info-Sys
	National inputs and outputs related to Information Management System	Info-Sys regularly interrogated by countries. Effective national inputs to Info-Sys as requested by PCU and PSC	Formal endorsement of efficacy of Info-Sys by PCU country membership. PCU reports confirm national inputs.	Country commitment to openness and sharing of vital IWCAM information. Country commitment to use of information to guide policy decisions. Policy level feedback to drive capture of necessary information

## Resolution of Assumptions and Risks from Component Five

The Project Steering Committee is the most significant body of representation for the effective management of the project. The PSC meetings will need to be held regularly, on an annual basis. It is also critically important that the national representatives attending these meetings are from a policy level and are kept in place continuously throughout the project to ensure a continuity of understanding and awareness of project issues and management concerns. The ToRs for the Steering Committee will help to ensure this as will the Project Implementation strategy as defined in the Project Document. PSC members will need to scrutinise documents effectively and in good time (which means that the PCU and EAs must ensure that documents are circulated in a timely manner). Again, these requirements are captured in the ToRs.

The PCU will attend to the day-to-day management of the Project and needs to be effective and sufficiently supported in resources and capacity. This has been addressed through the budget and through the identified in-kind contributions of the EAs (particularly CEHI, the host EA). Specific ToRs will ensure proper accountability and clear definition of responsibilities for project management. Much of the success of the project will lie in the recruitment of an experienced and suitable Project Manager/Coordinator and the IAs and EAs will need to have a strong input to this process. Partiality through selection of a candidate from a participatory country is always a concern and would need to be addressed through the selection process. Transparency of selection of PCU staff and project specialist and consultants will be an essential requirement and the IAs have fairly strict rules and procedures for this which must be adopted by the PCU.

The GEF Mid-Term and Final Evaluations will need to be on schedule and well-orchestrated if they are to be an effective mechanism for assessing status and success of project outputs and the need to fine-tune and re-steer the project. The IAs and EAs will need to ensure the selection of an experienced Evaluation Team in plenty of time to meet the scheduled Evaluation dates (especially as many of the Verifiable Indicators depend on the Evaluation process for their verification).

Their needs to be close working relationship between the PSC and the National Intersectoral Committees if IWCAM concepts and practices are to be captured and implemented at the national level. Project Implementation clearly defines the roles and responsibilities of these two bodies. As with the PSC, it is important that the NIC have the appropriate membership that can take policy decisions at the National level, and that the membership remains stable for the sake of continuity. ToRs for the NIC address this concern.

National endorsement of this project demonstrates a commitment to the aims and objectives of IWCAM. This will need to be strengthened (especially in the face of political cycles and inevitable election changes) on a continuous basis by awareness and sensitisation as is captured under 5.

The co-execution arrangements have been discussed and agreed between the EAs. The IA/EA meetings will need to ensure equitable continuation of an effective co-execution and will need to act as the forum for arbitration and harmony.

The Regional Technical Advisory Committee will also need appropriate and continuous senior level technical attendance from all relevant national stakeholders associated with IWCAM. Again, the ToRs

address this and the PSC, through the NICs will need to monitor this requirement carefully. Meetings of the R-TAG should be consecutive with meetings of the PSC so that the former can advise the latter.

Each demonstration project has a Steering Committee to endorse and submit accurate reports to the PCU and to the regional PSC. UNDP will be responsible for monitoring the progress of the Demonstration projects and will implement its standard quarterly reporting process.

A critical requirement for sustainability will be the long-term institutionalisation of many of the project's management and policy structures at both the national and regional level. As part of an overall regional mechanism and strategy for long-term IWCAM these institutional arrangements will need to be discussed and elaborated. The strong commitment of the countries is reflected in their commitment to this project during a very prolonged development stage. However, support will be essential in establishing such a strategy and associated institutional support at both the national and regional level. Fortunately such support is available through the strong Implementing Agency presence in the region through the UNEP Regional Coordination Unit in Kinston, Jamaica and through UNDP's regional, sub-regional and national network of offices.

## ANNEX C – STAP REVIEW AND RESPONSE

This section includes the text of the STAP review (in Black). This is highlighted (in Red) and numbered where the Reviewer has raised a concern. This is then addressed by a corresponding numbered response (in Blue) in the following paragraph.

### **REVIEW OF GEF PROJECT**

#### **Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean**

**(Requesting countries: Antigua and Barbuda, The Bahamas, Barbados, Cuba, Grenada, Dominica, Dominican Republic, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago)**

**Implementing agencies: United Nations Environment Programme (UNEP) & United Nations Development Programme UNDP)**

**Executing agencies: The Secretariat of the Cartagena Convention and The Caribbean Environmental Health Institute**

### **Introduction**

Proposed under the International Waters focal area of the GEF, under Operational Program 9 (Integrated Land and Water Multiple Focal Area), this project represents a major effort directed to addressing many water-related problems specific to small island developing states (SIDS), focusing on the Caribbean region. Operational Programme 9 recognizes the unique water-related issues common to most SIDS, including coastal area management and biodiversity, sustainable management of regional fish stocks, tourism development, protection of water supplies, land and marine-based pollution sources and vulnerability to climate change. To this end, this project proposes that Integrated Watershed and Coastal Area Management (IWCAM) is essential for a sustainable future for these island states, including the undertaking of demonstration projects directed to illustrating this need, and the means of achieving it. It also indicates that benefits in other GEF focal areas also will result from the project, including biodiversity, land degradation and climate change. In addition, its goals are consistent with those of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA).

### **Review Criteria**

***Scientific and technical soundness of the project.*** The proposed approach includes several complementary elements, including (1) regional management, coordination and evaluation of IWCAM objectives, (2) demonstration projects directed to technological and management approaches and policy and legislative reforms within selected SIDS, (3) identification of appropriate impact indicators

for measuring IWCAM efficacy, (4) policy, legislative and institutional reform, and (5) regional and national capacity building for IWCAM. Overall, the project appears to be conceptually, scientifically and technically sound in regard to its individual components. As noted in the proposal, the Caribbean SIDS have a long history of extensive, though poorly coordinated, donor support of environmental programmes. Thus, the need for coordination in regard to IWCAM activities is clear. It also is consistent with the goals of integrated water resource management as highlighted in Agenda 21 for both freshwater (Chapter 18) and marine systems (Chapter 17).

One item in the proposal that could use some elaboration is how the integrated, comprehensive approach being promulgated for managing SIDS watersheds and marine areas is tied to the demonstration projects that focus on treating “hotspots.” The latter typically suffer from only one or a few major environmental problems, which are the rationale for their being designated as hotspots in the first place. Although the demonstration projects will produce very useful results in regards to specific SIDS problems, **1. it is not entirely clear how addressing the individual problems associated with the hotspots (e.g., wastewater treatment) in the demonstration projects will necessarily illustrate how an “integrated” approach within the context of IWCAM can be used to address them. Thus, discussion of a closer linkage between the individual demonstration projects and the overall IWCAM goals would be useful. 2. Further, although the proposal also proposes establishment of IWCAM institutions (also a desirable goal), it is not completely clear how they will cooperate.**

## RESPONSE

**1.** The objectives of the Demonstration Projects in respect to the overall regional IWCAM project, as elucidated in the project document are to target selected national and regional hotspots of watershed and coastal impacts and threats, as well as sensitive areas which are particularly vulnerable to similar impacts and threats; to address OP9 eligible issues ‘on-the-ground’ through GEF funding supported by significant co-funding; to deliver real and concrete improvements and mitigation to IWCAM constraints and impacts; to identify and mobilise reforms to policy, legislation and institutional realignment consistent with IWCAM objectives; to provide transferable lessons and best practices which can serve to replicate successes elsewhere both nationally and regionally.

Integrated Watershed and Coastal Area Management recognises the need to address specific issues which are barriers to effective watershed and coastal area management, and to integrate the overall management approach as a mechanism to removing such barriers. All of the Demonstration Projects aim to demonstrate a thematic aspect of IWCAM by targeting geographical area where IWCAM is clearly failing, as is highlighted through the Hotspots Analysis. The demonstrations should not be seen in isolation from an overall IWCAM approach and, indeed, all of them capture this requirement within their text and their activities. The replication of the successful lessons from each demonstration will serve to develop a regional model for IWCAM which can be replicated at the national level.

Taking some Demonstration Project examples at random:

**Rehabilitation and Management of the Basseterre Valley as a Protection Measure for the Underlying Aquifer** aims to demonstrate the importance of an integrated approach to aquifer management which gathers together stakeholder support from the private sector, the water resource management sector, the tourism industry and the NGO community in order to find innovative ways of

valuing and protecting important water resources in the context of overall management and protection of the watershed and related coastal areas.

**Protecting and Valuing Watershed Services and Developing Management Incentives in the Fond D'or Watershed Area of St. Lucia** will demonstrate the concept of transferred benefits and stakeholder management whilst working and integrating with partners to develop the concept of using market-based mechanisms to improve the contribution of watershed services to livelihoods in the Caribbean. The intention is to show how integrated watershed and coastal area management can be developed within a major island watershed and then replicated nationally through adoption of a national IWCAM strategy.

**Land-Use Planning and Watershed Restoration as part of a Focused IWCAM Demonstration in the Courland Watershed and Buccoo Reef Area** is integrating the management of land degradation issues, soil erosion and coastal damage. IDB, a close project partner, is addressing the other major issue of wastewater contamination. There is a clear integrative effort here both physically down the watershed to the coastal fringes, and policy-wise and in respect to issues through close collaboration with a major partner to address these issues in parallel and to develop a single management approach to coastal and watershed concerns.

**Application of IWCAM Concepts at Cienfuegos Bay and its Watershed** will aim to demonstrate the many components required, and the need to resolve many issues within one large basin and coastal area in order to effectively capture IWCAM as a working principle. This project recognises and focuses on the need to evolve an effective Management Body to cover the many issues and concerns. Although all the projects will effectively aim to address this management body issues, this particular demonstration is operating under different political dynamics.

So, individually and as a package, the Demonstration project approach has a clear intent (supported by concrete actions) to deliver examples of effective and replicable IWCAM.

2. The project does not promote the idea of establishing any new IWCAM institutions as such although there is a clear intent to strengthen and/or build on existing institutions within the region (e.g. CEHI, GPA Clearing House, Cartagena Secretariat, other relevant regional bodies such as NGOs). However, there may be some justification on the basis of sustainability for IWCAM for the regional Steering Committee to take on the long-term role of a regional IWCAM body, Countries may also choose to institutionalise their National Intersectoral Committees for IWCAM and this, too, could be a very supportive step toward sustainable IWCAM. In both of the latter cases, the bodies in question would presumably simply have to 'role-over' into a suitable policy and legislative environment which would be prepared through Component 3. Their **operation** and **cooperation** would continue much as had been established in their earlier project support roles thereby alleviating any concerns in that respect.

Nevertheless, if successfully completed, the project represents a significant advancement in addressing the unique resource utilization and management problems associated with SIDS. If the ambitious goals outlined in the proposal, and the proposed outcomes, can be achieved, a considerable step in providing management guidance for the sustainable use of freshwater and marine waters of SIDS will have been achieved.

*Identification of global environmental benefits and/or drawbacks of the project, and consistency with the goals of the GEF.* The proposed project clearly identifies a number of globally-related goals associated with SIDS, particularly biodiversity. It also suggests that the information gained in the project also will have relevance in attempting to address the predicted problems associated with climate change. The proposal addresses a major cause of environmental degradation associated with SIDS; namely, the lack of an holistic approach to integrated freshwater – coastal area management. Fragmentation of authority and responsibility, as well as inadequate financial and intellectual resources, are identified in the proposal as being among the major root causes for the lack of integrated approaches to integrated management of the freshwater and marine resources of SIDS.

It is noted that, although the proposal identifies many problems associated with SIDS, including diminishing freshwater supplies, degraded water quality, unsustainable tourism, inappropriate land use, climate change and natural disasters, the reality is that these same problems also are associated with mainland coastal areas as well. The primary difference between the two is that the ultimate impacts of these problems are considerably more serious in the case of SIDS. This is due to their relatively small sizes, isolation, small natural resource base (including water), a high degree of endemism, and limited financial and human resources. This reality provides another compelling reason for undertaking the proposed activities, which will facilitate a more rational and environmentally-sustainable use of the resources of SIDS.

Given the underlying project goals of facilitating IWCAM within the Caribbean SIDS, and in providing demonstration projects illustrating the use of this approach, the project is consistent with the goals of the integrated land and water multiple focal area outlined in Operational Programme 9 of the GEF Operational Strategy. The results of the project also should be applicable to SIDS in other locations around the world.

To this end, it will be especially important to widely disseminate the project results and outputs. **3. The proposal implies this will be done, and additional information on how it will be undertaken would be useful in the proposal. The Caribbean Regional Seas Programme, the relevant UNDP national offices, and the GEF International Waters IW-LEARN network are identified in the proposal. However, other global, regional and national outlets might also be considered.**

**3. One of the project activities under Component 2 is the establishment of a Regional Project Information System which will capture inputs from all of the country Regional Project activities as well as the Demonstration Project activities. This will be linked to Component 1.3 where activities are identified to develop mechanisms for the transfer of lessons and best practices. Component 4.5 addresses Project Networking which aims to develop working project linkages and partnerships through national and regional institutions. Similar linkages to other IWCAM related projects, and the development of a Regional Partnership Forum. Although the specific outlets for such information dissemination have not as yet been identified, this would be a primary function and requirement of the overall integrated nature of the project, both at the national, regional and global level. Until the necessary IWCAM regional management structure has been established it would be difficult to propagate and develop any such linkages. Once the project is under implementation a high priority will be given to developing these critical linkages and relationships for information-sharing regionally through the stakeholder and partnership forums, and by active contact at the global level. Clearly, within the concepts of stakeholder participation which are an essential component of the overall fabric**



of the project, part of the success of this participation will rely on the effective sharing and dissemination of all project information to and between all parties

The above explanation has now been incorporated into the text of the Component 4 to add clarity. See also comments under 8. below

*Regional context of project.* The participation of 13 Caribbean SIDs, including their involvement in the demonstration projects and in dissemination of project results, suggests the regional context of the project is more than adequate.

*Project replicability.* A major contribution of the project would be its replicability for SIDs in other locations in the world. Virtually all SIDs share the same problems of environmental stresses, limited natural resources in the face of increasing resource demands, and limited financial and intellectual resources to varying degrees. Thus, the project results would likely be replicable in other regions. In particular, the demonstration projects directed to addressing the hotspots should be a major contribution of the project, and will contribute significantly to its potential for replication of beneficial IWCAM practices and techniques, both for the Caribbean region and elsewhere.

*Sustainability of the project.* The sustainability of this project appears to rest primarily within the context of project components four and five, which could be considered the “make or break” components of the project. Component four addresses policy, legislative and institutional reform for Caribbean SIDs. Successful implementation of this component will help address the institutional fragmentation and lack of a common regional vision that is hampering the implementation of regionwide IWCAM efforts. Component five will be equally, if not more, important to the sustainability of the project. It includes regional and national capacity building, including planning, coordination and knowledge-sharing among the various agencies and programmes involved in IWCAM-related activities in the Caribbean region. To this end, the project identifies national awareness workshops and multisectoral sensitization to IWCAM issues, coupled with a dynamic, long-term awareness campaign targeting all sectors and stakeholders. The involvement of the stakeholders will be particularly important in regard to project sustainability.

The ultimate sustainability of the project will rest in the will of the individual SIDs to improve and refine their policies and legislation, and to enhance coordination collectively throughout the Caribbean region. Although experience with integrated water resource management elsewhere in the world is varied, it is clear that sustaining interest in such activities over the long term will be a major challenge.

4. Accordingly, the project should ensure a significant post-project monitoring activity, with ample opportunity for feedback and modification. Although this output is identified in the proposal, the project management team should pay special attention to this difficult task, even beyond that already outlined in the proposal. Fortunately, the outputs of component three should assist in facilitating the regional and national capacity building called for in component four.

4. The support of the STAP Reviewer in this important issue is greatly appreciated. Post-project monitoring has been a past weakness of nearly all GEF projects. This is more a reflection of budget difficulties rather than intent. When projects close all budget accounts must also close and any remaining funds returned to GEF which allows no provision for funding post-project monitoring. In order to circumnavigate this problem, the project has identified this activity as being a function of ex-

GEF co-funding, and has made actual workplan provisions for its implementation. However, it is an agreed weakness that the actual co-funding has not as yet been secured and would need to be negotiated through the project lifetime (which does not represent a failure under GEF eligibility and criteria as there is no requirement to undertake post-project monitoring). The presence of a number of very effective and dedicated NGO partners (a long with the support of the governments) should help to make this intention a reality. However, the STAP Reviewer is correct to bring this to the attention of the future project Management Team.

In recognition of the STAP Reviewer very valid concern, the following text has now been added to the section on monitoring and Evaluation within the Brief.

‘Provisions have been made within the workplan and budget to undertake post-project evaluation (with a sum of co-funding identified for that purpose). Such post-project evaluation is not a standard requirement by GEF in view of difficulties of budgeting for activities beyond the project lifetime (The requirement to audit and close the project accounts at the end of the project life-time). In this instance, the need has been recognised and the level of funding identified, but the actual source of funding has yet to be confirmed. The PCU and project management team should recognise the need to capture this funding, through partnerships with NGOs, etc, and to confirm its availability before the final year of the project’.

***Targeted research projects.*** Component one of the proposal identifies a wide range of demonstration projects directed to addressing “hotspots” identified for the various Caribbean SIDs. The proposed demonstration projects will provide valuable information on how to address the specific issues associated with these hotspots. In view of the unique natural resource and socioeconomic problems of SIDs, and given that the demonstration projects are meant to demonstrate the efficacy of IWCAM applied to SIDS, there is no doubt the project outcomes will provide valuable information on how to address similar problems in SIDs elsewhere as well.

***Linkage to other GEF focal areas.*** The project is proposed as an International Waters project under the GEF International Waters focal area, under Operational Program 9. It also suggests that it will produce benefits in other GEF focal areas, notably biodiversity, land degradation and climate change. Noting the comprehensive, interrelated goals of the project, there is a clear linkage with other GEF focal areas, and the project appears more than adequate in regard to its proposed coverage of relevant topics.

***Linkages to other proposals.*** Integrated management of water resources for their sustainable use is a major focus of many projects within the GEF International Water portfolio. Further, the integration of freshwater and coastal area management concerns is a very important component highlighted in the proposal. There is no doubt of the need for this type of information and data for addressing this important issue regarding SIDs. The UNEP Regional Seas Programmes, for example, identify river basins as the source of approximately 80% of the pollutant load to coastal areas. UNEP, UNDP and the World Bank also have implemented many projects under the International Water Portfolio, identifying integrated freshwater resource management as a fundamental goal. Further, the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities previously highlighted the need to address the linkage between the degradation and pollution of coastal waters, and the root causes of these problems; namely, the input of pollutants and other stresses originating in the freshwater basins that drain to the coastal areas. The envisioned project, therefore, is

adequately linked to other GEF water-related goals. Even more important, whether considered for SIDs and/or mainland coastal areas, the whole notion of IWCAM is, as noted in the proposal, still very much in its infancy. Thus, there is no doubt that the anticipated outcomes of this project will provide useful information and guidance to developing and implementing the necessary activities for achieving this difficult goal. Its application to the particular problems of SIDs further strengthens its relevance.

*Other beneficial or damaging environmental effects.* The potential beneficial outcomes of the project were previously articulated. Further, the project has no known or obvious damaging environmental impacts associated with the activities proposed to be executed.

*Degree of involvement of stakeholders in the project.* As previously noted, stakeholder involvement is a fundamental requirement for the success of this project. Thus, effective dissemination of the results of the demonstration projects, the legislative and policy reforms, and the capacity-building efforts are fundamental project needs. **5. The project management team should make every effort to ensure this goal is achieved, even beyond those activities already outlined in the project.**

**5. The STAP Reviewer's concerns are recognized and have been address through 3. above and in the text of the Brief under Component 4.**

*Capacity building aspects of the project.* Component four is specifically aimed at region and national capacity building, with IWCAM sustainability being the ultimate goal. Given the intention to disseminate the project results via national and regional workshops, regional training networks, IW-LEARN, etc., it appears that efforts are being made to facilitate this capacity building. The political will on the part of the involved SIDs in regard to implementing the results of the project as they relate to their individual situation also will be an important aspect of this project, and warrants further discussion in the proposal.

*Project innovativeness.* Given the focus of SIDs and their water-related problems as the basis for the proposal, there is no doubt that the project is innovative in its intents and purposes. Identifying barriers and limitations to the implementation of IWCAM for SIDs is an example of this attribute, given that we have little information or experience on this complex issue, either in the Caribbean or elsewhere where significant groupings of SIDs exist. The project identifies the need to integrate the management needs of both types of aquatic systems within the context of the environmental and socioeconomic concerns of multiple SIDs. To this end, the issues to be addressed in this project, and their replicability to other SIDs, is an innovative approach to addressing a complex problem.

## **General Conclusion and Recommendation**

Overall, the proposed project, with the goal of “Integrating Watershed and Coastal Area Management (IWCAM) in the Small Island Developing States of the Caribbean,” appears to be consistent with the GEF International Waters operational program, its broader philosophy, and the general GEF funding criteria. Although there are areas in the proposal that might be further elaborated, the overall conclusion is that the need for the anticipated outcomes from this project is significant. As noted in the proposal, humanity’s experience in regard to the integrated management of watersheds and coastal areas of SIDs is elementary at best. It also is noted that the implementation of the demonstration projects, focusing on obtaining maximum information on the problems to be addressed, and the

widespread dissemination of the results throughout the Caribbean region and for similar SIDS, must be a primary project goal. Nevertheless, given the unusual physical and socioeconomic situations associated with SIDS, there is no doubt that valuable information and guidance will be generated within the project components. The Implementing Agencies, as well as other UN and international organizations and donors doing work related to SIDS, also will benefit from the anticipated outcomes of this project.

Accordingly, given the urgent need for the information, data and experiences being sought with this ambitious project, there is no doubt as to its ultimate value. Accordingly, this reviewer strongly recommends this project for GEF funding.

Walter Rast, Ph.D.  
Roster of STAP Experts