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Environmental Education – Part B

Caribbean Environmental Education and Training Project: Capacity-building for Environmental Education - Project Document -

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This document was prepared by the Inter-Agency Technical Committee on the basis of the mandates of the Eleventh Meeting of the Forum of Ministers of the Environment of Latin America and the Caribbean (Lima, Peru, March 1998). The work was carried out by the United Nations Environment Programme (UNEP) as the lead agency. The purpose of the document is to provide the Forum with support for discussing and approving courses of action in the sphere of the Regional Action Plan for the period 2000-2001.

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Background

Agenda 21, the action plan supporting global sustainable development, approved in 1992, during the United Nations Conference on Environment and Development, acknowledged the distinct characteristics of the islands and small island states, with regard to environmental problems, and the achievement of sustainable development.

Item G - Sustainable Development of Small Islands – of chapter 17 of Agenda 21⁽¹⁾, addresses specific problems faced by small island states in relation to environment and development. Fragility and vulnerability of ecosystems, scarce resources, geographic dispersion, and the isolation of markets, bring about a situation of economic disadvantage that hinders their development.

Even taking into consideration that ocean and coastal environments are a valuable resource for the development of small island states, problems and environmental demands of the coastal zones are focused on a limited land surface, thus making them especially vulnerable to environmental problems, such as global warming sea level rise, the increase of in frequency of hurricanes, storms, and cyclones, a consequence of climatic change, among others. On the other hand, their rich biological diversity and high levels of endemism, which due to the fragility, small size and isolation of island ecosystems, are among the most threatened, worldwide.

The disadvantageous position of the small island states in relation to other countries and geographic zones, is due to the scarcity of resources, the high dependence on international trade, the high density of populations that lead to the over-exploitation of resources, the maintenance of costly public administrations, and infrastructure, including communications and transportation, as well as the limited institutional capacities and domestic markets.

The Action Plan for the Sustainable Development of Small Island States⁽²⁾, developed in 1994 during the Global Conference on the Sustainable Development of Small Island Developing States, in Bridgetown, Barbados: drew up principles and strategies in this regard, starting with the detailed analysis of environmental and socio-economic problems of small island states, and the identification of several priority areas for action. The priority items identified in the Barbados Program of Action⁽³⁾ are the following:

A. Management of environmental problems

- Climate change and Sea level rise
- Natural and environmental disasters
- Management of Wastes

(1) Program 21: United Nations Action Program of Río, New York: Department of Public Information of the United Nations, 1998,326p.

(2) Program of Action for Small Island States. Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 26 April-6 May. New York: Department of Public Information, 1994, 51p.

(3) Program of Action for Small Island States. Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 26 April- 6 May, New York: Department of Public Information, 1994, 51p.

B. Resource management

- Coastal and marine resources
- Fresh water resources
- Land resources
- Energy resources
- Tourism resources
- Biodiversity resources

C. Creation of capacities for sustainable development

- National institutional and administrative capacity
- Regional institutions and technical cooperation
- Transport and communication
- Science and technology
- Human resources development

In the Barbados Programme of Action, environmental education and training is a cross-cutting issue acknowledging the important relationship between environmental education and training, including the creation of capacities for sustainable development in Small Island Developing States (SIDS).

The Barbados Programme of Action identifies the challenges and urgent needs faced by the small island states and outline several policies and actions that could be executed in the short, medium and long term, in 14 priority areas mentioned above. For that purpose, it points out that small island states should have the cooperation and support of the international community, and funding by the public and private sector of every country.

Therefore, there is a high priority for the strengthening of national education and training mechanisms that ease the flow of information on issues linked to sustainable development, and that extend public awareness regarding environment, and that promote joint action of several social groups in executing effective solutions. Likewise, it acknowledges that environmental education and training, particularly about issues related to small island states, are essential for the development of environmental awareness in these societies.

On the other hand, the on-going consolidation of the Forum of Ministers of the Environment of Latin America and the Caribbean, in order to agree positions of common interest regarding the main issues in the global environmental agenda, has become apparent in acknowledging the need to strengthen environmental management at the regional level from through the identification and implementation of specific actions. In this sense, the XI Ministers Meeting⁽⁴⁾ identified the following four priority issues:

- Institutional framework, policies and instruments for environmental management.
- Integrated watershed management.
- Biological diversity and protected areas.
- Climatic change.

(4) UNEP. Forum of Environment Ministers of Latin America and the Caribbean. Final Report of the XI Meeting. Mexico: UNEP-ROLAC, 1998. Decision 2. p.10

The first priority issue "Institutional framework, policies and instruments for environmental management", includes "among other issues, environmental education and training, citizen participation, promotion of the environmental dimensions in public policies"⁽⁵⁾. The four sub-items encompassed by these issues are:

- a) Environmental management
- b) Citizen participation
- c) Trade and environment
- d) Environmental education and training

Environmental Education and Training was included in this sub-item, as an acknowledgement that education and training processes form a basic instrument for environmental management, and there is a need to include environmental issues at every educational level, and within the different sectors of society. Taking as the starting point all these arguments, the Regional Environmental Action Plan for Latin America and the Caribbean has suggested several lines of action⁽⁶⁾.

1. Problem Statement and Context

Although there is a high level of environmental awareness throughout the Caribbean, it has not brought about a fundamental change in the way people relate to their physical environment, neither at the level of the individual nor at the level of institutions. This is not to say that there have been no positive changes in environmental knowledge, attitudes and management in the region over the past ten to fifteen years. The global mainstreaming of environmental issues has been mirrored in the Caribbean. The programmes of action of the 1992 UN Conference on Environment and Development and the 1994 UN Global Conference on the Sustainable Development of Small Island Developing States along with the programmes of bi-, multilateral and private aid agencies have contributed to growing environmentalism in the region.

Over this period, for example, the popular understanding of environmental issues has broadened beyond the preservation and conservation of flora and fauna or a concern for pollution to include such things as resource use and allocation. At the same time, the environmental NGO sector has grown, several of the conventional conservation organisations have expanded their mandates to include resource use and development issues, and many development agencies have incorporated environmental concerns in their agendas. Most Caribbean governments have begun to revise their environmental management policies and have created ministerial environmental portfolios. Regional agencies have developed environmental programmes and have become increasingly active in the field of environmental policy.

These trends notwithstanding, the actions of individuals and institutions continue to belie current pro-environment rhetoric in the region and are at variance with the level of environmental awareness. This is particularly true in instances where environmental concerns are pitted against narrowly defined economic and development imperatives. In the countries of the Caribbean, as in other small island nations, there is a high level of direct economic dependence on the environment; consequently the sustainable and equitable use of natural resources is one of the critical issues of national development across the region.

(5) Ibid. Decision 2.p.10.

(6) Ibid. Exhibit I - Appendix 1. p. 25.

Among the requirements for sustainable development is the need to have a population that is aware of the relationship between natural resource management and the quality of human life; is cognisant of the problems, threats to, and needs of the environment; is motivated to address them; and has the attitudes, skills and commitment to deal with them over the long term. Environmental education and training (EET) strategies that are long-term and multi-faceted are critical for building such knowledge and attitudes among individuals and institutions. To be effectual, these strategies must "deal with the dynamics of both the physical/biological and socio-economic environment and human development, should be integrated in all disciplines, should employ formal and non-formal methods and effective means of communication" (United Nations 1992:264).

Overview of environmental education and training in the Caribbean

Despite a long practice of formal and non formal environmental education (EE) in the region, the overall effectiveness of initiatives in the English-speaking Caribbean has been limited. There are several reasons for this. Although there has been some integration of environmental issues in the formal education system, it is inadequate because it has not been systematically applied across disciplines and largely continues to be integrated only into natural science curricula. Based on the Caribbean region's need for a citizenry that understands and supports the principles of sustainable development, it is not particularly expedient to promote EE in the formal education system as a discrete discipline. A more effective strategy for achieving increased knowledge of critical environment and development issues is to incorporate them across the formal educational curricula (Ortiz personal communication; Ragster personal communication).

There is, however, a lack of appropriate teaching and support materials on the environment for social sciences, arts and humanities, and business at all educational levels, which makes it difficult for teachers to integrate EE in their disciplines. Additionally, teachers often have insufficient background and training in techniques for incorporating EE in their work, and a limited understanding of the issues, which sometimes results in pedagogy based on speculation rather than experience or scientific fact. There is also a need for information and materials that present and demonstrate the linkages between environmental management and economic sustainability (Moore and Ortiz n.d.). In Antigua and Barbuda, for example, EE projects implemented in that country have rarely been broad enough or basic enough to address the needs of all educators. Although projects have been funded to raise awareness on the plight of coral reefs or of a particular endangered animal or on solid waste management, there is no interdisciplinary approach to teaching environmental issues at the primary school level, and the disjointed environmental topics that are currently taught in the primary school curriculum relate strongly to physical attributes of the environment and hardly at all to the human relationship to the environment (Cooper personal communication).

A survey of needs and the quality of environmental education in the wider Caribbean confirmed that the Caribbean Examinations Council (CXC) curricula "provide the main means whereby environmental education is being incorporated into the formal education system" in the English-speaking Caribbean (Moore and Ortiz n.d.:19). Recommendations of this study included teacher training at regional universities and in-service national courses in curriculum development in environmental education across disciplines and the production of sample subject modules of curriculum teaching materials.

The Caribbean Conservation Association (CCA), in association with the Field Studies Council (FSC) in the U.K., has begun to address the need for cross-curriculum materials development. It is currently implementing the Darwin Initiative Coral Reef Education Project at the primary school level in the Caribbean and with upper secondary students in the U.K. Through this project, resource packs on coral reefs and biodiversity are being developed in

partnership with teachers and NGOs in Antigua, Barbados, the British Virgin Islands, Jamaica and St. Lucia, and teachers are being trained to use the materials. The CCA has begun preliminary discussions with the CXC about the production of supplementary EE materials for its secondary school syllabi. The CCA and FSC have begun to identify funding for a regional discussion on theme, contents and implementation of an EET project in the Caribbean. It is possible that the outcome of this regional consultation could feed into or complement the activities being developed as part of this project.

In another regional initiative, the National Environmental Education Committee (NEEC) and the Natural Resources Conservation Authority (NRCA) in Jamaica, together with Canadian International Development Agency (CIDA), the IUCN Commission on Education and Communication and Learning for a Sustainable Future have begun to develop a Caribbean framework for EE. This activity is still in the early planning stages and the project proponents are attempting to build regional support for the initiative. A regional workshop is planned for June 2000 to share information on EE and develop a strategy to move the initiative forward.

Primary responsibility for non-formal EE has been assumed by non-governmental organisations (NGOs) in the English-speaking Caribbean. This is often done in the absence of a national framework for EE and on an *ad hoc* basis. The EE action plan for sustainable development in Jamaica developed by NEEC for the period 1998 - 2010 is an exception in the region rather than the norm. More typical is the St. Lucian scenario, where although there have been several attempts at using EE approaches, there is no established national framework or action plan. The result has been uncoordinated efforts with a few successes, such as the major EE and public relations initiative that helped to save the St. Lucian Parrot (*Amazona versicolor*), and many failures. Failures are due to the lack of follow-up by many agencies, the high degree of *ad hoc* planning, the tendency for some organisations to view EE as public relations exercises and overall the absence of a national EE policy (St. Lucia National Trust 1999:1). There is a growing need for non-formal environmental education to move beyond traditional awareness strategies and to focus on promoting action and advocacy.

Natural resource management in the Caribbean requires a high level of public support and participation in order to be effective (Renard 1992). Over the past two decades, several planning initiatives in the fields of development and natural resource management (protected areas, integrated rural development, coastal zone management, heritage tourism, fisheries and forestry) have relied increasingly on the use of participatory approaches, often leading to collaborative and decentralised forms of management. Some government agencies are progressively attempting to transform their structures and operations to assume new roles as facilitators of processes and supporters of partners within civil society, while community-based and non-governmental organisations have begun to assume a greater responsibility in planning and management. At the same time, the policies of Caribbean governments, as expressed in institutional arrangements, national legislation, sectoral programmes and international agreements, have provided a new framework for natural resource management which has become increasingly favourable to participation.

This new context has generated a growing demand for practical tools and approaches that resource managers, development workers, policy makers, planners and community animators can use when implementing participatory planning and collaborative management projects. Designing, facilitating and implementing such initiatives require specific skills and techniques that are generally not part of the formal education and training of resource managers in the region. In the absence of such instruments, many institutions find themselves unable to apply the principles to which they now adhere, and may obtain results that run contrary to their initial expectations.

The need for specific training for resource managers is complemented by a need for EE to build public support for civil society participation in resource management and to develop an understanding among general audiences of the need for Caribbean people to support and play a role in environmental management.

There are a number of agencies that provide training for natural resource managers. Within the formal education system, the Centre for Environment and Development is developing a graduate programme for natural resource managers at the University of the West Indies. The Caribbean Natural Resources Institute is currently the principal provider of training in participatory methodologies for natural resource managers. The Natural Resources Management Unit of the Organisation of Eastern Caribbean States and the UNEP's Caribbean Environment Programme also provide training for resource managers at the regional level.

A critical but neglected vehicle for building public support for natural resource management and communicating information on the environment is the region's mass communications media. Whereas environmental concerns were once given a low priority by the media houses across the region, the situation is changing as a consequence of the acceptance of a broader definition of environmental issues and the appreciation of such issues as being linked to social and economic development (Rudder *et al.* 1995). In Barbados, for example, the Nation Newspaper and Voice of Barbados Radio will launch in January 2000 a year-long national environmental awareness campaign, Greening Barbados. This media-driven initiative seeks to inform and educate the public about key issues and to mobilise private sector support for national environmental projects. But despite growing media interest in reporting on environment and development issues and recognition by natural resource managers and environmental educators of the important role the mass media play in providing information to general audiences and shaping public opinion, the ability of the majority of Caribbean journalists to communicate environmental issues remains limited. A key to the success of Greening Barbados will be the extent to which it will be able to present cogent and accurate news and information. During the early 1990s agencies such as the CCA, the Caribbean Institute for Media and Communication (CARIMAC) and the Washington, D.C.-based Panos Institute, with support the UNEP Caribbean Environment Programme and the Natural Resources Management Unit of the Organisation of Eastern Caribbean States organised a series of activities aimed at promoting environmental journalism in the region. While this resulted in an increase in reporting on the environment and the establishment of a regional network of environmental journalists, this work waned by the middle of the decade and since then, there has not been enough sustained attention to building the capacity of media workers to communicate on the environment.

Annex I indicates in table format the regional organisations and agencies with the capacity to implement aspects of a broad EET programme, along with their target audience and particular area of competence. At the national level, in most countries of the region there is at least one national NGO involved in EE with the capacity to implement activities benefiting schools, community groups and the general public. Examples include the Environmental Awareness Group of Antigua and Barbuda, the Jamaica Conservation and Development Trust, the St. Lucia National Trust, and Projects Promotions Limited (St. Vincent and the Grenadines). Within governments of the region, involvement in and capacity for EE can reside within a range of ministries and departments. In St. Lucia, for example, the Ministry of the Environment and the Departments of Forestry and Fisheries all play an active role in EE. The Ministry of the Environment has undertaken the task of developing a national environmental education framework, which they expect to complete by March 2000.

2. Relationship to UNF Programme Framework and Project Criteria

This project relates to the UNF priority area of the environment. Its focus on environmental education and training relates specifically to the Foundation's prevention criteria. One of the premises on which it is based is that a more environmentally informed population will make and demand decisions about the allocation and use of the region's natural resources that are in keeping with the principles of sustainable human development. Additionally, the project recognises the need to maximise the multiplier effect as a key for successful education and training. The project therefore targets information multipliers and combines regional initiatives with national pilot projects with potential for replication and demonstration.

3. Project Purpose and Objectives

This project is being developed in support of the Programme of Action for Small Island Developing States (SIDS/POA) and its implementation in the Caribbean.

3.1 Purpose

The purpose is to change the way Caribbean people relate to their environment by increasing their understanding of the link between natural resource management and economic development and social well being.

3.2 Rationale

This project has been developed to address the following regional needs to:

- a) Build the capacity of teachers in all disciplines and at all levels to integrate environmental issues into their work.
- b) Make relevant and appropriate teaching materials available and accessible.
- c) Promote the development of national environmental education frameworks.
- d) Foster popular support for and participation in environmental management.
- e) Facilitate the transfer of skills for media workers to report effectively on the environment.

A regional approach to capacity-building and materials development for EE in the Caribbean is justified by the need to promote information sharing and exchange among the small island states of the region that are confronting similar threats and challenges to environmental management. Such an approach emphasises the regional nature of the problem and maximises human and financial resources.

3.3. Objectives

The specific objectives of this project are:

- a) to develop national activities on environmental education and training to consolidate the harmonic integration of the social and economic development protecting the environment in the Caribbean region;
- b) to strengthen the human resources and national capacities of the Small Island Developing States' institutions;

- c) to improve the pedagogy of environmental issues in the Caribbean through the training of teachers, the development of materials, and the incorporation of environmental issues into curricula at all levels;
- d) to strengthen civil society support for and participation in natural resource management through the training of natural resource managers and the provision of technical assistance and financial support to community-based resource management initiatives; and
- e) to foster regional co-operation to deal with the problems and issues that confront the Caribbean by sharing information on regional topics through the mass media and educational curricula.
- f) to establish strategies in order to facilitate exchange of national experiences related to environmental education and training among the PEID's of the Caribbean region.

4. Beneficiaries

The beneficiaries of this project are the governments and people of the Caribbean. This project is intended to have a multiplier effect and will therefore strategically target national and regional education and training institutions, governmental and non-governmental education and natural resource management agencies, and the mass media.

5. Indicators of Success

Short-term:

- Incorporation of environmental issues in curricula at the primary, secondary and tertiary levels
- Development of training and other pedagogical materials for formal and non-formal EE
- One hundred educators trained in EE techniques
- Sixteen resource managers trained in participatory methodologies
- Increased quantity and improved quality of environmental reporting in the Caribbean media
- Forty-five journalists trained in environmental reporting

Long term:

- More effective environmental policies and educational programmes
- Increased community participation in natural resource management
- Reduced degradation of natural resources

6. Process Followed in Project Identification/Formulation

The present project document for the development of a regional project on education and environmental capacity of the countries of the Caribbean region has taken into consideration the following objectives and contents:

- To elaborate a diagnosis and evaluation of the educational and capacity needs, directed to priority environmental problems of the subregion, including those of contamination, conservation and sustainable management of their natural resources.
- To take as reference the group of projects formulated by the Small Island Development States (SIDS), particularly those related to education and environmental capacity.
- To evaluate the existing institutional capacities, as well as the need and strategies for the development of education and environmental capacity activities, including those of the educational system, curricular design, educational strategies, interinstitutional cooperation, elaboration of educational materials and development of projects and pilot activities.
- To develop a programme with specific proposals of activities scheduled and budgeted, to be developed at different levels and through different aspects of the educational system: basic education, technical capacity, high-school education, professional capacity, non-formal education and capacity for the participative management of the natural resources.

Insofar as possible, activities were identified from among projects that had been prepared for the SIDS compendium of project proposals on the basis of their regional or national relevance to the needs identified in this document and the capacity of the institutions to carry out the proposed activities⁽⁷⁾. Additional project activities were developed to complement the SIDS projects and meet needs that were not addressed by any of the SIDS proposals. In almost all instances, these activities were already being planned or conceptualised by the implementing agencies. All activities are relevant to the programmes of the implementing agencies. The activities in this document were developed in consultation with the following:

- Caribbean Centre for Development Administration
- Caribbean Consortium of Universities for Natural Resource Management
- Caribbean Environmental Reporters Network
- Caribbean Institute of Media and Communication
- Environmental Awareness Group of Antigua and Barbuda
- Project Promotions Limited
- St. Lucia National Trust
- Dr. LaVerne Ragster, University of the Virgin Islands
- Caribbean Conservation Association
- National Environmental Education Committee (Jamaica)
- Regional Co-ordinating Unit of the UNEP Caribbean Environment Programme

A list of all contacts appears in **Annex II** to this document.

(7) At the time of submission, not all SIDS compendium project proposals had been reviewed, as they had not been made available to the consultant.

7. Project strategy and implementation arrangements

The project uses a multiplier effect in order to reach a wide cross-section of the population through the following means:

- a) Sensitisation and capacity-building of primary change agents (teachers, the media, NGOs and facilitators of resource management processes),
- b) Development of culturally appropriate EET materials that can be used in varying contexts, and
- c) Development and documentation of replicable national and local approaches.

The project combines capacity building with materials development and hands-on learning experiences for educators and communicators. It comprises a series of regional activities complemented by selected national pilot projects, which will be developed with a view to adaptation to other islands. Regional activities will be co-ordinated by organisations with a regional mandate and national activities by local organisations. A complete list of activities appears in **Annex III** and information about each of the implementing organisations appears in **Annex IV**. Overall project management will be the responsibility of the UNEP Regional Office for Latin America and the Caribbean. The project will be implemented over a five-year period from July 2000 - June 2005.

7.1. Components

7.1.1. Strengthening pedagogy on environmental issues

Strengthening pedagogy on environmental issues requires action in two main areas: training for educators in environmental issues and EE curriculum development and the production of appropriate indigenous teaching materials that introduce environmental issues to a range of disciplines in the curriculum. An important contribution of this project will be research undertaken by the Consortium of Caribbean Universities for Natural Resource Management (CCUNRM) on environmental attitudes and perceptions and how these affect the delivery of EE in the region. No such research has been undertaken in the region and the data and information gathered will inform not only the elaboration of project activities but the delivery of EE in the Caribbean in general.

This project will address the need to build the capacity of educators to teach EE through a series of regional curriculum development workshops for master teachers and the production of a module on EE for trainee teachers. These regional activities will be complemented by national pilot projects to train teachers and develop materials in Antigua and Grenada.

The project will address the need for materials development through the production of a module for use at the university level. The module will be developed for use in business and management courses throughout the region, with the objective of developing cadres of environmentally aware business-leaders and managers.

The project will also include the development of a course on environmental reporting for diploma and degree media studies students of the Caribbean Institute of Media and Communication of the University of the West Indies and the publication, in English and Spanish, of a manual on environmental reporting for use as a classroom text and field reference.

A national pilot project will build on and expand an in-schools forestry and tree management programme that has been successfully implemented in two secondary schools to three additional secondary schools in Antigua. This activity will combine practical training

in tree management for students with the revision and field testing of a teaching module for teachers. This pilot project has strong possibilities for replication elsewhere in the region.

A regional curriculum development activity with the CXC is needed but no project or lead regional organisation has been identified. As previously mentioned, however, the CCA has begun discussions with the CXC in this regard.

Target audiences: educators, university students

Secondary audiences: primary and secondary students

7.1.2. Building national environmental education programmes

The absence of national frameworks for EE in several countries of the region has resulted in *ad hoc* approaches to EE by multiple actors with minimal impact. Governments need to assume a leadership role in developing frameworks and policies for EE that support national sustainable development objectives. There is also a need for regional support to national initiatives to facilitate the sharing of information and experiences. No such projects currently exist at the regional level. The proposed NEEC/CIDA project may fill the niche, but no competent regional lead organisation has been identified.

As project activities are developed, it will be important to take into account the CCA and NEEC initiatives to establish a regional EET program and framework respectively. Project co-ordinators should maintain close contact and open communication with the proponents of the two initiatives to ensure maximum complementarity.

In response to the need for national frameworks for EET, the project will support a national pilot project to develop comprehensive framework for formal and non-formal EE in Trinidad and support a national initiative in St. Lucia that is expected to feed into the national EE framework that is being developed there.

Target audiences: relevant ministries, government departments and NGOs

Secondary audience: general public

7.1.3. Supporting informed public participation on environmental issues

Increased participation in natural resource management is justified by the frequent failure and inadequacy of conventional top-down approaches to environmental management and the growing awareness of the need for community and user group participation in resource management. Indeed, the case for such participation is multifaceted and compelling, with the rationale including such things as: efficiency and effectiveness of management; responsiveness to community needs; the integration of environmental concerns into a wider development context; the incorporation of popular knowledge and wisdom into formal management systems; and community empowerment. While there is a growing recognition of the importance of participation in resource management, and often a genuine desire to implement participatory management arrangements, including co-management, the concept of participation continues to be poorly understood by many resource management professionals. Furthermore, because participatory processes imply a different way of doing business, many professionals who may wish to stimulate participatory arrangements often do not have the skills and tools needed to foster and facilitate equitable community and user-group involvement in resource management.

The activities of this component of the project are designed to increase popular participation in and support for natural resource management by:

- a) Increasing the awareness of key environmental codes and treaties among the relevant civil society actors,
- b) Building the capacity of resource managers to facilitate participatory and collaborative natural resource management processes, and
- c) Mobilising community participation in natural resource management.

Proposed activities include the publication and dissemination of popular versions of three international conventions that have been ratified by countries of the region, for the purpose of promoting enforcement of national legislation, building widespread public awareness of and support for the conventions and their application locally. They also include a regional training workshop and technical assistance in participatory methodologies for government and NGO natural resource managers and capacity building at the community level in St. Vincent and the Grenadines to promote participation and leadership for natural resource management.

No proposed projects that deal exclusively with the business sector were identified during the elaboration of this project document. But given the prominence of tourism development in all countries of the region, it is recommended that an activity be developed in this regard. The Caribbean Association for Sustainable Tourism and the Caribbean Tourism Organisation are two possible partners for such an activity.

Target audiences: governmental and non-governmental natural resource and environmental management agencies throughout the region, and community groups in St. Vincent and the Grenadines.

Secondary audience: community groups and institutions regionally.

7.1.4. Building the capacity of the Caribbean media to report on the environment

Improving reporting on the environment in the Caribbean media is critical for increasing public knowledge of key environment and development issues in the region and support for natural resource management. This component of the project is designed to significantly improve the quality and quantity of environmental reporting in the Caribbean through the following:

- a) Training and material development on environmental reporting for students of journalism and media workers;
- b) Strengthening an existing regional network of environmental reporters; and
- c) Increasing the capacity of NGO personnel to use the mass media for environmental education and communication.

To date, there has been no extensive research and analysis of the quality and quantity of environmental reporting by the Caribbean media. At the start of the project, CARIMAC will therefore conduct a content analysis and a survey of media priorities in order to better understand the environment in which the project will be implemented and to tailor interventions accordingly. At the end of this five-year project, CARIMAC will review the effectiveness of this intervention against the baseline data gathered at the start of the project.

Activities will include a series of workshops on environmental reporting for media professionals, the development of a university-level course and a manual on environmental reporting (previously described in section 7.1.1 above), courses on media communication

techniques for NGO personnel and a series of activities to strengthen the Caribbean Environmental Reporters Network (CERN).

Target audience: media studies students, media workers, the Caribbean Environmental Reporters Network

Secondary audience: general public

7.1.5 Sharing regional information on the environment

Although there is a substantial amount of information on environmental issues produced in the region, in many instances this information is under-utilised as it is not made accessible to all of the people who can use it. And it is often not in a format that is easily adapted for education and training purposes. At the same time, there is not enough sharing of information about those issues that are common to the region and its sub-regions. This component of the project therefore proposes to put in place mechanisms that will facilitate access to information and contribute to the sharing of information about common issues for the purposes of building an understanding of the regional nature of several of the problems that confront individual states and promoting solutions.

Specific activities developed to address these needs are the establishment of a regional EE web site and regional radio and television programming on environment and development issues. No clear implementing organisation for the web site project emerged during this consultation, but it is suggested that the UNEP-RCU could be approached to undertake this initiative.

Target audience: environmental educators, general public

8. Coordination, monitoring and evaluation

The implementation and development of this project will be monitored permanently by ROLAC and by the National Focal Points in the countries of the region. It will be evaluated periodically by the Interagency Technical Committee of the Regional Plan of Action for the Environment and by the Intersessional Meetings of the Forum of Ministers of the Environment. These evaluations will be presented to the XII Meeting of the Forum of Ministers.

For the effective coordination of the project, UNEP, and the Ministers of the Environment should take the following actions:

Designation of national coordination centers for environmental education and training

The National Focal Points (PFNs) of UNEP in every country, should appoint a national coordination and promotion center for environmental education and training, according to the specific needs of every country.

Creation at every country of the National Committee of Environmental Education

According to its specifications and characteristics, every country will create a committee, group or something similar, at national level, that will preferably be lead by a coordination center, in order to include actions related to awareness of the population; formal, and non-formal education; technical training, and professional training.

Registration of Coordination Centers

The Regional Office for Latin America and the Caribbean of the United Nations Environmental Program (ROLAC-UNEP), will develop a directory of coordination centers for

environmental education and training in the Caribbean sub-region, taking as a starting point, information collected by PFNs.

Regional consultation workshop on the project coordination and implementation with the National Coordination Centers, institutions, and main actors.

This workshop will allow to perfect the diagnostics of needs, and to identify the projects, to establish sub-regional coordination mechanisms, and to agree on joint funding strategies.

Sub-regional workshops on more relevant sub-regional specific issues

These workshops will be intended to exchange experiences on the activities developed by the project, in order to promote its multiplying effect, spread, and application in the different countries of the sub-region, as well as to plan joint activities.

Creation of a Committee that Evaluates the Project Progress

The project executing agencies will be assisted by a Committee created to assess the project progress, according to that approved by such Committee. It will be made up by implementing agencies, the Interagency Technical Committee of the Forum of Ministers of Latin America and the Caribbean and the National Focal Points of UNEP. They will be presented at the Interagencies Technical Committee meetings, and at the Intersession Committee of the Forum of Ministers. Based on these assessments, reports will be prepared, and submitted at the meetings of the Forum of Ministers of the Environment.

9. Project results

9.1. Outputs

- University level instructor modules and teaching aides/support material (regional);
- Primary and secondary school instructor modules and teaching aides/support material (national);
- Non-formal educational materials (regional and national);
- Resource manager training course (regional);
- Journalist and NGO environmental communication training course (regional);
- Teacher training courses (regional and national);
- Radio and television programmes (regional and national).

9.2. Associated outputs

- Coordination centres and environmental education and training national committees.
- Creation of national environmental education and training networks in the Caribbean island countries.
- Registration of coordination centres and national institutions that promote and execute environmental education and training in the Caribbean island countries.
- Updated national diagnostics on the environmental education and training status.
- Data bases on environmental education and training projects and activities.

9.3. Outcomes

This project is expected to result in the following:

- Improved delivery of EE as a result of increased capacity of educators and media workers to transfer knowledge about the environment;
- Integration of EE across disciplines in the formal education system;
- Increased reporting on the Caribbean environment and improved quality of media reports;
- Increased availability of culturally appropriate training and education materials;
- Increased awareness of critical national and regional environment and development issues among Caribbean people.

10. External Factors and Risks

This project is based on the assumptions that:

- a) Necessary funding for implementation will be available,
- b) Commitment of national governments will be secured, and
- c) Target audiences will be and willing to participate as expected.

There is little risk that the regional and national organisations identified to implement the activities of the project will not have the capacity to do so. Each organisation has demonstrated competence in the area they propose to work. To ensure the commitment of national governments and other regional institutions to this project, it will be important for the project development process to include mechanisms for consultation and consensus building. Similarly, the implementation of all project activities should be participatory and collaborative to ensure ownership and receptivity of target audiences.

11. Charitable Purposes Justification for UNF

This project contributes to the advancement of education in the Caribbean because, as stated in the project objectives in section 3.2 above, it aims to improve the pedagogy of environmental issues in the Caribbean. It also contributes to lessening the burdens of Government by strengthening civil society support for and participation in natural resource management. Furthermore, the project seeks to foster regional cooperation to deal with the problems and issues that confront the Caribbean.

12. Activities, Budget and Timetable

Activity	Agency	Project years					Cost US\$
		1	2	3	4	5	
1. Strengthening pedagogy on environmental issues							
Research project on environmental attitudes and teaching EE	CCUNRM	X					30,000
Technical assistance to curriculum development	CCUNRM		X	X	X	X	65,000
Module on teaching the environment	CCUNRM		X	X			15,000
Teacher training - Antigua pilot	EAG	X	X				20,000
Teacher training - Grenada pilot	Ministry of Education, Grenada						60,000
University module for business students	CCUNRM						15,000
Course on environmental reporting	CARIMAC				X	X	10,000
Manual on environmental reporting	CARIMAC	X	X	X	X	X	10,000
In schools forestry training project (National Pilot - Antigua)		X	X				18,000
Sub-total							243,000
2. Building national environmental education programmes							
National EE system for St. Lucia: Institutional development (75,000); Elaboration of EE Materials (60,000); Micro grants (40,000)	St. Lucia National Trust	X	X	X	X	X	175,000
Learning for sustainable living Trinidad and Tobago	Ministry of Information, Trinidad and Tobago	X	X	X	X	X	100,000
Sub-total							275,000
3. Supporting informed public participation on environmental issues							
Public awareness for implementation and enforcement of environmental codes	CARICAD	X	X				50,000
Training workshop for mid-level resource management professionals	CANARI	X					50,000
Technical assistance for participatory and collaborative resource management	CANARI	X	X				60,000
Community Management of Resources	Projects Promotion	X	X	X	X	X	100,000
Sub-total							270,000
4. Building the capacity of the Caribbean media to report on the Environment							

Activity	Agency	Project years					Cost
Environmental reporting production courses	CARIMAC		X	X	X		50,000
CERN annual meetings and seminars; Communication and networking among CERN members	CERN & CARIMAC	X	X	X	X	X	30,000
NGO environmental communication courses			X	X			30,000
Regional content analysis research		X				X	50,000
Sub-total							160,000
5. Sharing regional information on the environment							
EE web site	UNEP-CEP						17,000
Regional radio series	CERN		X	X	X	X	45,000
Television programming	CERN/CARIMAC/CBU		X	X	X	X	100,000
Sub- total							162,000
Project total							1,100,000

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United Nations. 1992. Earth Summit Agenda 21: The United Nations Programme of Action from Rio. United Nations, New York. 294 pp.

B. Personal Communication

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Annex I Regional Environmental Education Actors

Regional EET Actors	Focus	Target Audiences
Caribbean Action for Sustainable Tourism (CAST)	Environmental education for the hotel sector	Hoteliers and other tourism professionals
Caribbean Conservation Association (CCA)	Educational materials; advocacy and information on regional environmental issues	Caribbean governments, NGOs, and conservationists
Caribbean Consortium of Universities for Natural Resource Management	Development of university programmes in natural resource management	Universities, faculty, and students (graduate and undergraduate)
Caribbean Environment Programme (UNEP-CEP)	Information on coastal and marine conservation issues in the wider Caribbean	Governments, regional intergovernmental agencies, NGOs
Caribbean Environmental Information Center	Environmental information services	Professionals and the general public
Caribbean Environmental Reporters' Network (CERN)	Environmental reporting	Journalists
Caribbean Examinations Council (CXC)	Curriculum development	Secondary school students
Caribbean Institute for Media and Communication (CARIMAC)	Training for media practitioners	Journalists and other media workers
Caribbean Natural Resources Institute (CANARI)	Advocacy for participatory approaches to natural resource management	Governments, NGOs, community groups, regional organizations
Organisation of Eastern Caribbean States-Natural Resource Management Unit	Natural resource management training for professionals and technicians	Governments of the OECS sub-region
University of Puerto Rico, Sea Grant College Program	Education and information on the marine and coastal environment	Educators, natural resource managers, and conservationists in Puerto Rico and the Caribbean
University of the West Indies Centre for Environment and Development (UWICED)	Graduate training in natural resource management, information services	UWI faculty and staff, governments of the Commonwealth Caribbean, resource managers

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Annex III

List of activities and outputs

Activity	Outputs
<p>7.1.1 Strengthening Pedagogy on Environmental Issues</p> <ul style="list-style-type: none"> ▪ Support to curriculum development and pedagogy <p>Research project on the teaching of EE in the Caribbean</p> <p>Effective EE in the region requires more than locally developed materials that reflect Caribbean idiom, images and issues. More fundamental is the need for environmental educators to understand the perceptions that Caribbean people have of the environment and how they relate to it, so that Caribbean EE techniques and materials can be based on this information and not on models imported from other regions of the world. It is against this background that CCUNRM will undertake a regional research project to examine environmental perceptions and attitudes in the Caribbean and how they affect EE. The result of this research will be documented and distributed to all EE actors in the region.</p> <p>Technical assistance to curriculum development</p> <p>The CCUNRM will support EE curriculum development through a regional teacher training scheme whereby tutors from teacher training colleges will be taught how to teach environmental issues and develop EE modules for their curricula. The workshops will target key national trainers at the primary, secondary and tertiary levels. The CCUNRM will also support specific national curriculum development activities outlined in this project document.</p> <p>Module on EE for trainee teachers</p> <p>The CCUNRM will also prepare a module on teaching environmental issues for use in education courses at the region's universities and teacher training colleges.</p>	<p>Research paper prepared and disseminated</p> <p>10 teachers x 4 master teacher workshops trained</p> <p>Sample subject modules for primary and secondary curriculum prepared</p> <p>500 copies of modules on EE for teachers prepared and disseminated</p> <p>10 teacher trainers x 4 workshops trained</p>

Activity	Outputs
<p>Teacher training: national pilot project - Antigua</p> <p>The Environmental Awareness Group of Antigua and Barbuda will work with the faculty of the Antigua State College Teacher Training Department to develop an environmental education component within the curriculum that would introduce teachers to critical environment and development issues and better equip them to incorporate these issues in their respective areas. Preliminary consultations have confirmed support for the initiative, which will begin with a needs assessment. Based on the outcome of this process, the project will design and implement the first teacher training course during the September 2000 – June 2001 school year. The goal of the activity is to raise awareness of environmental issues among primary school children in Antigua and Barbuda. The objective is to develop a sustainable, national environmental education programme whereby:</p> <ul style="list-style-type: none"> ▪ support and collaboration is offered by the Antigua State College Teacher Training Department, the Ministry of Education, and experienced teachers; ▪ teacher trainees are given the tools needed to teach environmental issues, including theoretical information as well as experience-based learning curriculum development skills; and ▪ existing teachers are given the opportunity to learn more about what they can do to incorporate environmental education in their classrooms. <p>The activity will promote experiential and field-based learning to encourage teachers to open the doors of their classrooms and get students out of their chairs in order to seek knowledge of the world around them. Students will benefit from this active learning approach, which will direct them to be more critical thinkers, more involved with uses and impacts upon their natural surroundings, and inspired by teachers that have a broader curriculum base upon which to teach.</p> <p>The Teacher Training Department of Antigua State College currently serves approximately 20-25 trainees per year. It offers a two-year program to primary school teachers who have already completed two years of teaching in the field.</p>	<p>Course on environmental education taught to 20 - 25 trainee teachers.</p>
<p>Teacher training: national pilot project – Grenada</p> <p>Proposal not available</p>	

Activity	Outputs
<p>▪ Integrating environmental issues in university curricula</p> <p>Module on the environment for business majors</p> <p>The CCUNRM will prepare a module on the environment for use in undergraduate business courses to promote environmentally responsible business practices by developing an awareness among future business leaders of the region's environmental issues, how business and industry impact the natural resource base and the role they can play in environmental management. The materials will be field tested and teachers from at least six Caribbean universities will be trained in the use of these materials.</p> <p>Course on environmental reporting</p> <p>The Caribbean Institute for Media and Communication (CARIMAC) will develop a pilot elective course on environmental reporting to be offered to students in the CARIMAC degree and diploma programmes. The course will be taught by CARIMAC staff in collaboration with guest lecturers drawn from the pool of reporters trained during the summer school sessions described in section 8.1.4 below. CARIMAC will seek to continue to offer the course beyond the life of this project in order to influence several generations of media studies graduates.</p> <p>Manual on environmental reporting</p> <p>CARIMAC has prepared a manual on environmental reporting under contract to UNEP-RCU (Project code: 1-FP/CR/5101-90-80). The document, How to make your own news: a primer for environmentalists and journalists, is an appropriate text for students and reference tool for media workers. Funds have already been secured for the translation of the document into Spanish. As part of this project, CARIMAC will produce and print a Spanish version of the primer and distribute copies of both versions to media workers and students during the life of the project.</p>	<p>500 copies of module for business students prepared and disseminated (English and Spanish)</p> <p>Six faculty seminars held</p> <p>Environmental reporting elective course developed and tested</p> <p>Environmental reporting manual prepared and disseminated (Spanish). 500 copies</p>
<p>▪ Support to CXC syllabus: national pilot project - Antigua</p> <p>In-schools forestry training project</p> <p>This activity is designed to develop knowledge of forestry management issues and encourage learning about the propagation and maintenance of indigenous tree species among Antiguan secondary school students. The activity emphasises hands-on learning. Over a one-year period, students are taken through all stages of tree management, beginning with seed planting. The activity culminates with a community tree planting at the end of the school year. A pilot of this project was implemented by the Environmental Awareness Group (EAG) in 2 secondary schools; this initiative will facilitate the expansion of the forestry training project to 3 additional schools. The EAG will also revise and field-test, in consultation with Agricultural Science teachers, a module on forestry management, prepared in accordance with the CXC syllabus.</p>	<p>Updated teaching module prepared and disseminated</p> <p>Tree management programme established in 5 Antiguan secondary schools</p>

Activity	Outputs
<p>7.1.2 Building National Environmental Education Programmes</p> <ul style="list-style-type: none"> ▪ Towards Establishing a National System for Environmental Education in St. Lucia <p>Institutional strengthening for EE</p> <p>The SLNT is one of the main providers of environmental education in St. Lucia. To better play this role, it requires external professional expertise in EE and training for existing staff to strengthen their EE and resource management capacities. The EE consultant will play a critical role in facilitating the process described above to develop the national EE framework.</p> <p>As part of its work to strengthen its EE delivery capacity, the SLNT will develop EE Learning Centres at three of its sites on the island. Under this project, the SLNT will upgrade the Maria Islands Visitors Centre to an EE Learning Centre on coastal and marine issues and acquire equipment for it and another Centre – 2 each of the following: computers, video cameras, TV/VCRs, still cameras, slide projector systems, computer projector systems, overhead projectors and flip chart stands—and develop exhibits and interactive displays for all three sites.</p>	<p>Technical staff trained in EE and resource management</p> <p>Three national EE learning centres established</p>
<p>Materials development</p> <p>The SLNT in collaboration with select national and regional partners will develop EE materials in accordance with the priorities and needs established by the framework above. Products will likely include supplementary materials for primary and secondary school curricula, EE materials for adult literacy classes, community training videos and a community radio series. Particular emphasis will be paid to developing materials for the formal education system that introduce environmental issues across the curriculum and materials for non-formal EE that promote action and advocacy.</p>	<p>Primary and secondary school EE teaching kits developed and disseminated</p> <p>Adult education EE primer developed and disseminated</p> <p>10 training videos produced</p> <p>4-year sustainable development radio series prepared and broadcasted</p>
<p>Micro projects fund</p> <p>The SLNT will award a series of grants up to US\$5,000 for the implementation of community-based resource management initiatives that integrate the principles of sustainable development. An important aspect of this process will be the hands-on learning that goes on during project implementation. It is expected that some of these projects will generate employment for communities.</p>	<p>Support provided to local community management projects</p>

Activity	Outputs
<ul style="list-style-type: none"> ▪ Learning for Sustainable Living (Trinidad and Tobago) <p>Proposal not available</p> <p><i>The immediate objective of the project is to set up an inter-agency theme group to mobilise expertise and to assist the government in the elaboration of a National Learning Strategy and Master Plan; and provide continuous advice, expertise and support to the implementation of the plan.</i></p>	
<p>7.1.3 Supporting Informed Public Participation on Environmental Issues</p> <ul style="list-style-type: none"> ▪ Public Awareness Programme for Implementation and Enforcement of Environmental Conventions and Codes <p>The development culture in the Caribbean tends to rely heavily on legislation and other legal instruments for effecting change and capacity building. The primary purpose of this activity is to promote a clear understanding of international conventions in order to develop and enhance the institutional capacity and mechanisms for their implementation and enforcement in the context of national and regional sustainable development objectives. The project will concentrate on the following conventions: Convention on Biological Diversity, Convention on Climate Change, the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol), the Basel Convention on the Transboundary Movement of Hazardous Wastes (Basel Convention) and the Convention on International Trade in Endangered Species (CITES). Activities will target legal and judicial personnel, the private sector, and the general public in Barbados, Jamaica, Trinidad & Tobago. The Caribbean Centre for Development Administration (CARICAD) will produce and disseminate, through media campaigns and workshops, layman's versions of the five environmental conventions.</p>	<p>layman's versions of 5 conventions prepared and disseminated</p>
<ul style="list-style-type: none"> ▪ Technical Assistance and Professional Exchange on Co-management and Community Participation for Sustainable Development <p>Training workshop for mid-level resource management professionals</p> <p>In 2001, CANARI will design and facilitate a two-week training course aimed at developing the skills of government and NGO professionals to design and implement participatory management arrangements. This course is offered annually and the 2001 edition will specifically target mid-level resource managers. The goal of the course is to strengthen the capacity of governmental and non-governmental resource management agencies to design and implement participatory</p>	<p>16 mid-level resource managers trained in participatory methodologies</p>

Activity	Outputs
<p>Training workshop for mid-level resource management professionals (continued)</p> <p>and collaborative management projects and programmes. By the end of the course, participants will understand the processes and instruments that promote and support the development of participatory management regimes; will understand the roles of government agencies and NGOs in facilitating community participation and collaboration, and what is required of these agencies to play this role effectively; and will be able to design and implement participatory management projects. This regional course will be offered in 2 one-week modules.</p>	
<p>Technical assistance to CANARI trainees through consultations and professional exchanges</p> <p>This activity is aimed at providing on the ground support and follow-up to CANARI trainees as they apply the knowledge and skills gained during training to their work situations. Technical assistance will comprise the provision of advice on programme design and implementation and will be available in three forms, namely: assistance by CANARI staff; specialised consultancies; and study tours. All current and past participants in CANARI's training activities will be eligible for support under the programme. CANARI will earmark funds under its Small Grants Fund for Participatory Natural Resource Management to provide technical assistance to trainees' projects.</p> <p>CANARI staff will be available to provide advice and feedback on elements of project design and implementation. This will be done by telephone or mail, or in cases where it is deemed necessary and feasible, through an in-country site visit. Areas of staff expertise include: institutional development, coastal resource management, parks and protected area management and coral reef monitoring.</p> <p>In instances where the expertise required by the partner organisation is not embodied in the CANARI staff, the Institute will identify and contract individuals with the required knowledge and skills. Where the required assistance is best provided through an extended visit to a comparable project elsewhere in the region, the Institute will organise and facilitate study tours and short-term attachments. Such arrangements will allow for practical and hands-on learning, and, like consultancies, will help foster linkages between NGOs and community organisations throughout the region.</p>	<p>participatory resource management initiatives supported among trainees</p>
<p>Technical assistance to CANARI trainees through consultations and professional exchanges (continued)</p> <p>CANARI will work in conjunction with other regional and national organisations, as well as qualified individuals, to implement this project. Collaborating organisations will be identified based on the needs of those groups and institutions seeking assistance.</p>	

Activity	Outputs
<p>▪ Community Management of Natural Resources</p> <p>The Government of St. Vincent and the Grenadines has recognised that it cannot address the myriad environment and development problems that confront the island without the participation of civil society. The National Environmental Action Plan for St. Vincent and the Grenadines has specifically delegated the following responsibilities to NGOs:</p> <ul style="list-style-type: none"> ▪ environmental education; ▪ mobilizing communities for co-management at the local level; ▪ mobilizing funds and resources to carry out environmental management programs. <p>There is interest in environmental management at the community level and some community groups have become actively involved in related activities. However, participation by communities is constrained by:</p> <ul style="list-style-type: none"> ▪ limited knowledge and understanding of environmental issues and in particular the inter-relations between environment and sustainable development. (Environmental management is perceived largely in terms of garbage and solid waste management, for example.); ▪ limited NGO and CBO capacity to mobilise communities for environmental action; and ▪ limited funds and other resources to carry out effective sustainable development programmes. <p>It is against this background that Projects Promotions Limited has designed a project to increase NGO and CBO capacity for co-management of natural resources, and to facilitate the development of activities at the community level to address environmental issues.</p> <p>The project is designed to: increase public awareness at the NGO and community level of the relationship between environment and development issues; mobilise communities to manage natural resources; assist communities in more efficient use of community resources through the development of integrated and participatory</p>	<p>Leadership training modules developed and 40 community leaders trained in environmental planning and management</p> <p>Five pilot projects to protect fragile resources and demonstrate sustainable resource use implemented</p> <p>Three research documents prepared and disseminated</p>

Activity	Outputs
<p>Community Management of Natural Resources (continued)</p> <p>systems of natural resource management; and protect bio-diversity and the fragile and limited resources of communities to ensure the sustainable livelihood of communities. The project will provide community leadership training in resource management to enhance community management capacity and facilitate a series of pilot projects in specific communities which will provide valuable lessons and experience which can be replicated in other communities.</p> <p>The following activities will be undertaken over a three and a half year period:</p> <p>A. Public awareness programmes on the inter-relationship between environment and development targeted at major resources users, including fishers, farmers, villagers, and tourism personnel, such as divers and tour guides.</p> <p>B. Community leadership training.</p> <p>C. Institutional strengthening of local communities: assistance with organisational structure etc., technical capacity building.</p> <p>D. Pilot projects in 5 different geographic areas aimed at developing co-management and integrated management approaches to resolve problems in the following areas:</p> <ol style="list-style-type: none"> 1. Watershed management, 2. Shoreline/coastal resources management, 3. Forests and wildlife management, 4. Sustainable agriculture, 5. Fragile area management - ecotourism development, 6. Urban management problems, 7. Human settlements upgrading. <p>E. Technical research in three major areas which will assist in environmental policy and environmental planning and management.</p> <p>F. Enhancing community capacity to participate in environmental impact assessment for projects at the national and community level.</p> <ul style="list-style-type: none"> - Training of resources users, - Training of architects, draughtsmen, planners etc. of use and value of E.I.A., - Interpreting E.I.A's for communities. <p>G. Programmes in 'reducing vulnerability' and 'environment as hazard' with emphasis on hazard mitigation - adaptation to sea level rise and impact of climate change on small island states.</p>	

Activity	Outputs
<p>7.1.4 Building the Capacity of the Caribbean Media to Report on the Environment</p> <ul style="list-style-type: none"> ▪ Environmental reporting training <p>Three regional two-week production courses on environmental reporting for radio, print and television journalists</p> <p>These courses are aimed at building media workers' understanding of key regional environment and development issues and improving their ability to report on them. Workshop participants will use actual cases from around the region to develop story ideas and angles for reporting. Participating journalists will have a demonstrated interest in reporting on the environment, and as a further condition of their participation in the workshop, they will be required to produce print or broadcast quality features for use by their media houses and the regional Caribbean News Agency (radio and print) and Caribbean Broadcasting Union. These courses will be offered as part of CARIMAC's summer school programme.</p> <ul style="list-style-type: none"> ▪ Regional networking among environmental journalists <p>Institutional Strengthening to the Caribbean Environmental Reporters Network (CERN)</p> <p>Formed in 1992, CERN is the only network of environmental journalists in the Caribbean. Its purpose is to foster the exchange of news and information on environment and development issues in the Caribbean to increase awareness of the issues and threats to the region's natural resources. Membership in CERN has waned since its inception. At one point, the group comprised 33 members; it currently comprises eleven members in Barbados, Dominica, Grenada, Jamaica, Trinidad and St. Lucia. Several of the original members no longer work in the media and a lack of opportunities for physical networking throughout the region and information exchange have limited recruiting. Many of the original members came to the network through training activities in the early 1990s. An additional challenge faced by the group is the fact that there currently exists no mechanism for servicing members. All officers are full-time journalists and this limits the time they have to devote to coordinating the network and servicing members.</p>	<p>45 Caribbean journalists trained in environmental reporting.</p> <p>Regional series of radio and television programmes for broadcast and print features for publication developed</p> <p>CERN membership increased by 200 percent</p> <p>Reporting on the environment increased</p> <p>Quality of environmental reports in regional media improved</p>

Activity	Outputs
<p>Institutional Strengthening to the Caribbean Environmental Reporters Network (CERN) (continued)</p> <p>Despite these limitations, CERN operates a list server which gives members access to environmental reports from Gemini News Service, Inter Press Service, Third World, Reuters and Caribbean News Agency (CANA). It has also developed a Web Page to promote information exchange among members.</p> <p>CARIMAC will work with CERN to expand its membership base, facilitate increased communication and networking among members, and improve the skills of members. Over the life of the project, CERN and CARIMAC will convene annual membership meetings, which will include a skills-building seminar. To encourage reporting on the environment, CERN members wishing to participate in these meetings will be required to produce at least six environmental features per annum for publication or broadcast in the public domain. Additionally, up to one-third of the places in the summer courses on environmental reporting will be reserved for CERN members. CERN has negotiated an agreement with CANA to operate Green Wire, a regional environmental print feature service and has produced regional radio programmes on the environment in collaboration with the CCA, CANARI and the Panos Institute.</p> <ul style="list-style-type: none"> ▪ Media communication for NGO personnel <p>Two regional training courses on communicating on the environment through the media.</p> <p>CARIMAC will bring NGO personnel together with media workers over a one-week period to develop their ability to use the media more effectively for environmental communication and education.</p> <p>Research on environmental reporting in the Caribbean</p> <p>CARIMAC will undertake two research activities as part of this project. At the beginning of the project it will conduct a comprehensive content analysis of environmental reporting in the Caribbean mass media. This will provide valuable data for the design of the training activities described above, as well as baseline data for project monitoring and evaluation. At the end of the project, a similar study will be done. These two research projects, along with ongoing monitoring of the project and the evaluation of discrete activities will provide CARIMAC with the information and data to evaluate the overall effectiveness of this intervention.</p>	<p>24 environment and development workers trained in techniques for effective media communication</p> <p>Regional research paper on content and quality of environmental reporting prepared and disseminated</p> <p>Project evaluation document prepared and disseminated</p>
<p>7.1.5 Sharing Regional Information on the Environment</p> <ul style="list-style-type: none"> ▪ Electronic access to environmental education resources <p>EE Web site</p> <p>This site will facilitate electronic access to education support materials on regional issues by educators and media communicators and will include bibliographies, information on sourcing documents, articles, papers, and electronic photo library for media use in particular.</p>	<p>Caribbean EE web site and electronic photo library established</p>

Activity	Outputs
<p>▪ Regional radio and television programmes</p> <p>Serial radio and television programming on the environment</p> <p>Electronic media remain an effective means for reaching broad segments of the Caribbean population. In collaboration with CARIMAC and environmental NGOs across the region, CERN will produce twenty-four 10-minute radio programmes on environment and development issues in the region over a four-year period. The programmes will be built around specific themes. They will provide an important outlet for radio journalists trained in the workshops described in section 7.1.4 above.</p> <p>The Caribbean Broadcasting Union produces a weekly regional television magazine programme called Caribscope, which is broadcast by TV stations throughout the region. The segments feature social, cultural and environmental issues of regional interest. Under this project the CBU will be commissioned to produce, in consultation with CERN and CARIMAC, a series of environment and development features for regional broadcast.</p>	<p>Twenty-four radio programmes x 4 years prepared and broadcast</p> <p>Fifteen 10 minute segments for regional television x 5 years prepared and broadcast</p>

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Annex IV

Implementing organisations

The ***Caribbean Centre for Development Administration (CARICAD)***, was established in 1980 by CARICOM member states as a regional inter-governmental organisation to assist Caribbean governments to upgrade their managerial capabilities for public policy analysis, implementation, monitoring and evaluation of public sector reform programmes. CARICAD's mission is to place particular emphasis on the incorporation of environmentally sensitive sustainable development programmes into all decision-making processes by fostering the involvement of the private sector, non-governmental organisations and the international community. Over the past four years, under the United Nations Development Programme (UNDP) Caribbean Capacity 21 Project, CARICAD has undertaken a range of institution building initiatives in Barbados, the British Virgin Islands, Dominica, Grenada and Jamaica. Activities under these initiatives have been designated to assist the participating countries with the formulation of national policies, plans and programmes that promote sustainable development.

The ***Caribbean Institute for Media and Communication (CARIMAC)*** is the only institution that offers formal training for media practitioners in the English-speaking Caribbean. A department of the University of the West Indies, it offers degree and diploma programmes in the sub-disciplines of media studies. The Institute's target audience comprises students of media studies and media practitioners. CARIMAC has offered training courses and convened seminars on environmental reporting for journalists and media managers as part of its summer and outreach programmes in 1993 and 1994. The Department has an active outreach programme for on-the-job training of journalists in the region. An example of this is its current collaboration with InfoService in Haiti to train journalists in that country.

Formed in 1992, ***Caribbean Environmental Reporters Network (CERN)*** is the only network of environmental journalists in the Caribbean. Its purpose is to foster the exchange of news and information on environment and development issues in the Caribbean for the purpose of increasing awareness of the issues and threats to the region's natural resources. CERN operates an environmental news service, *Green Wire*, in collaboration with the Caribbean News Agency and recently established a home page for information exchange among members. In the past, CERN has collaborated with NGOs such as the Caribbean Conservation Association, the Caribbean Natural Resources Institute and the Washington D.C.-based Panos Institute to produce radio programmes on the environment.

The ***Caribbean Natural Resources Institute (CANARI)*** is a non-governmental organisation that works to foster the development and adoption of policies and programmes that support increased participation and collaboration in natural resource management. The Institute serves the entire insular Caribbean from offices in St. Lucia and St. Croix, US Virgin Islands. Through an integrated programme of applied research, analysis and advocacy, CANARI seeks to understand and promote the technical, organisational and policy requirements for the increased participation of communities and user groups in natural resource management.

In addition to *research*, activities include:

information sharing through scientific and technical papers, policy papers, case studies, seminars, radio and video programmes;

Transfer of skills and methods through training activities, guideline publications and instructional videos; and

technical support through small grants, technical assistance and library services.

For more than fifteen years, CANARI has been transferring skills and techniques for participatory resource management developed through its work and the work of collaborating institutions to regional resource management and development professionals. The Institute uses the continuously growing body of knowledge gained from its work as the basis for seminars, workshops and short-term courses. To date, more than forty-five governmental and non-governmental agencies in the Caribbean have benefited from CANARI training activities on participatory and collaborative resource management.

The ***Consortium of Caribbean Universities for Natural Resource Management (CCUNRM)*** is a grouping of universities, research institutes and collaborating institutions under the sponsorship of the Association of Caribbean Universities and Research Institutes (UNICA). Formed in 1987, the goal of CCUNRM is to enhance the capacity of Caribbean universities to provide practical, high quality education in resource management relevant to the region's natural and institutional context, especially of the smaller islands.

Relevant projects undertaken by the Consortium include the following:

- Educational standards and curricula guidelines for Master's and Diploma degrees in resource management;
- Six course modules for the graduate programme in resource management with associated resource and support materials (case studies and exercises) in Spanish and English;
- Syllabus and resource materials for an in-service resource management course for Caribbean professional;
- Report on the status and accessibility of Caribbean documentation collections vital to resource
- Management training and education; and
- Workshop on the development of institutional approaches to resource management at the
- Undergraduate level (Dominican Republic, 1991).

Sixteen universities in the wider Spanish and English-speaking Caribbean comprise CCUNRM's membership.

The ***Environmental Awareness Group of Antigua and Barbuda (EAG)*** is a national, voluntary, non-profit, non-governmental organization. The EAG was established in 1989 out of a need for an environmental resource group that would educate as well as advocate on environmental matters in Antigua and Barbuda. The organization is run by an executive council and employs an Executive Director. The goals of the organization are to:

- Raise awareness of the importance of natural resource conservation;
- Support and undertake conservation and natural resource management projects in a participatory manner;
- Advocate the formulation and implementation of policies that promote sustainable development in Antigua and Barbuda; and
- Serve as a clearinghouse for environmental information to assist the Government, non-governmental bodies, and students to conserve the natural heritage of Antigua and Barbuda.

The EAG currently has five active programs, which include work with offshore islands, marine and coastal resources, nature-based tourism, community forestry, and

environmental education. The organization works in cooperation with many different agencies, both governmental and non-governmental, both national and international, from which most of the funding and human resource support for specific projects is garnered.

The EAG has the largest environmental library on Antigua, and is often visited by teachers and students of all ages, from primary school instructors looking for information on beetles to university students seeking technical assistance with thesis topics. Major environmental education projects include the following:

- National implementation of regional curriculum development project coordinated by the Caribbean Conservation Association and the UK Field Studies Council;
- Development of an in-schools forestry programme; and
- Tour operator training on national biodiversity issues.

Grenada Ministry of Education

Information not available

Projects Promotion Limited was established in 1981 to promote sustainable and human centred forms of development in St. Vincent and the Grenadines. This national nonprofit organisation works in collaboration with a range of partners in the areas of enterprise development, organisational development, community mobilisation, advocacy, research, and human resource development.

The ***St. Lucia National Trust (SLNT)*** is a non-governmental and non profit organisation established by The St. Lucia National Trust Act No. 16, 1975. The SLNT is a membership organisation and currently has more than 1000 members. The SLNT is the only organisation in St. Lucia with a mandate to conserve both the natural and cultural heritage of the island. It manages 12 natural and cultural sites on the island and is active in environmental education.

Trinidad and Tobago Ministry of Information, Communication and Training

Information not available

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