REGIONAL INCEPTION WORKSHOP REPORT

INTEGRATING MANAGEMENT OF WATERSHEDS AND COASTAL AREAS IN SMALL ISLAND DEVELOPING STATES OF THE CARIBBEAN

Kingston, *JAMAICA March 30 – 31, 2000*

CARIBBEAN ENVIRONMENTAL HEALTH INSTITUTE & UNITED NATIONS ENVIRONMENT PROGRAMME Caribbean Regional Coordinating Unit

June 2000

<u>Report of</u> <u>Regional Inception Workshop for the Project on</u> <u>Integrating Management of Watersheds and Coastal Areas</u> <u>In Caribbean Small Island Developing States, 30-31 March 2000, Jamaica</u>

Opening Ceremony:

The Opening Ceremony of the Workshop took place on Thursday 30 March at the Crowne Plaza Hotel in Kingston. Attached is a copy of the Agenda inclusive of the Opening Ceremony (Annex I). Words of welcome were delivered by Mr. Andrew Hudson, (Principal Technical Advisor, International Waters) of the UNDP-GEF, New York, and Mr. Tim Kasten Programme Officer of the UNEP CAR/RCU in Jamaica. Mr. Vincent Sweeney, Executive Director of CEHI, Ms. Sasha Gottleib of the OAS in Washington and Mr. Lemuel Brady, on behalf of the Ministry of Health of Jamaica, also addressed the Opening Ceremony. The Feature Address was delivered by Mrs. Jacqueline daCosta, Director General Ministry of Land and Environment, Office of the Prime Minister of Jamaica. Ms. Anya Thomas of the CARICOM Secretariat delivered the vote of thanks

Introduction to the Project

Mr. Vincent Sweeney, Executive Director of CEHI, gave a brief introduction to the Project and the context in which it was developed. He explained the collaboration between the UNEP CAR/RCU and CEHI as co-executing agencies, related to their respective roles under the Caribbean SIDS Programme of Action (SIDS/POA). Under (SIDS/POA), CEHI has been designated the lead agency for fresh water resources management in the region. The Regional Coordinating Unit of the United Nations Environment Programme (UNEP-CAR/RCU) has been designated the lead agency for biodiversity, in addition to its responsibilities for integrated coastal area management within the Action Plan for the Caribbean Environment Programme. He stated that given their respective mandates, the two agencies were well placed to execute this Project, especially given the long history of collaboration between CEHI and UNEP CAR/RCU. He mentioned also, the respective roles of the agencies namely, UNEP Nairobi, the GEF, the UNDP and the OAS in developing this phase of the Project.

Introduction to the GEF Integrated Water, Land and Multiple Focal Area Operational Programme

Mr. Andrew Hudson of the UNDP responsible for GEF matters briefed the meeting on the GEF Integrated Water, Land and Multiple Focal Area Operational Programme. He outlined the focus areas of the Programme and how the project under consideration fitted into it. He advised participants on the types of projects funded under this facility and shared information on the Website, which gave full text as well as brief descriptions of these projects.

Introduction to PDF Activities

Mr. Tim Kasten of the UNEP CAR/RCU outlined the process, activities and the requirements of the Project Development Phase (PDF). He advised that this phase would provide approximately US\$10,000 to each of the countries to undertake the preparation of National Reports. The National Reports would be used for the preparation of a Regional Synthesis document, which would inform the development of a GEF Project Brief. He drew the attention of the Workshop to the timeline for activities for this project phase (included in the Project Document). He advised that this phase of the project would take eighteen months (to be completed by October 2001).

<u>Role, Functions/Composition of National Executing Agencies, National Technical Coordinators and National Technical Committees</u>

Mr. Kasten explained to participants the role of the various national "agents" who would be involved in the national level process. Specific details on his explanation are given in Annex II (Brief on the Project).

Presentation of the Draft Format for National Reports

This presentation was done by Dr. Joth Singh, Technical Services Director of CEHI. A Draft Format was distributed to participants as a working document for their consideration.

The following is a listing of the main points of discussion which arose from the presentation.

- Reference was made to the **OECS Watershed Project** in which the process is similar. The question was raised as to whether the activities for this Project could be addressed without repeating that process in the OECS countries. The agreement was that if the key stakeholders were involved, then there should not be a problem if information is drawn from documents already prepared, especially if the national consultative process would provide the appropriate information to meet the objectives of this project. Mr. Keith Nichols, Representative of the OECS/NRMU gave an overview of the OECS Watershed Project. He noted the fit between this project and the OECS was that the outcome of the OECS process could be merged with the GEF process to achieve the common objective of integrated water resources and coastal management.
- In the case of **Jamaica**, which has already advanced in the planning process for management of watersheds, the challenge would be to not repeat the process for this particular Project. It was agreed that the information already generated by the stakeholders should be examined, extracted and used for the preparation of the National Reports. It was suggested that the national consultative process might not be necessary and that it might be possible to proceed to reviewing existing programmes and plans to determine what the GEF Project should address.
- It was suggested that the recommendations of the National Reports and the Regional Synthesis should outline the role of regional agencies for implementing actions that could be best achieved from a regional perspective, as against those at the national level. This is having regard to the fact that participating countries contribute financially to regional agencies and therefore how these agencies serve the needs of the countries (within the context of the Project) must be explored.
- A recommendation was made that national projects should focus on those that can be replicated in other islands, i.e. demonstration type projects "sell" better.

Other points of discussion on the preparation of the National Reports focused on:

- The need to ensure, as far as possible, the reliability/integrity of the information provided;
- The need to identify social and cultural issues related to the integrated management of watersheds and coastal areas;
- Consideration of the issue of importation of water vis-à-vis new freshwater resources;
- The need for any project ideas to consider the matter of cost since GEF funding must be matched by collateral funding. In this regard the representative of the UNDP GEF stressed that there were other related focus areas where funding is available. These must be considered as options and should guide the preparation of the project ideas.
- The unavailability of certain types of information in some countries. In such instances this should be stated as a problem, which may lead to project identification to address it as a need.

Working Groups for Reviewing/Revising the Draft Format for the National Reports

The participants were divided into two Working Groups.

One Group was asked to consider the section on Current Coastal Areas Issues.

The Second Group was asked to consider **Current Watershed Issues**.

Both Groups had to consider the section on Integrating Management of Watersheds and Coastal Areas.

Presentations by the two working groups on the Draft Outline of National Reports identified amendments. Those changes and/or additions agreed to are incorporated in the Final Format for the National Reports (Annex III).

One of the Working Groups made a presentation of a matrix or spreadsheet that would capture certain information related to the management of watersheds vis-à-vis the management of coastal areas. The matrix was accepted by the participants as a complementary tool for the preparation of the National Reports. However, it was agreed that the matrix should not replace the narrative, qualitative information required in the National Reports.

Letters of Agreement

The Representative of UNEP CAR/RCU outlined some of the key provisions of the Letters of Agreement (LOA), which participating countries are expected to sign:

- Each of the countries must develop a National Report based on the Final Format for the Reports
- Each country must decide how it will receive the funding for the project, which will be disbursed through UNEP
- UNEP's agreement will be with the Government. In kind contributions by the Government will be part of the Agreement.
- Information on the signatory for the LOA, the Bank Account number and the routing method must be sent to UNEP CAR/RCU for the attention of Mr. Tim Kasten

National Level Project Implementation:

The Representative of UNEP CAR/RCU advised the Workshop as follows:

- that the US \$10,000 provided to countries was for implementation of the national level process, including engaging consultant(s). This was separate and apart from the contracting of Regional Consultants who would be required to prepare the Regional Synthesis and Project Brief
- that the contracting of consultants must be done through CEHI
- that UNEP places no requirements on the National Executing Agency in its subcontracting under the LOA
- that the use of the US \$10,000 allocation is at the discretion of the country and could be used to conduct a national workshop with key stakeholders, for example.
- that funds will be disbursed in two (2) tranches- half up front and the other half following receipt of the deliverables
- that each country must account for the use of the funds
- CEHI/UNEP was responsible for technical support to the countries for the national level process, outside the US \$10,000 which the countries will receive.

Project Phases:

The Representative of UNEP CAR/RCU further outlined the next steps in this Project Phase:

National Reports- \rightarrow Regional Synthesis \rightarrow Project Brief \rightarrow 2nd Project Brief \rightarrow Final Regional Meeting \rightarrow Endorsement/review of Project Brief by UNEP/UNDP \rightarrow Submission of Final Project Brief to GEF \rightarrow Submission of Final Revised Program for consideration by the GEF Council (Oct/Nov. 2001) \rightarrow Implementation by Agencies(start of 2002)

The representative of UNDP indicated that a project of this nature could attract funding between US \$6 to US \$8 million dollars.

Next Steps:

1. Action: The OAS representative and the representative of Antigua and Barbuda were requested to undertake the refinement of the matrix which would be sent to CEHI for distribution (Annex IV).

2. Action: Definitions of the basic terms (coastal areas and watershed areas) will be provided for the preparation of the National Reports to ensure consistency in the use of terms (CEHI and UNEP CAR/RCU)

3. Action: The Letters of Agreement will be sent by UNEP CAR/RCU to the countries for signature

4. Action: CEHI will distribute the Final Format for the National Reports and the revised Matrix to the countries as soon as possible in order to facilitate work, pending the disbursement of project funds.

5. Action: CEHI will collaborate with the countries in the preparation of the TOR for the National Consultants.

The next workshop will likely be in October 2000 when the 1st Draft of the National Reports will be presented.

Closing:

The Executive Director of CEHI thanked the participants for their input and emphasized the commitment and role of CEHI to support the countries in the national level process. He also thanked the agencies which had worked together to bring the process to this particular stage, including the colleagues at CEHI.

Mr. Andy Hudson of the UNDP GEF spoke of the constructive input and positive dialogue that had taken place during the Workshop. He also underscored the fact that this Project was one which focuses on concrete actions. Furthermore, Mr. Hudson extended an open invitation to participants to contact him on issues concerning the project, for which they might need further clarification.

Finally, Dr. Joth Singh, Chairperson of the sessions, brought the Workshop to a close by thanking all those who were involved in making the event a success.

<u>Agenda</u>

<u>For</u> <u>The Regional Inception Workshop for the Project on</u> <u>"Integrating Management of Watersheds & Coastal Areas in Caribbean SIDS</u> <u>GEF PDF-Block B:</u>

<u>DAY 1</u>

08:30	Registration						
09:00	Formal Opening/Launch of Project						
	Chair: Dr. Joth Singh, Technical Services Director, CEHI						
	Welcome Remarks – Vincent Sweeney, Executive Director, CEHI						
	• Welcome Remarks – Coordinator, UNEP-CAR/RCU						
	• Brief Remarks – UNDP GEF						
	• Brief Remarks – OAS/USDE, Washington						
	• Feature Address – Government of Jamaica						
	• Vote of Thanks – CARICOM						
09:45	Coffee Break						
0,110	10:00 Introduction to GEF Integrated Water Land and Water Multiple Focal Area Operational Program UNDP/GEF						
10:10	Introduction to Project – CEHI						
10:30	Introduction to PDF Activities – UNEP-CAR/RCU						
11:00	Role/functions/composition of National Executing Agencies, National Technical						
	Coordinators and National Technical Committees – UNEP/CEHI						
11:30	Discussion of Outline of National Reports – CEHI						
12:30	Lunch						
14:00	Continue discussion of Outline of National Reports						
13:30	Coffee break						
13:45	Continue discussion of Outline of National Reports						
17:00	Close of Day 1						
DAY 2							
09:00	Discussion of Letters of Agreement –						
10:00	Discussion of Work Plan & Timetable for PDF-B Activities						
12:00	Lunch						
13:30	Continue discussion of Work Plan & Timetable for PDF-B Activities						
15:00	Next Steps						
15:45	Closure						

Briefing Note

Integrating management of watersheds and coastal areas in small island developing states of the Caribbean

Background

Under the Small Island Developing States, Programme of Action for the Caribbean (SIDS/POA), the Caribbean Environmental Health Institute (CEHI) has been designated the lead agency for fresh water resources management in the region. The Regional Coordinating Unit of the United Nations Environment Programme (UNEP-CAR/RCU) has been designated the lead agency for biodiversity under the SIDS/POA in addition to its responsibilities for integrated coastal area management within the Action Plan for the Caribbean Environment Programme . In pursuance of this mandate CEHI; the OAS; UNEP, Nairobi; UNEP-CAR/RCU; Jamaica and the UNDP collaborated in the preparation and submission for funding, of a project proposal to the Global Environment Facility (GEF) of the World Bank under the Project Development and Preparation Facility (PDF), Block B Grant. The objective of this proposal is to develop a fully costed project brief and establish an agreed institutional framework for execution of comprehensive project activities, which will be submitted for further funding. This project preparation activity under Block B, started in March 2000, will last 18 months and will be completed in August 2001

Funding

Funding for the proposal has been approved by the GEF to the value of US\$316,000. Co-funding (in cash and kind) is provided by UNEP, the UNDP, the OAS, CEHI and participating countries, bringing the total funding for this phase to US\$823,500.

Participating countries

The target countries are: Antigua and Barbuda, Bahamas, Barbados, Cuba, Commonwealth of Dominica, the Dominican Republic, Grenada, Haiti, Jamaica, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, and Trinidad and Tobago. Non-insular countries, namely Belize, Guyana and Suriname which have signed the SIDS Programme of Action may be involved in workshops and training activities as appropriate.

Objectives

There is a clearly identified need to integrate freshwater resources and coastal water management through multi-sectoral planning and management of island ecosystems. The objectives of the Project are to assist participating countries in improving watershed and coastal zone management practices in support of sustainable development. Some focus areas include: coastal area management and bio-diversity; tourism development; protection of water supplies; land-based sources of pollution; and climate change.

Focus Areas

The Project will address some major environmental problems of small island states. These include:

- coastal water quality
- The unacceptable levels of contamination of ground water and both coastal and freshwater from land-based activities;
- Solid and liquid waste disposal and pollution control;
- Over-extraction of groundwater and depletion of available water resources exacerbated by seasonal demands (tourism) and with consequent stress on the water supply and wastewater disposal systems;
- The adverse effects on the productivity and bio-diversity of coastal-ecosystems of dam construction, canalisation of water courses and the consequent problems of sedimentation;
- The adverse impact of tourism on water supplies and aquatic resources, including the generation of solid and liquid wastes, loss and degradation of the natural ecosystems and high water consumption; and
- Manpower limitations in terms of adequately trained experts or practitioners to address the problems.

National and Regional Implications

This project will have far-reaching implications for the region in that it will be one of the largest environmental projects in the Caribbean to date and will have an integrated approach to addressing the environmental problems affecting the region

While the project is regional, the consultative process at the national level which will take place during this phase, will ensure that a commonality of national priorities are included. It will include institutional capacity building at the national and regional levels, public awareness and sensitization, training, mechanisms for the sharing of information using the latest technology, technology transfer and general technical assistance to countries in integrating management of watershed and coastal zone environmental problems.

A holistic, integrated approach to the problems outlined above will see the project cutting across various sectors and will require a high-level of national coordination. This requires the designation of a National Executing Agency from each country and the appointment of a National Technical Coordinator from within the National Executing Agency. In this regard, the cooperation and support of Governments and their relevant Ministries will be the key to the success of this Project.

Of added significance is the inclusion of non English-speaking countries in the region and language apart, will see the sharing of expertise among non-traditional partners, especially at the

institutional level. The collaboration of CEHI partner institutions is important since a network of institutions will be a major underpinning of the Project.

National Executing Agency and National Technical Coordinator

The National Executing Agency (NEA) will establish a National Working Committee under the Chairmanship of the National Technical Coordinator (NTC), with representatives from relevant government agencies and ministries, industry, NGOs and other stake holders responsible for providing inputs to the National Reports.

The National Technical Coordinator will prepare in full consultation with the National Working Committee, a draft National Report according to the outline and contents developed and agreed to during the Regional Inception Workshop

Technical assistance will be provided to the NEA and NTC during the process. The Project provides funding support for the implementation of the national level activities. Target countries, having endorsed the Project, will be expected to provide in-kind support.

Endorsements:

Endorsements have been received by all participating.

DEFINITIONS OF COASTAL AREA AND WATERSHED

Defining watershed and coastal area: This note is meant to acknowledge the fact that there are many definitions for these two terms and in several instances direct contradictions exists. There is therefore no single accepted definition for each term (watershed or coastal area). However, for the sake of uniformity in their application to the national reports we are recommending that the following definitions be utilized. We also recognise that there is some overlap between the definitions provided but this is unavoidable within a small island systems setting.

Coastal Area: A geographic entity of land and water affected by the biological and physical processes of both the terrestrial and the marine environments, generally defined broadly for the purpose of natural resources management. Put more simply it is the area of land affected by its proximity to the sea and that part of the sea affected by its proximity to the land.

Watershed: The term watershed refers to the ecosystems contained within a contiguous watershed divide, from hinterland to coastline and drained by one major river system. A watershed is sometimes referred to as a catchment or drainage basin and constitutes an independent hydrological unit. Each watershed can also be divided into smaller units or subwatersheds based on the tributaries of the main river system.

ANNEX III

Outline for National Reports PDF-Block B Grant: "Integrating Management of Watersheds • & Coastal Areas in SIDS of the Caribbean

Executive Summary

Introduction

Section One. Current Watershed/Water Resources Management Issues

i. Freshwater Habitats and Ecosystems

- What watershed areas are included in the protective areas system in your country?
- What are the major threats to management of these areas?
- What are the significant freshwater ecosystems in your country?
- What are the major threats to management of these ecosystems?

ii. Supply and Demand

- What are the various & relative demands placed on watersheds/water resources?
- What are the tariffs and how are tariff structures derived? Is cost recovery taking place
- What are the competing uses of water and which uses are given priority
- Comment on the economic value of water at the national level
- What other sources of water are available
- What percentage of overall water used at the national level is derived from these sources
- Describe the relative importance of irrigation with respect to water use at the national level
- What measures are in place with respect to drainage linked to irrigation schemes
- What are the current distribution with respect to rain-fed agriculture and irrigated agriculture
- Identify and describe any plans to increase food production through irrigation or through rain-fed agriculture
- What have been the environmental impacts of irrigation (e.g. increased soil salinity)?
- Comment on water conservation and reuse attitude and applications

iii. Ground Water vis-a-vis Surface Water

- To what extent are groundwater and surface water exploited?
- What policies and measures are in place to allow for protection of these sources?

- What conservation policies and incentives are in place?
- To what extent is saltwater intrusion a concern?
- What measures are in place to prevent contamination of aquifers by salt water?
- What data exists on sea level rise and/or land subsidence

iv. Land Use

- Describe any existing land-use policy with special emphasis on water resources and water sources protection
- What conflicts exist in relation to land use within watersheds?
- How does land use impact on source protection
- Are there any existing GIS?
- To what extent do incidences of flood and/or drought impact on watershed management?
- What historic data exist on floods and droughts at the national level?
- What measures are in place with respect to disaster preparedness for floods and droughts?

v. Climate Change and Natural Disaster

- What impacts have sea level rise had on watersheds?
- What impacts have extreme weather occurrences had on watersheds?
- What measures are in place with respect to disaster preparedness and climate change?

vi. Transboundary threats

• What are the transboundary threats related to common watersheds?

vii. Pollution

- How is land-based pollution affecting watershed management?
- What are the main sources of land-based pollution of watersheds (e.g. urban and agricultural run-off; industrial commercial, port and solid waste)?
- What impacts have deforestation and sedimentation had on watersheds?

viii. Tourism

- What are the major tourism concerns related to watershed management?
- What significant impacts does tourism have on watershed management?

ix. Health

• What are the major health concerns related to watershed management?

• Comment on water borne, water-washed, and water-related diseases.

x. Data, Information Management and Research

- What monitoring programmes are in place for collecting data on water e.g. rainfall, river flows, water quality?
- What equipment are available within country?
- What external data collection support is utilized?
- What data and information exists related to watershed management?
- What systems are used for capturing, collating and processing water resources data, e.g. GIS.
- Comment on data/information reliability and quality control.
- What agencies are involved and what are their roles?
- What are the additional needs in order to improve watershed management?
- Identify research needs in relation to watershed management in your country
- Identify research conducted or on-going on water resources management in your country

xi. Stakeholder Participation/ Awareness and Education

- What public awareness activities have been conducted in relation to watershed management?
- To what extent do these activities impact on management of watersheds?
- Do studies or data exist on public awareness and education impact?
- What community type programmes exist for water resources management
- What is the involvement of the public in the decision-making process?
- To what extent has the recognition of gender importance in watershed management been addressed?

xii. Institutional Frameworks

- What are the characteristics of responsible Agencies in the Water/Watershed Management Sector?
- What legislation guides the functioning of these agencies?
- How is policy formulated?
- What policies exist?
- How do these policies (positively or negatively) impact on national development?
- Identify investments made in the sector and the sources of funds for these investments
- What financing and management strategies are in place for improving the effectiveness and efficiency of water sector performance
- What are the existing human resources in relation to water resources management
- What are the human resource needs in relation to watershed management?

Note: Identify /describe ongoing initiatives (both Governmental and Donor Agency funded) in all categories where possible.

Section Two. Current Coastal Area Management Issues

i. Coastal habitats and ecosystems

- What marine protected areas exist in your country and what are the major threats to management of these areas?
- What are the significant coastal habitats and ecosystems in your country and what are the major threats to management of these habitats/ecosystems?
- What are the significant coastal wetland areas in your country and what are the major threats to management of these areas?

ii. Living and Non-living Marine Resource Exploitation

- To what extent are living and non-living resources being exploited in coastal areas? What impact is this having on coastal areas?
- How significant is aquaculture in the coastal areas?
- Identify the impacts of aquaculture on coastal areas?

iii. Climate Change and Natural Disasters

- What impacts have sea level rise had on the coastal areas?
- What impacts have extreme weather occurrences had on coastal areas?
- What measures are in place with respect to disaster preparedness and climate change?
- What impacts do floods have on marine ecosystems?
- What development practices contribute to threats to life and property?

iv. Transboundary threats

• What are the transboundary threats related to common coastal areas?

v. Land-Based Pollution

- How is land-based pollution affecting coastal area management?
- What are the main sources of land-based pollution of the coastal area (e.g. urban and agricultural run-off; industrial commercial, port and solid waste)
- What impacts have deforestation and sedimentation had on the coastal areas?

vi. Tourism

• What are the major tourism concerns related to coastal area management?

• What significant impacts does tourism have on coastal area management?

vii. Health

- What are the major human health concerns related to coastal area management?
- What are the food safety concerns linked to coastal areas?

viii. Data, Information Management and Research

- What monitoring programmes are in place for collecting data on water e.g. rainfall, river flows, water quality?
- What equipment are available within country?
- What external data collection support is utilized?
- What data and information exists related to watershed management?
- What systems are used for capturing, collating and processing water resources data, e.g. GIS.
- Comment on data/information reliability and quality control.
- What agencies are involved and what are their roles?
- What are the additional needs in order to improve watershed management?
- Identify research needs in relation to watershed management in your country
- Identify research conducted or on-going on water resources management in your country.

ix. Stakeholder Participation/ Awareness and Education

- What public awareness activities have been conducted in relation to coastal area management?
- To what extent do these activities impact on management of coastal areas and watersheds?
- Do studies or data exist on public awareness and education impact?
- What community type programmes exist for water resources management
- What is the involvement of the public in the decision-making process?
- To what extent has the recognition of gender importance in watershed management been addressed?

x. Institutional Frameworks

- What are the characteristics (mandate, functions/roles, type e.g. NGO,CBO,Government) of responsible Agencies in the Water/Watershed Management Sector?
- What legislation guides the functioning of these agencies?
- How is Policy Formulated?
- What policies exist?
- How do these policies (positively or negatively) impact on national development?

Note: Identify/describe ongoing initiatives (both Governmental and Donor Agency funded) in all categories where possible.

Section Three. Integrating Watershed and Coastal Area Management

Describe the need to integrate watershed and coastal area management. In this regard, discuss the interactions of watersheds with coastal areas and their relationship to a particular sector. Also address issues related to integrated management across various sectors. Literature relevant to the interactions of watersheds with coastal areas and their relationship should be provided.

This section should be divided into three components:

- *i. Problem identification*
- ii. Intended Goals
- iii. Barriers

Each component should address the following issues:

- i) Legal and Policy
 - Development and /or enhancement
 - Enforcement, monitoring, and compliance
 - Harmonization
 - Multilateral environmental agreements
- ii) Institutional (Government, non-governmental, and private sector)
 - Institutional framework (development and/or enhancement)
 - Capacity building
 - Stakeholder participation and awareness
 - Research and development
 - Information and Decision Support Systems
 - Social and cultural issues
- iii) Financial
 - Investments/Funding (national and international funding institutions)
 - Economic Instruments

Section 4. National Action Programme to Improve Integrated Management of Watersheds and Coastal Areas

Elaborate on each of the following aspects of a National Action Programme. These are designed to eliminate and overcome the barriers identified in Section Three.

- iv) Legal and Policy
 - Development and/or enhancement
 - Enforcement, monitoring, and compliance
 - Harmonization
 - Multilateral environmental agreements
- v) Institutional (Government, non-governmental, and private sector)
 - Institutional Framework (development and/or enhancement)
 - Capacity building
 - Stakeholder participation and awareness
 - Research and development
 - Information and Decision Support Systems
 - Social and Cultural Issues
- vi) Financial
 - Investments/Funding (national and international funding institutions)
 - Economic Instruments

Section Five. Recommended inputs to Regional Action Programme

This section should identify actions which are more effectively executed at the regional level. This section may include, but is not limited to:

- Training
- Information Exchange
- Transboundary Issues
- Model Legislation
- Multilateral Environmental Agreements

Section Three: Integrating Watershed and Coastal Area Management Table 1 - Impacts in Coastal Areas of Watershed Activities

Rate the impacts on IMPACTS IN COASTAL AREAS	Hypertemp	Pollution	Depletion of Stocks and Ecosystem Change	Hyper	Nutrient		astal Reef osion Sedimentation		
ACTIVITIES IN WAT	TERSHEDS								
Agriculture									
Alien Species Invasion									
Channalization									
Dam Construction									
Deforestation									
Energy Generation									
Fisheries (Freshwater)									
Housing Development									
Industrial Activities									
Mining and Quarry		1							
Water Abstraction									
Water Recycling									

Caribbean Environmental Health Institute

and

United Nations Environment Programme

Integrating Management of Watersheds and Coastal Areas in Small Island Developing States of the Caribbean

Regional Inception Workshop, March 30-31, 2000

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