

ANTIGUA & BARBUDA

**ENVIRONMENTAL MANAGEMENT
STRATEGY AND ACTION PLAN**

-- 2004 to 2009 --



Canadian International
Development Agency

3rd August 2004

Government of
Antigua and Barbuda

ACKNOWLEDGEMENT

We gratefully acknowledge the cooperation of the various Ministries of Government, Statutory Agencies, NGOs and community members who participated in the consultations.

The preparation of the NEMS was funded by the Environmental Capacity Development Project (ENCAPD). The ENCAPD Project is funded by CIDA. The views expressed herein are those of the authors and do not necessarily reflect the views of the donor agency supporting the activity or of the OECS Secretariat.

TABLE OF CONTENTS

<i>ACKNOWLEDGEMENT</i> -----	2
<i>TABLE OF CONTENTS</i> -----	3
<i>GLOSSARY OF TERMS</i> -----	4
<i>LIST OF ACRONYMS</i> -----	6
<i>SECTION ONE:</i> -----	7
<i>Introduction</i> -----	7
<i>SECTION TWO:</i> -----	15
<i>National Environmental Management Strategy</i> -----	15
<i>SECTION THREE:</i> -----	28
<i>Institutional Arrangements For Environmental Management</i> -----	28
<i>SECTION FOUR:</i> -----	31
<i>Implementation Plan</i> -----	31

GLOSSARY OF TERMS

<i>Biological Diversity</i>	<i>The variability among living communities and wildlife (including terrestrial, marine and aquatic ecosystems) as well as the diversity within species, between species and of ecosystems.</i>
<i>Carrying Capacity</i>	<i>The capacity of natural resource systems to handle development initiatives without deterioration of the resources or the ecosystem</i>
<i>Civil Society</i>	<i>The range of community, non-governmental and other organisations not directly linked to government and not engaged in generating profits that accrue to individuals</i>
<i>Climate Change</i>	<i>Change to the global climate that occurs in whole or in substantial part as a function of human activities.</i>
<i>Global warming</i>	<i>Increasing average temperatures of the earth's atmosphere which has significant implications for sea level rise, rainfall patterns, and the incidence of extreme weather (including hurricanes) in the Caribbean</i>
<i>Green Accounting</i>	<i>Financial systems which include monetary value of natural resources and environmental assets</i>
<i>Hazardous Waste</i>	<i>A waste that is defined as "hazardous" under the "Basel Convention For The Transboundary Movement Of Hazardous Waste And Its Management".</i>
<i>Hazard Mitigation</i>	<i>Measures which reduce loss of life, property and social dislocation due to the occurrence of natural and man-made hazards</i>
<i>Integrated Coastal Area Management</i>	<i>Management of resources in the coastal area which takes account of all systems which relate to the coast including land-based (terrestrial) and marine processes and activities</i>
<i>Integrated Development Plan</i>	<i>A plan to guide sustainable development that reflects the perspectives of all stakeholders and which ensures that environmental management is treated as an integral component of the</i>

planning process in pursuit of sustainable development

Integrated Waste Management

Management of all components of liquid and solid waste in ways that maximise the economic value of those wastes as resources consistent with sound environmental management practices.

Island Systems Management

An integrated process of information gathering, planning, decision-making, allocation of resources, Actions and formulation and enforcement of regulations related to the linkages in small island states between ecological systems and between these systems and human activities and incorporating terrestrial, aquatic and atmospheric environments.

Multi-Lateral Environmental Agreement

An formal agreement between three or more States governing the management of aspects of natural resources or the environment in those States as referenced in the agreement. Caribbean States are signatory to several of these e.g. Cartagena Convention, Conventions on Climate Change & Biological Diversity

Polluter Pays Principle

The principle that those who cause pollution are responsible for the costs of managing the pollution they cause.

Renewable Energy

Energy that is derived from a source that is not depleted by the extraction of energy or the process used for extraction of the energy.

Strategic Environmental Assessment

A holistic approach to environmental assessment which injects environmental considerations into decision-making regarding policy, programmes, national and regional development plans

LIST OF ACRONYMS

DCA	Development Control Authority
CEHI	Caribbean Environmental Health Institute
CERN	Caribbean Environmental Reporters Network
CPACC	Caribbean Planning for Adaptation to Climate Change
EAG	Environmental Awareness Group
ECEMS	Eastern Caribbean Environmental Management Strategy
EIA	Environmental Impact Assessment
EPC	Environmental Policy Committee
FP	Focal Point
GATT	General Agreement On Tariffs And Trade
GHG	Green House Gases
ICAM	Integrated coastal Area Management
IDP	Integrated Development Plan
ISM	Island Systems Management
NAP	National Action Plan
NOFP	National Operational Focal Point
NRMU	Natural Resources Management Unit
NSDP	National Strategic Development Plan
MEA	Multi-Lateral Environmental Agreements
OECS	Organization Of Eastern Caribbean States
OFP	Operational Focal Point
PFP	political Focal Point
POA	Plan of Action
SEA	Strategic Environmental Assessment
SIDS	Small Island Developing State
UN	United Nations
WHO	World Health Organization
WTO	World Trade Organization

SECTION ONE:

Antigua and Barbuda's Vision for Environmental Sustainability

An Antigua and Barbuda will strive in which all citizens strive to build a nation that treasures the environment and voluntarily acts to ensure the protection, conservation and sustainable use of natural resources.

Introduction

Over the last decade, Antigua and Barbuda as well as other OECS Member States have undertaken a number of economic reforms to better prepared them for the existing and emerging global challenges. The change from agriculture to tourism, financial and other service industries has been a positive one for per capita income and wealth for these countries. In 1995, for instance, the per capita income for Antigua and Barbuda (\$7502), St.Kitts-Nevis (\$4720) and Saint Lucia (\$3954) were above the average for the entire Caribbean (\$2692). The maintenance of economic growth within the region is however subjected to the maintenance of preferential trading arrangements, tourism and official development assistance. This coupled with the vulnerability of the islands to natural disasters makes investing in the region risky to foreign and local investors. It has been left up to the national governments therefore to be the driving force behind economic growth.

Economic growth is based on the unique and limited natural resources that these countries have to form the basis of a sound economy. Countries are however faced with several challenges that are causing them use their natural resources inefficiently and unsustainably. Sustainable development issues present a challenge to all Governments of the OECS. Sustainable development typically attempts to address complex issues and problems with political, social, economic, environmental, inter-generational and international implications. After much analysis and discussions on these issues there is the consensus that sustainable development in Eastern Caribbean countries can only occur if there are extensive and fundamental changes in institutional arrangements, policy formulation and plan development¹.

In recognition of the importance of integrated planning, the Government of Antigua and Barbuda has taken several initiatives that will help it to meet its sustainability goals. At the international level the Government signed several international conventions and agreements. One such agreement, The St. George's Declaration, Governments of the OECS committed themselves to a sustainable approach to the development of their economies. The St. George's Declaration, which is based on the Small Island Developing States (SIDS) Plan of Action, sets out 21 principles for environmental sustainability within member states. All nine governments during the first quarter of 2001 formally endorsed the Declaration. Each government is now mandated to formulate a local environmental management strategy which will form the blue print for the country's implementation of the St. Georges declaration.

To this end the Government of Antigua and Barbuda has undertaken to develop a comprehensive environmental management strategy (EMS) based on the St. Georges Declaration. The EMS will

¹ Summarised from the *Caribbean Environment Outlook*, 1999. United Nations Environment Programme.

serve as the management strategy governing the implementation of environment initiatives at the government, private and community levels. It will also include the national approach to the implementation of the various international environmental agreements to which Antigua and Barbuda is party.

This Strategy summarizes the urgent actions needed for sustainable natural resource management in Antigua and Barbuda and will serve as a planning document that will guide the new and inter-sectoral actions required to place the country on the path of sustainable development. Furthermore, the Strategy summarizes the views of key stakeholders, including representatives of local communities, national, regional and international groups.

Background

Sustainability is not only limited to environmental issues, economic and social concerns are an integral part of this concept. This strategy therefore takes an integrated approach to sustainability.

Environmental Context

Antigua and Barbuda has limited mineral resources and no petroleum based reserves, the country is however blessed with a rich diversity of natural resources whose interactions form the basis for the country's culture and economy. Being the largest of all the Leeward Islands in the Lesser Antilles, Antigua, and the sister island of Barbuda, are home to a number of unique species and ecosystems that makes the country a haven for visitors while providing locals with sustainable livelihoods in the area of agriculture and fisheries. The country's biodiversity is unique due to geographic isolation and environmental difference, which typically exists on islands.

A wide range of coastal and marine habitats is represented within the country including coral reefs, seagrass beds, lagoons, beaches and mangrove forests. These habitats support many globally rare fauna such as marine turtles, and corals. Given the small size of the islands these marine and terrestrial habitats are generally located in close proximity thus intimately connected to each other.

The terrestrial environments can be described as relatively depauperate in terms of absolute numbers of species, but they provide a habitat to a significant variety of restricted-range species, particularly birds.

Threats to the environment are mainly due to human activities as well as natural disasters. The loss of habitat to housing and tourism development is one of the greatest threat to biodiversity while a legacy of historically poor agricultural practices and roaming livestock is the major cause of land degradation. As with many islands species imported into the country for economic and or pest control have also taken its toll and has been credited for the extinction of many of the endemic and bird and reptile species.

Over the past ten years extreme climatic conditions such as droughts and hurricanes have wreck havoc on the coast resulting in significant erosion and loss of built structures. It is anticipated that these threats will continue to be the most significant in the management of the locally and globally important environment. Pollution also presents a continuous threat to the marine and terrestrial environment mainly as a result of excessive nutrients or sewage discharge into coastal waters. Coral reefs are severely stressed not only due to poor water quality but also due to over fishing and exposure to hurricanes.

Socio-Economic Context

Antigua and Barbuda like many other Caribbean Countries has a historic agricultural economy dependent on sugar and rum. These activities left a legacy of deforestation leading to erosion, watershed damage and species extinction. Under colonial rule, the island was virtually cleared of forests by the 1760's. Over the past three decades the economy has changed from a dependency on agriculture to that of a service-based economy, mainly tourism, which, although less environmentally damaging, has its own challenges and issues.

Tourism has been the single most important factor in the recent development of the economy of Antigua and Barbuda and is now responsible for approximately 60% of the GDP. The growth of GDP over the period 1985 to 1998 has clearly followed the fortunes of the tourist industry. The damaging effect of hurricanes Luis and Georges was significant, both on tourism and the overall economy. During the period, the most important developments have been the construction of marinas and boating related facilities and the relative growth of cruise ship tourism. Other economic activities that contribute to the country's development include the financial sector, construction, fisheries and agriculture.

Ecosystem Services

Ecological systems and their services provide Antigua and Barbuda with the life-support systems necessary for an acceptable quality of life, which is, in turn, directly linked to, and dependent on a successful and sustainable economy. Island's, rely on the interactions of important ecosystems such as coastal habitats, forests, watersheds and their hydrology, etc. These interactions are the basis of all human activities such as tourism, agriculture, social development, etc. Given the small size and density of human settlement, as well as the generally fragile environment of Antigua and Barbuda, the ecological functions and physical processes related to the environment are particularly important.

Ecosystem processes and services important to Antigua and Barbuda include the creation and preservation of soils, the storage and distribution of water including the effect on water quality, and the regulation of coastal and atmospheric conditions. In addition, there are the direct and indirect uses of biodiversity as important genetic resources, food (wild fruits, agricultural production, fish, etc.), local medicine and extensive grass and scrublands are used to support animal breeding (meat production). There are other benefits including those of an educational, recreational and aesthetic nature.

The finite and limited availability of natural resources within an isolated geographical area, Antigua and Barbuda's ecosystem functions such as clean water resources, soil stability, soil fertility, coastal productivity, etc, have a finite capacity. Their degradation will lead amongst other things, to the deterioration in the quality of water for drinking and irrigation; a deterioration in coastal water quality leading to reduced productivity and a collapse in fisheries; topsoil losses and soil exhaustion with resultant lack of fertility; etc. In fact, the economic development of Antigua and Barbuda, which is based primarily upon tourism, is highly dependent upon the quality of the ecological functions and physical processes throughout the Islands.

Water resources are a particular concern in the semi-arid ecosystems of Antigua and Barbuda. This can lead to conflict between human demands and biodiversity management requirements. The islands need to develop a water management policy addressing careful planning and development; equitable distribution of this resource among the various sectors; and conscious efforts towards conservation and welfare of the resource. During average years the situation is reasonably secure but during frequent droughts surface water resources are exhausted, ground

water is over-exploited and saltwater intrusion has emerged from a dire prediction to a reality. In wetter years, reservoirs and dams overflow and considerable quantities of water are lost to the sea. Farmers particularly suffer as available water is prioritized for municipalities and domestic use.

In short, the lack of strategic planning for resource management and lack of understanding of the finite nature of natural resources is resulting in a degradation of ecosystem functions, which will lead to a decline in quality of life. Although these concerns hold true for all populations in any part of the globe, in the small island context there is little to act as a buffer to such changes and the results of ecosystem stress and decay can be seen and felt more quickly and more tangibly. Resources on small islands are few in nature by definition and the linkages within the ecosystems are fragile and easily broken. Consequently, there is an urgent need for Antigua and Barbuda to equate the balance of human extraction demands and the effects of human alterations to the environment against maintaining a viable ecosystem and a resultant sustainable quality of life.

Rational for a “new” Strategy

Antigua and Barbuda’s Environmental sustainability faces threats from land degradation, pollution from untreated sewage and agro-chemicals, over-harvesting and invasive species which are resulting in changes to natural habitats, biodiversity loss and reduced ecosystem services. These will continue to worsen, resulting in a negative impact on the national economy and the global environment. The problem is that Antigua and Barbuda’s current legislative, institutional arrangements and resources allocated has failed to protect ecosystem functions, has promoted the unsustainable use of natural resources and accelerated land degradation and biodiversity loss.

Environmental legislation

The existing legislative framework consists of some forty-pieces of legislation governing various aspects of the environment in Antigua and Barbuda, much of which are intended to address the country’s environmental problems and meet commitments to the MEAs. This fragmented approach has made environmental management almost impossible, and has not been effective in addressing environmental problems.

The piecemeal development of legislation governing the use and management of natural resources has undoubtedly hindered the management of those resources. Management responsibilities are not clearly allocated by law. There are also other regulations lacking which could help direct and manage the economic activities within the tourism, fisheries, agriculture and livestock sectors. Where laws do prescribe responsibilities for ensuring compliance along with defined penalties these are rarely enforced, mainly as a consequence of manpower constraints. Where they are enforced, penalties may be too lenient or courts may not be aware of the serious long-term implications of undue leniency.

National Plans and Strategies

Over the past five years the country has produced many sector policies and action plans that addresses various aspects of environmental concerns. The resulting situation is similar to that of legislation where there are many action plans and programs with no mechanism to ensure cohesion and or consistency. This situation coupled with weak or non-existent co-ordination mechanisms makes the approach to environmental management very difficult. Recognizing the functional inefficiency of developing comprehensive strategies for each sector, the Strategy will seek to remedy this situation.

Institutional Arrangements

Antigua and Barbuda has several agencies that have been allocated responsibilities for aspects of environmental issues. Since the situation for environmental legislation is that of fragmentation, the institutional arrangements for the management of environment and the implementation of the MEAs is naturally fragmented. A large number of institutions are involved in activities associated with environmental management. These institutions include government ministries, statutory bodies, NGO's and community groups. A list of these is provided in **Section Three**.

Resource management is difficult unless there are clearly defined policies governing the management process and a clear definition of responsibilities. The country's fragmented environmental policy framework has manifested in a lack of clarity of organizational jurisdiction over the management of the use of some resources. The end result is poor management and an equally poor response to both chronic and disastrous impacts to the environment.

The existing situation has led to an overall constraint of manpower and shortages of trained government staff, lack of coordination between them and lack of understanding of the respective economic sectors and their impacts on the environment. Further to this other constraints include;

- Lack of information management and monitoring hampers policy and decision making;
- Lack of adequate and or appropriate legislation. This coupled with weak capacity to synchronize national policy, legal and regulatory framework which leads to overlaps in jurisdiction;
- Weak NGO and CBO participation;
- Lack of appropriate technology;
- Poor coordination both nationally and regionally.

The NEMS is Antigua and Barbuda's, attempt to adopt an approach, which embodies the principles of integrated management of natural ecosystems. The Strategy will be seeking to strengthen coordination mechanisms as its main priority rather than the development of new agencies.

NGO Participation

Non-Governmental Organizations (NGOs) have played an important role over the last ten years in drawing public attention to a number of important environmental issues. These include sand mining, solid waste management and the destruction of wetlands. Many civic and community groups have participated in tree planting and beach clean up activities. More recently NGOs have taken on a more substantive role by becoming involved in efforts to improve community management of coastal natural resources, providing training to stakeholders in practices that conserve reefs, off-shore island ecosystems and mangrove wetlands.

NGOs particularly the Environmental Awareness Group (EAG), have also been active in improving education of teachers and students with respect to environmental matters including coastal issues. In general, the management and protection of watersheds has not been much emphasized, but it is expected that this will change. The Gilbert Agricultural and Rural Development Center (GARDC) is active in offering courses in agriculture and rural crafts that emphasize the need for sustainable practices and effects of polluting chemicals

The NEMS Process

The development of the NEMS will be a process that consists of extensive consultations, literature review, and public awareness. Central to the NEMS, is a management approach that

includes conservation, sustainable use and the equitable sharing of benefits that accrue from the use of natural resources. Integral to the implementation of NEMS is the change in old beliefs and attitudes, both of the general public, and of those responsible for planning and making decisions. The most important beliefs to be addressed include natural resources are inexhaustible, and that prudent environmental management inhibits development.

The development of the Draft NEMS takes into consideration over three years of national consultations on various sector plans and programs. Also included are the issues related to the various international conventions signed by the government as well as public feedback from emerging social issues. The Draft Strategy draws extensively from many other relevant and current planning documents, including National Environmental Management Action Plans, National Environmental Profiles and National Biodiversity Strategies. The draft NEMS will be submitted to various government agencies and NGOs for feedback with particular emphasis on the identifying priorities for the next five years.

The Draft NEMS reflects the growing sub-regional commitment to participatory planning and action. It is based on inputs from local communities and international organizations, government agencies and NGOs, public officials and private sector agencies. It builds on the lessons learned from past strategies and planning documents and successful projects. As a result, this Strategy represents a broad consensus on the most urgent actions needed to stimulate sustainable development in the Antigua and Barbuda.

Objectives of Antigua and Barbuda NEMS

1. **Policy and Planning framework** - To integrate environmental and natural resources management into development policies, plans, legislation and budget processes at all levels.
2. **Improved legal and institutional frameworks** - To protect the environment and while improving the improve quality of development projects and programs.
3. **Provide a framework for Sustainable Livelihood** - Provide the private sector with a framework for enhanced participation and maximization of economic benefit from natural resources.
4. **Civil Society participation** - Ensuring meaningful participation by civil society in environmental decision-making.
5. **Capacity Building** –
 - To strengthen local expertise and technical ability in planning and implementing sustainable natural resource management programs and for negotiating multilateral environmental agreements through the development of appropriate tools and techniques, training, policy formulation, and cooperation in science and technology.
 - To foster a culture of participation by Civil Society in decision-making and implementation and to build capacity to achieve this.
6. **Economic incentives** - Develop a package of economic instruments that will provide incentives or disincentives and the necessary funds to protect and or restore the environment.
7. **Environmental education, training and awareness** - To strengthen environmental education, raise awareness and provide training in support of environmental management and the sustainable use natural resources.

Who will use the Strategy?

This Strategy is intended to be implemented by relevant government agencies and is also expected to be incorporated into the national development strategy being prepared by the Ministry of Planning. Key agencies in the implementation of the strategy include the environmental, planning and development agencies, as well as agencies involved in natural resource management, the private sector, NGOs, and community based organizations. The ministry of Finance will use the strategy as a guide in the allocation of resources to agencies.

Other stakeholders include regional and international organizations, and bilateral and multilateral agencies. The Environment Division will play a dual role as facilitator of the processes for updating the Strategy and reporting on its progress. ,

How to use the Strategy

The Strategy is a planning document and as such it seeks to maintain focus on the most critically needed actions, for many of the principles identified in the St. Georges Declaration.

Each section has:

- A brief on the result to be achieved in giving effect to the principle,
- The actions to be undertaken at the ministerial, community, national, regional and international levels;
- Indicators that should be monitored to determine whether actions are being effective;
- Key assumptions within which the identified actions are framed;
- Mechanisms through which actions at the national, regional and international levels should be implemented.

The Strategy will be implemented through projects and annual work programs, which will further detail the specific tasks and mechanisms for implementation. Building on this approach, government ministries and community groups should refer to the Strategy when developing priorities for annual work programs and when reviewing annual progress. Further the ministry of Finance will be using the strategy to assist in the evaluation funds for allocation to agencies since the Strategy sets out a framework within which issues and actions can be selected according to national development priorities for both national and international funding.

Internationally the strategy will be used to provide directions to agencies on the national efforts and priorities. Regional and international agencies are expected to consult with the Strategy when developing major regional initiatives.

Monitoring, Reporting and Accountability

Antigua and Barbuda like other Member States of the OECS is committed to providing annual reports on the implementation of the SGD as well as other international agreements and the NEMS. Other commitments includes

- Establishment of Indicators for measuring progress towards sustainable development.;
- Identify clear roles and responsibilities for national agencies;
- Clearly establish specific time frames for implementation; and
- Establish periodic and standardized reporting systems for all national agencies and civil society.

At the national level The Environment Division has been charged with the responsibility to provide annual reports to the EPC and to coordinate the development of projects and programs for national and regional implementation. The Environment Division will also design and implement mechanisms that will facilitate the effective coordination of national efforts and to ensure the functional participation of civil society.

SECTION TWO:

National Environmental Management Strategy

The Antigua and Barbuda NEMS will not seek to address all of the principles of the St. Georges Declaration. Instead it will identify actions to be taken under a select few of the Principles. This approach is consistent with the view that with limited capacity countries need to focus on the core issues. To achieve the vision of sustainability therefore, the Strategy will focus on;

1. Economic tools and incentives which will be designed to encourage the most efficient and strategic use of limited natural resources,
2. Developing and functional working relationship with the private sector, NGOs and Community groups,
3. Developing a strategic and exciting national public awareness and education program that will be designed to encourage nationals to adopt and seek to achieve the stated vision
4. Developing a comprehensive national environmental legislation which will seek to modernized existing outdated legislation and fill gaps;
5. Building on the opportunities presented by International Environmental conventions and maximize financing and technological opportunities that these fora provide.

PRINCIPLE 1: Foster Improvement In The Quality Of Life

Background

A healthy population reduces budgetary requirements for remedial health care and increases potential human productivity toward economic development. One of the best means to alleviate poverty is to provide an enabling framework for small businesses to succeed while ensuring that the natural resource base remains intact.

Strategy 1

The Government of Antigua and Barbuda will, in collaboration with a wide cross-section of civil society, develop, implement and promote programs to ensure wise management of the environment and natural resources to provide maximum protection and economic benefits.

Recommended Actions

- The production of a biennial state of the environment report that will assess the country's progress in the management of its natural resources. This report will use internationally recognized Indicators specifically designed to provide information on the quality of life and poverty alleviation.
- Establish the environmental basis of major livelihoods, assess conditions of the resources, prioritize remedial action and develop an implementation plan.
- Provide technical packages for small investors in the area of sanitation, agriculture, watershed management, tourism and eco-tourism.
- Determine the incidences and locations of outbreaks and of communicable and other diseases to determine if the condition of the environment is a factor.
- Establish policies and programs that will promote food safe from additives, contaminants and microbes. These policies should also ensure that the country has a secure food supply.
- Implementation of the National Disaster Services Action Plan.
- Develop and implement a four-year public education and outreach program aimed at persons living in areas of poor drainage, sanitation and irregular water supply.
- Strengthen the coordinating mechanisms for government agencies, and make reporting on the selected Indicators mandatory.
- Develop a national strategy to strengthen the ability of civil society to become more involved with the planning and implementation of national policies and programs.
- Establish a set of national Indicators to facilitate the monitoring of implementation of the plans and programs.
- Establish and monitor the status of the natural resources including fresh and marine water quality, fisheries, land, beach erosion, biodiversity, and forestry.

Key Assumptions

- The Government will develop mechanisms to reduce poverty and improve quality of life.

- Antiguans and Barbudians recognizes that environmental sustainability is key to long-term improvement in the health and well being of its population.
- Government agencies will provide data related to the chosen Indicators.
- Financial support will be provided in a timely manner.

PRINCIPLE 2: Integrate Social, Economic And Environmental Considerations Into National Development Plans, Policies And Programs

Background

Growing populations and increasing stresses from economic development demands have placed Antigua and Barbuda in a position where it needs to rely heavily on its natural resources. Tourism, financial, housing, recreation, agriculture and Fisheries all compete for the same land resource, it is therefore important that a balance is accomplished so that neither compromises the quality of the other. This balance is essential, to put it simply, there can be no fishing industry without mangrove swamps; no mangrove swamps without proper land management, no crop production without fertile soil; no tourism without natural and cultural resources; and tourism investments will be washed away by storm surge damage if coastal e.g. seagrass beds, coral reefs, wetlands, dunes resources are destroyed. Further to do otherwise is to deny sections of the population access to the nation's natural resources in favour of others.

Strategy 2

Formulate, promote and implement integrated development policies, plans and programmes to ensure that environmental management is treated as an integral component of planning processes in pursuit of sustainable development.

Recommended Actions

- Strengthen the planning and analysis capacity of agencies responsible for project and program design and implementation.
- Develop and implement national sector plans for Tourism, Agriculture and Marine Resources.
- Mandatory use of Environmental and Social Impact Assessments for the assessment of development projects related to housing, hotel, marinas etc.
- Develop corporate environmental management plans to guide the private sector in taking greater responsibility for the protection of the environment.
- Engage the Ministry of Finance in the dialogue for integrated planning so as to foster budgetary underpinning for Ministry corporate plans that employ the integrated approach.
- Utilize integrated watershed planning and ICAM where appropriate as a framework to facilitate island systems management.
- Strengthen mechanisms and processes that enable intersectoral and interagency dialogue, cooperation and collaboration toward formulating IDP for major foreign exchange earners and major livelihoods.
- With the collaboration of NGOs, particularly the EAG, launch and institutionalize targeted education and awareness campaigns among government, business and civil

sectors to foster knowledge and understanding of the value of the integrated process and strategic environmental evaluations.

- Engagement of local banking, insurance, credit unions and other funding agencies in need for integrated planning and strategy or project level environmental assessments.

Key Assumptions

- The government is committed to developing and implementing appropriate policies to integrate social, economic and environmental considerations into national development.
- Government departments are held accountable for policy implementation.

PRINCIPLE 3: Improve on Legal and Institutional Frameworks

Background

Technological changes and increasing globalization require the member states to review the legal and judicial framework that will be needed to effectively compete internationally, meet the requirements of multilateral agreements and inspire the population to go beyond compliance toward leadership.

The existing legislative framework consists of over forty pieces of legislation, which governs various aspects of the environment. Further the institutional arrangements are such that in several key areas of natural resource usage the legislation is designed to give power to agencies that are the major resource users to regulate themselves. The legislation does not provide any criteria e.g. sustainability or environmental protection, by which the resources should be exploited. Current policies and incentive/regulatory frameworks will be reviewed and analyzed, gaps identified and new policy measures for sustainable use of natural resource be presented to Cabinet approval.

Strategy 3

Develop a comprehensive legal and institutional framework that will effectively implement the Principles contained in the St George's Declaration and reflect the precautionary approach to environmental management, including the adoption, wherever feasible, of specific standards necessary to ensure protection of human health, the environment and all natural resources consistent with the principles of sustainable development.

Recommended Actions

- Conduct legal review to identify gaps, opportunities for increased efficiency in enforcement and monitoring.
- Identified ecosystems of national importance should be protected. These should include watersheds, mangrove swamps, beaches, and land needed for food security.
- Identify Legislative conflicts and overlaps;
- Need to draft new and/or amend and/or enforce existing laws and regulations to meet multilateral agreements to which the country is a party;

- Need to draft and/or amend regulations with respect to involvement of civil society in environmental management initiatives
- Conduct an assessment of institutional framework to determine roles and responsibilities of agencies involved in natural resource and environmental management.
 - Conduct an assessment of physical and financial capabilities of agencies to implement the Strategy and enforce legislation.
- Develop and implement awareness strategies to sensitize publics including legal and enforcement agencies on policies and laws relating to environmental issues.
- Establish a carefully designed coordinating mechanism to facilitate information sharing, resource maximization amongst government agencies.
- Develop legislative frameworks to reflect the Precautionary and Polluter Pays Principles as well as measures to encourage desirable environmental Actions.

Key Assumptions

- The capacity of key Government departments is developed to enable effective monitoring and enforcement of the legislation.
- Mechanisms are established to ensure effective coordination and sharing of information.

PRINCIPLE 4: Ensure Meaningful Participation By Civil Society

Background

Managers of public goods and services are increasingly faced with the challenge of making decisions on the use of natural resources while being responsive to the needs of nationals. Meeting this challenge is often difficult because the issues can be technically complex and value laden, and involves multiplier interests that operate in a fiercely competitive atmosphere. Often the outcome of the final decisions may reduce access of stakeholders to traditional resources such as land, beaches, areas of aesthetic beauty. More importantly development decisions may also increase risks to personal health, to the environment and to existing property.

Over the past two years the Antigua and Barbudian public has made it clear that they are interested in not only participating in the decision making process but to also be responsible for the implementation of projects and programs.

Strategy 4

Establish, strengthen and promote structures and procedures for the broad participation by Civil Society in the design, implementation and evaluation of decision making processes and programmes.

Recommended Actions

- Each government agency will design and implement mechanisms to identify their key stakeholders and enlist their participation in the implementation of projects and programs.
- Develop and implement a mechanism for the mandatory exchange information among government agencies.
- Increase participation and responsibility amongst stakeholders through:

- The amendment of existing legislation to facilitate participation by civil society
- Establishment of mechanisms for feedback and comments.
- Production of user friendly and timely information.
- Development and implementation of plans for increasing access to information.

Key Assumptions

- Citizens will participate in consultations
- Organizations have the capacity can make a meaningful contribution

PRINCIPLE 5: Ensure Meaningful Participation By The Private Sector

Background

High levels of private sector environmental performance are consistent with a healthy and vibrant economy and will help ensure long term economic prosperity. As the private sector invests in its environmental performance, so a new and high value environmental goods and services industry will be created.

Strategy 5

Collaborate and work with the private sector to establish best management practices that prevent negative environmental and human health impacts and to adequately mitigate negative impacts that may occur from their operations.

Recommended Actions

- Dialogue with private sector organisations/sectors on the need for, and application of, enhanced environmental and natural resource management legal and policy frameworks.
- Establishment of legal and policy frameworks that clearly articulate environmental standards and best management practices against which private sector operations can be accountable and which achieves progressive improvement in private sector environmental performance.
- Monitoring of private sector operations to ensure compliance with environmental standards and best management practices.
- Implementation, where appropriate, of fiscal incentives, market-based instruments and other measures to create conditions conducive to high levels of environmental performance by the private sector.
- Support for development of local environmental service companies and recognition of their contribution to economic growth.
- Identification of opportunities for export of local environmental goods and services.

Key Assumptions

- There is sufficient political will to apply new legal and regulatory frameworks.

- Consumers will make choices based on environmental concerns
- Private sector will realize savings by implementing environmental policies and programs.

PRINCIPLE 6: Use Of Economic Instruments For Sustainable Environmental Management

Background

The true cost of development initiatives needs to take account of the value of the resource being used. The value of environmental goods and services are often neglected in national accounting and leads to flawed development decisions.

Strategy 6

Pursue and promote sound environmental practices, in part through the establishment of innovative means of generating public and private financial resources by means of fiscal incentives and market based instruments, and the reallocation and efficient use of resources.

Recommended Actions

- Conduct a thorough inventory of natural resources.
- Develop standards and guidelines to address pollution and infrastructural development.
- Develop legislative framework to reflect the Precautionary and Polluter Pays Principles and appropriate incentive measures.
- Implement cost recovery mechanisms and fiscal incentives.
- Plan, identify and budget for institutional arrangements to coordinate the implementation of economic instruments.
- Provide incentives through investment promotion for environmental technologies and environmentally sound business enterprise.
- Use fiscal incentives to foster environmental leadership among enterprise including for remediation of polluted areas.
- Use the custom tariff structure to encourage importation of goods that support environmental quality e.g. packaging, biodegradable, energy and water efficient goods.
- Application of cost-benefit analyses and quantification of trade-offs in environmental assessments.

Key Assumption

Ministries of Finance and Planning will incorporate natural resources valuation in national planning and development initiatives and budgets to sustainable development.

**PRINCIPLE 7: Foster Broad-Based Environmental Education,
Training And Awareness**

Background

The issues related to environment are broad and complicated and methods used to protect and or better understand the environment makes this particular subject suited to the formal education system. Traditionally the approach to environmental education in Antigua and Barbuda has been through a public awareness campaign that is developed and implemented via the media and for the most part outside the formal education system. This has changed somewhat during the early part of the nineties with students selecting environmental topics for major assignments. In the latter half of the nineties this changed significantly with select environmental issues being included in the curriculum.

In an effort to meet this vision however it will be necessary to have sustained and aggressive formal and non-formal educational program that will be sector and community specific. The message of prudent environmental management must not only be told by the government agencies but also by NGOs, private sector and community groups.

The educational strategy will focus on the following national issues: Watershed Management, Water access and conservation, Energy use and conservation, Coastal Zone management, land use and Planning, Global Environmental Issues, Wildlife management and conservation, Fisheries management, Sustainable agriculture and pollution and chemical usage.

Strategy 7

Create an enabling environment for heightened awareness, knowledge, skills and an understanding of the relationship and significance of environmental management and sustainable development.

Recommended Actions

- Design and Implementation of a comprehensive national public awareness program;
- Design and implement a system of information flow from our centers of data collection to our centers of education;
- Develop a culture of reporting among government agencies;
- Integrate environmental training into the allied courses within national institution such as the Hotel training Center, Antigua and Barbuda State College with ad hoc training for the private sector.
- Develop an incentive program for teachers which will encourage teachers to get involved in awareness campaigns; and develop an incentive program for school children to encourage school cleanup and beautification projects.
- Integrate environmental education into school curricula and other formal and informal educational program.
- Target training for the financial professions – banking, insurance, accounting.
- Review existing environmental education materials, reactivate and update available information and make user-friendly.
- Launch broad-based media campaign, but targeted initially to issues which easily comprehensible so as to gain attention.

- Reward corporate sponsorship of environmental media programs.
- Establish formal collaboration with existing environmental associations.
- Provide timely information on a national website;
- Provide means for public Internet access for civil society through libraries, community centers, internet cafes and other outlets.

Key Assumptions

- Appropriate environmental resource materials are available and readily accessible at low or no cost.
- Institutional capacity exists for timely development and dissemination of materials.

PRINCIPLE 9: Manage The Impacts Of Disaster

Background

Natural hazards are a reality for the Caribbean and repeated strikes increase stress on population, social systems, natural resources, productive capacity, infrastructure, and financial resources. In addition poor land use planning and construction exacerbate the effects of the events.

Antigua and Barbuda faces serious threats from natural hazards, in particular hurricanes, coastal storms and droughts. The country's economy is highly dependent on the natural environmental and all major investments are therefore threatened whenever a natural disaster strikes. Many of the scientific predictions indicate that an increase in sea level and intensity and frequency of storms that the country will have a very challenging future.

In response to these challenges the national Office of Disaster services has developed a comprehensive National Disaster Management Plan. The plan addresses all prevalent natural hazards to which the country is prone.

Strategy 8

Establish appropriate frameworks for the reduction of vulnerability to natural and manmade hazards so as to reduce loss and social dislocation.

Recommended Actions

- Implementation of National Plan;
- Apply hazard vulnerability to integrated development planning.
- Formulate and implement disaster mitigation measures to reduce loss and enable prompt resumption of business and government enterprise.
- Institute disaster mitigation in work plan of Ministries with the necessary budgetary allocation.
- Promote disaster planning using financial sectors.

- Formalise and enforce maintenance programs for utilities, roads, drainage and other critical infrastructure.
- Review/revise and enforce zoning ordinances and building codes.
- Strengthen building inspectorates to enforce compliance.
- Strengthen NODs to facilitate the coordination and reporting on this process;
- Develop an environmental damage assessment protocol;

Key Assumptions

- High level political support for disaster mitigation planning is consistently given.
- The Government accepts that disaster loss can be reduced and make the necessary allocation of financial and human resources to implement mitigation strategies.

PRINCIPLE 11: Ensure The Sustainable Use Of Natural Resources

Background

Antigua and Barbuda has made significant strides in the management of its natural resources, the rate at which this is occurring however, is not adequate to significantly reduce the rate of loss of natural resources. The effective management of the natural resources is limited by an approach that places the primary responsibility for the management of natural resources on the government and limits the involvement of other sectors of the society. Other limiting factors includes a lack of information about the extent and use of the natural resources, poor public awareness and of course, limited financial resources.

Strategy 9

Manage terrestrial, marine and atmospheric resources, organisms and eco-systems in an appropriate manner to obtain the optimum sustainable productivity, while maintaining the integrity of natural and ecological processes and inter-relationships between such systems and processes.

Recommended Actions

- Develop a national environmental management strategy which takes account of current conditions and priorities necessary action to stem practices which currently cause stress or destroy resources, including education of target groups to encourage change in behaviour
- Strengthen enforcement against illegal sand mining
- Strengthen enforcement against illegal dumping of garbage
- Develop procedures for conducting carrying capacity studies
- Conduct structured and targeted awareness building programs within the Ministries and agencies of government, business sector institutions, trade associations, *inter alia* e.g.. financial, Chambers of Commerce and service clubs etc.
- Implement national-level elements of the OECS Fisheries Management and Development Strategy

- Develop and implement national natural resource management plans
- Establish implementing mechanisms, including monitoring and evaluation mechanisms
- Enhance legal/regulatory framework, as appropriate
- In collaboration with NGOs, particularly the EAG, develop natural resources management plans that will be given legal standing within the national environmental management legislation;
- Establishment of creative monitoring and evaluation mechanisms that will not be a heavy burden to the government;
- Enhancement of legal/regulatory framework
- Promote scientific and technical cooperation in the field of natural resources conservation and sustainable use.

Key Assumptions

- High level political will to improve management of capital assets.
- Natural resource management plans will be developed and implemented for sand, fisheries, water, watersheds, land and forestry.
- Sufficient resources are allocated for targeted awareness building within the government, business and civil sectors.

PRINCIPLE 13: Protect And Conserve Biological Diversity

Background

Biological diversity provides the gene pools necessary for the preservation of life and ecosystems, affords enhancement of agricultural output, and development of pharmaceuticals, and provides recreational opportunities for the growing travel and leisure industry. The full value of the services of ecosystems and biological resources is yet to be determined and it is therefore important that we do not sterilize or destroy opportunities for potential benefits to be derived. Biological diversity belongs in the realm of the Commons – as belonging to everyone- and consequently the tragedy of neglect needs to be remedied within the Caribbean

In 1992, at the Earth Summit in Rio De Janeiro, Brazil, the Convention on Biological diversity was adopted. This convention mandates signatory nations to sustainable use, protect and to distribute the benefits of the Biodiversity. Antigua and Barbuda is a signatory to this convention and has drafted a national biodiversity strategy.

Strategy 10

Develop appropriate measures for the management of biological resources to ensure their conservation, research and documentation, sustainable use, and restoration of ecosystems.

Recommended Actions

- Review and Implementation of the National Biodiversity Strategy;
- Establish mechanisms for the design and implementation of national biological diversity conservation plans;

- Develop a system of biodiversity protected areas;
- Inventory and document endangered species;
- Develop innovative financing mechanisms for Biodiversity;
- Enhance legal and regulatory framework;
- Establish and enforce regulations for closed seasons for exploiting species under stress;
- Establish mechanisms to enable compliance with the Biological Diversity Convention;
- Develop and implement management program with respect to introduced species;

Key Assumptions

- Government and non-governmental actively collaborate to implement the NBSAP.
- Resources are available in a timely manner to implement the NBSAP.

PRINCIPLE 16: Manage And Conserve Energy

Background

Energy generation from fossil fuels and energy consuming equipment has contributed to global warming that has altered climate patterns and atmospheric balance, reduced air quality and contributed to health problems. Antigua and Barbuda's greenhouse gas inventory reveals that the country is not a significant net emitter of green house gases. It is therefore not necessary for the country to take steps to reduce these emissions.

When one evaluates the cost of energy to the country's development and the vulnerability of the country to price fluctuation and availability of fuel the options provided by technical improvement in renewable energy are certainly worth considering. It is this area that there are major opportunities for the country and will form the focus of the strategy.

Strategy 11

Promote and adopt the sustainable use, management and conservation of energy at the national level.

Recommended Actions

- Provide incentives for application of renewable and efficient energy technology
- Foster research in renewable and efficient energy technologies
- Adopt/implement energy conservation and management code.
- Adopt energy efficient building codes
- Adopt demand reduction strategies including incentives
- Promote investment from Clean Development Mechanisms under the Climate Change Convention
- Conduct energy audits within the government, business and service sectors.
- Encourage data collection and monitoring against set energy reduction targets
- Evaluate debt swaps as a financing option.

Key Assumptions

- Energy saving is understood as cost saving
- Energy management is promoted as a component of environmental management
- Savings and improved profit motivate behavior
- Utility companies will support demand reduction strategies

PRINCIPLE 17: Negotiate And Implement Multi-Lateral Environmental Agreements

Background

Antigua and Barbuda has already signed to several multilateral agreements (MEAs) e.g Convention on Biological Diversity, United Nations Framework Convention on Climate Change, and UN Convention to Combat Desertification, Convention on the International Trade in Endangered Species of Flora and Fauna, among others. It is therefore in our interest to cultivate a broad understanding of the responsibilities and advantages of compliance, especially in relation to environmental quality and sustainable development.

The commitments in these MEAs are cross-sectoral and thus require the input from various government agencies. Existing coordination mechanisms are growing but are still weak. The National Coordinating Mechanism (NCM, see Section Three.) was formed for this very purpose. The strategy will seek to further strengthen the NCM develop similar coordinating mechanism within NGOs and private sector communities.

Strategy 12

Improve on the understanding of provisions, obligations and benefits of multilateral agreements at the level of political directorate, administrative leadership and technical officers within and outside of government

Recommended Actions

- Discussions and consultations at national level on provisions and implications of multilateral agreements
- Ensure representation at international meetings
- Encourage focal-points to disseminate information derived from meetings and negotiations
- Establish mechanism to feed relevant information into integrated planning process
- Establish mechanism for monitoring progress on implementation of obligations under the agreements

Key Assumption

High level political support and appropriate representation for MEA negotiation.

SECTION THREE:

Institutional Arrangements For Environmental Management

There are seven state agencies with responsibility for various aspects of environmental management in Antigua and Barbuda. These are list of these agencies and summaries of their roles are given below.

The Ministry of Agriculture, Lands, Environment, Marine Resources, Agro-Industry and National Parks has the broadest and oldest involvement with natural resource management issues. It is staffed with well-qualified professionals in many areas, but frequently lacks the necessary basic equipment and supplies to do an effective job. The Fisheries and Forestry Division are the two principal government agencies charged with gathering most of the primary data on the biological resources of Antigua and Barbuda.

The Fisheries Division has responsibility for development of the fisheries sub-sector, monitoring fish-stocks and marine resources, as well as a regulatory role in policing fishing practices. The Division has been given powers under the Marine Areas Act (1972) to restrict fishing in certain areas and to preserve habitats, flora and fauna, natural beauty or shipwrecks in marine areas.

The Forestry Division has responsibility for managing the country's forest and woodland areas and for reforestation. However, this Division is seriously under-staffed and under-budgeted, which makes it impractical to take on any major forestry development activities. In recent years, the Forestry Division has taken on activities more related to biodiversity conservation and eco-tourism development. The primary instrument for management of the upper watersheds is the Forestry Ordinance (cap 99 1941), which provides for the establishment of forest reserves, the granting of permits for harvesting forest resources and for clearing, etc.

The Environment Division initially set up withing the Ministry of Tourism and Environment in 1996 was mandated by the Cabinet to *inter alia*, identify and coordinate the implementation of national commitments to International Environmental Agreements, including the coordination of implementation of recommendations of the National Coordinating Mechanism; develop and implement a national environmental awareness program; develop and implement projects related to the rehabilitation and protection of the environment; coordinate the development of environmental legislation; and to coordinate the process of conducting EIAs. The Environment Division is now within the Ministry of Agriculture, Lands, Environment, Marine Resources, Agro-Industry and National Parks.

The National Parks Authority (NPA) is a financially self-sufficient statutory body with a Board of Directors. It was established through the National Parks Act. This act provides procedures for the designation of any area of land or water as a national park. The NPA is mandated to 'preserve, protect, manage and develop the natural physical and ecological resources and the historical and cultural heritage of Antigua and Barbuda'. The NPA has responsibility for managing the country's single national terrestrial park (Nelson's Dockyard). This is focused on providing a world-class tourism destination based on the historical and natural resources within the park area.

The Development Control Authority, administered under the Ministry of Works and Communications, has responsibility for regulating the use and development of land for urban, economic and infrastructure development. The DCA is currently in the final stages of developing

a physical development plan for the country, which could have significant implications for integrated ecosystem management. The National Physical Development Plan lays out clear policy for land resource development in Antigua and Barbuda. This plan proposes to retain much of the upper watersheds (and their forest cover) as conservation areas and recognizes the importance of the remaining wetlands, proposing to conserve these areas as much as possible.

The *National Solid Waste Management Authority* has recently been created after the last ten years of the government making considerable efforts to provide better management for solid waste and to introduce at least the rudimentary aspects of sanitary landfill as normal practice. The Authority now handles the disposal of solid waste for the Island.

National Coordinating Mechanism for Environmental Conventions

The National Coordinating Mechanism (NCM) has developed into a forum for the co-ordinated follow-up, at the national level, to all Environmental Conventions ratified by the Government of Antigua and Barbuda. The role of the NCM is to strengthen communication links between the relevant ministries and departments of Antigua and Barbuda directly involved with the implementation of the Conventions. It consists of a network of government agencies/ divisions (see list above), national focal points, competent authorities, and NGO's, working to together to facilitate a co-ordinated and timely response to Antigua and Barbuda's treaty obligations as well as providing a forum for discussions on work-programs for government agencies.

Antigua & Barbuda Focal Point System

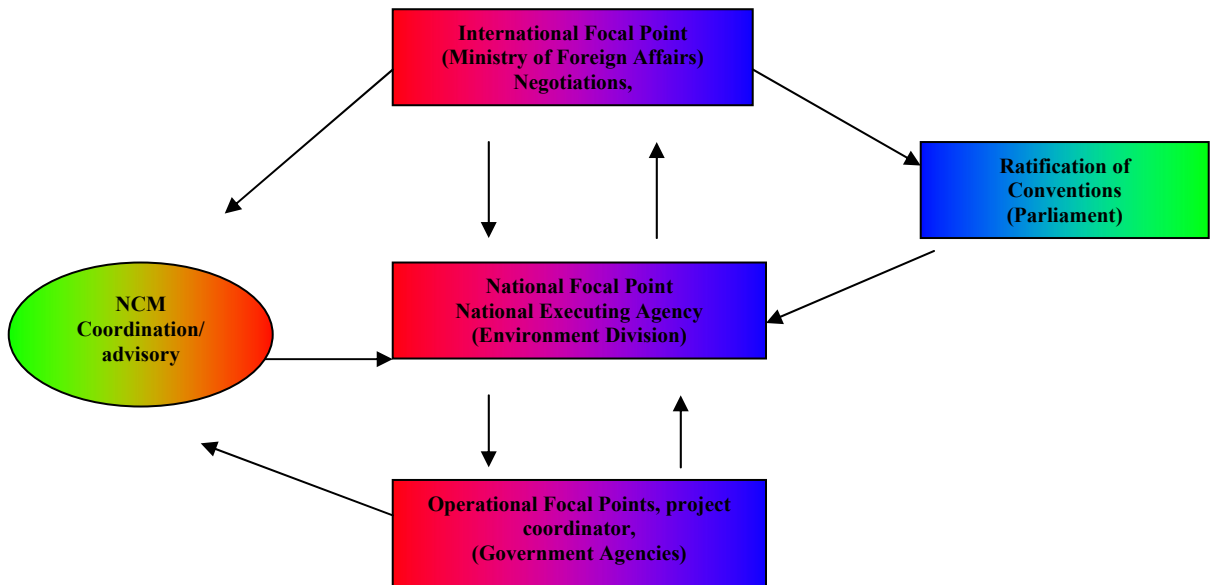
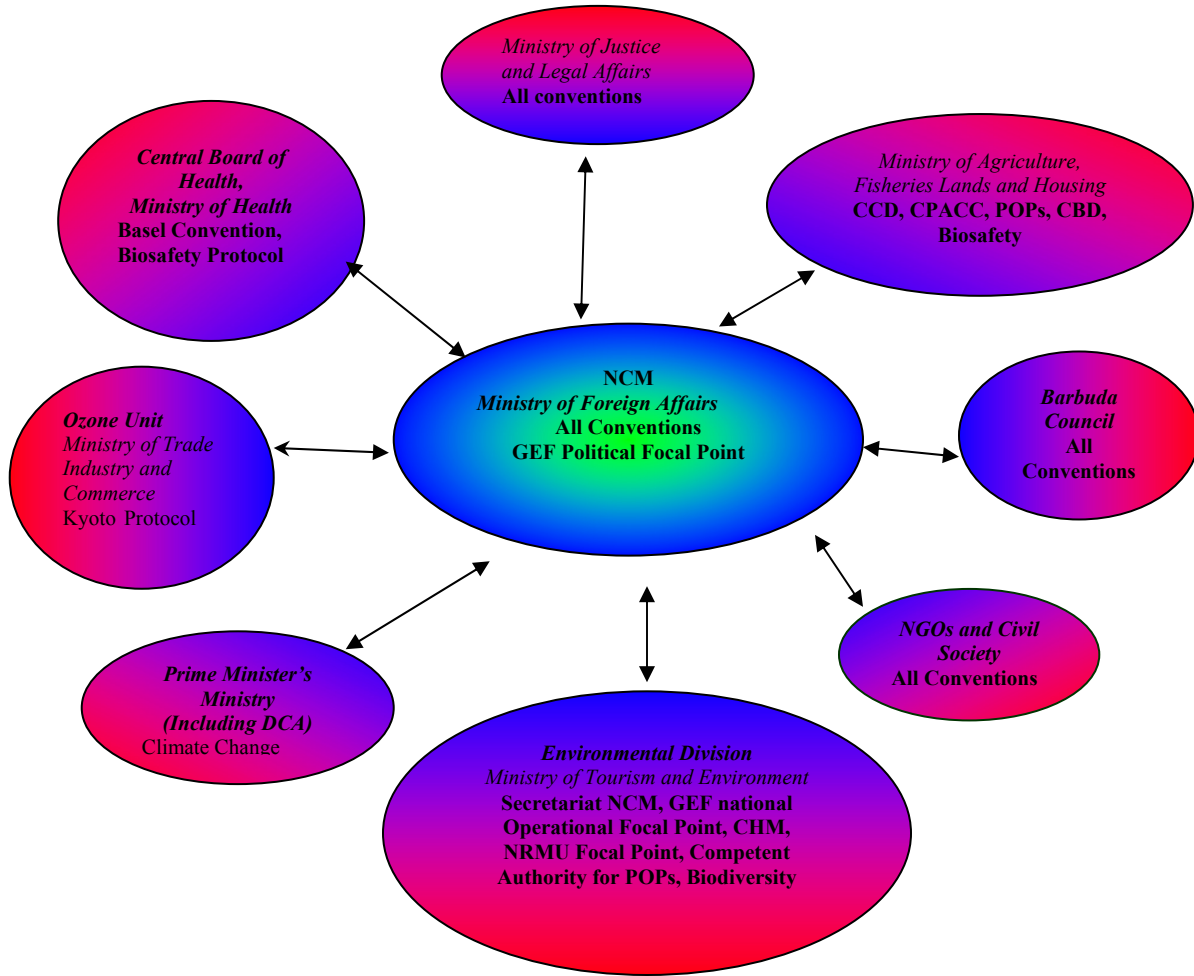


Figure 1: Institutional Arrangements For Implementation of MEAs in Antigua and Barbuda

Figure 2: Composition of NCM



The NCM's organizational chart illustrates the communication links, information exchange and the availability of resources between agencies. All resources within specific agencies are available for the implementation of activities related to the NEMS.

Coordination of the implementation of the NEMS can best be done using existing mechanism of the NCM to direct policy and facilitate high-level support for activities. Day-to-day coordination of the implementation of the NEMS can be the responsibility of the Environmental Division and may fit in with its Cabinet mandate.

SECTION FOUR:

Implementation Plan

The recommended actions identified in this NEMS are expected to be implemented incrementally over the next five years. An action plan for the first two years is outlined in this section. It reflects the priorities that have been identified over the past few years which were refined during sectoral and public consultations held in Antigua and Barbuda in July 2004. There are several key issues that will impact on the effectiveness of implementation and these are listed below:

- Issue 1: - Limited sharing of information among government agencies and between government agencies and stakeholder groups, often leading to poor cooperation, public discontent and ill-advised development activities.
- Issue 2:- In-adequate public participation in meetings, workshops and decision making that impacts on the livelihoods or well-being of citizens, which contributes to a sense of powerlessness and frustration among stakeholder groups.
- Issue 3:- A generally low level of awareness on the environment and its relationship to human well-being among the public and senior decision makers, which cause environmental issues to receive little, if any, priority. The level of importance of environmental management is demonstrated in the relatively low amount of funding that is allocated in the annual budget to several government divisions.

Commitment to implementation of the NEMS needs to be demonstrated by the Government of Antigua and Barbuda. Action to alleviate the constraints identified in the issues above were included in the implementation plan, however, the NEMS would benefit from a ‘champion’ in the Cabinet of Ministers to ensure sufficient high level support.

Communicating the NEMS

The NEMS will be implemented by governmental agencies and therefore the lead agencies identified in the implementation plan in the following pages will be expected to promote the NEMS, especially through their departmental awareness and education activities. The following activities are also proposed for the Environment Division:

- Arrange for a supplement on the details of the final NEMS to be published in a daily newspaper; this may be done in two parts over two weeks.
- Arrange for copies of the NEMS to be available in each district/village for public information.
- Distribute copies of the NEMS to each school, government agency and NGO/CBO in the country.
- Arrange for the NEMS to be available via the internet and for all government websites to have a link to the NEMS.

Year 1 Implementation Plan

Note 1: The Budget identified in the last column provides general estimated costs of the activities. The budget will need to be re-worked to better reflect administrative and other costs associated with implementation.

Note 2: Most of the financing for activities selected below will come from the Government's Budget Estimates for the Ministries. Most of the activities below are expected to be integrated into the work-plans of the various Ministries. Funding for participation in international meetings is provided by the Secretariats of the various multilateral environmental agreements. Other sources of funding are from approved or ongoing projects, funded by bilateral agreements, international donors and international development agencies.

SGD Principle	Action	Specific Activities	Lead Agency	Indicators	Budget (EC\$)
PRINCIPLE 1: Foster Improvement In The Quality Of Life	<p>1. Establish and monitor the status of the natural resources including fresh and marine water quality, fisheries, land, beach erosion, biodiversity, and forestry.</p> <p>2. Monitor air quality and solid waste pollution and determine its impacts on human health.</p> <p>3. Develop programme to minimise the negative impacts on human health.</p> <p>4. Continue development of national sustainable livelihood strategy.</p>	<p>1. Decide on parameters for monitoring</p> <p>2. Adopt monitoring methodology</p> <p>3. Acquire resources.</p> <p>4. Train staff in monitoring</p> <p>5. Select sites</p> <p>6. Initiate monitoring</p> <p>7. National workshop to develop programme to minimise negative impacts.</p>	<p>Environment Division & Fisheries Division Barbuda Council Central Board of Health, National Solid Waste Mgt Auth. Dev Control Auth</p>	<p>- Report on selection of parameters, methodology and sites for monitoring.</p> <p>- Number of staff trained.</p> <p>- Workshop & monitoring reports.</p>	\$200,000
PRINCIPLE 2: <i>Integrate Social, Economic and Environmental Concerns into National Development Plans, Policies and Programs</i>	<p>5. Establish the mandatory requirement for Environmental and Social Impact Assessments for all development projects especially commercial/ industrial such as housing, hotel, marinas etc.</p>	<p>1. Adopt methodology for EIA/SIA, including mechanism for collaboration among government agencies and NGOs/CBOs.</p> <p>2. Develop criteria for projects that require EIAs.</p> <p>3. Train staff in the conduct of EIA and in the evaluation of EIA reports.</p> <p>4. Enact or amend and enforce legislation for EIA requirement.</p>	<p>Environment Division Development Control Authority Barbuda Council</p>	<p>- Methodology manual.</p> <p>- Criteria for EIA published.</p> <p>- Number of staff trained in EIA.</p> <p>- Legislation requiring EIA enacted or amended.</p>	\$20,000
PRINCIPLE 3: Improve on Legal and Institutional Frameworks	<p>6. Draft new environmental law and regulations and revise old legislation to address deficiencies in existing legislation and to comply with multilateral agreements to which the country is a party.</p>	<p>1. Develop TOR for drafting of legislation</p> <p>2. Recruit Consultant for drafting Bill.</p> <p>3. Draft Bill with inputs from key sectors.</p> <p>4. Circulate Bill for comments among key stakeholders.</p> <p>5. Legislation enacted by Parliament.</p>	<p>Ministry of Legal Affairs and Environment Division</p>	<p>- TOR developed.</p> <p>- Consultant recruited.</p> <p>- Bill drafted.</p> <p>- Report on comments on the Bill.</p> <p>- Law enacted.</p>	\$20,000

<p>PRINCIPLE 4:</p> <p><i>Ensure Meaningful Participation By Civil Society</i></p>	<p>7. Each government agency will design and implement mechanisms to identify their key stakeholders in collaboration with NGO/CBOs and enlist their participation in the design and implementation of policies, projects and programs.</p>	<ol style="list-style-type: none"> 1. Database of key stakeholders developed for at least 3 Divisions. 2. Capacity of stakeholders to participate in projects assessed. 3. Identify and operationalise mechanism for systematic sharing of information to all stakeholders. 4. Projects identified in consultation with stakeholders. 5. Roles and responsibilities of each project participant defined formally. 6. At least one project initiated. 7. Formalise community group in Barbuda 	<p>All Ministries National Network of Non-profit Organisations.</p> <p>Barbuda Community/ Church</p>	<ul style="list-style-type: none"> - Number of databases completed. - Assessment report prepared. - MoU for information sharing signed. - Report on stakeholder consultation and roles of project participants. - Project report. 	<p>\$15,000</p>
<p>PRINCIPLE 5:</p> <p>Ensure Meaningful Participation By The Private Sector</p>	<p>8. Engage the private sector in collaboration with the Chamber of Commerce and Employers Federation to demonstrate consistent commitment to environmentally responsible practices.</p>	<ol style="list-style-type: none"> 1. Identify legal and policy frameworks for environmental and natural resources management. 2. Prepare list of private sector organisations for dialogue. 3. Prepare audio-visual presentations on the selected frameworks, targeted to private sector organisations. 4. Deliver presentations to at least 3 private sector organisations. 5. Assess and document the outcome of these presentations. 6. Incentives for good environmental practices and access to technical assistance. 7. Private sector employers of NGO/CBO members should demonstrate civic responsibility by allowing NGO/CBO employees to participate in National meetings/workshops. 	<p>Environment Division/ Ministry of Finance and the Economy. Chamber of Commerce</p>	<ul style="list-style-type: none"> - Report on framework. - List of private sector. - Audio-visual presentation prepared. - Three presentations held. - Evaluation report on these presentations. - Proposal identifying incentives prepared. 	<p>\$25,000</p>

<p>PRINCIPLE 7: Foster Broad-Based Environmental Awareness Education, and Training</p>	<p>9. Design and Implementation of a comprehensive national public awareness program</p>	<p>1. Identify key issues that will form the basis for the public awareness program. 2. Evaluate the effectiveness of previous awareness programs and activities locally and elsewhere. 3. Use the outcome of the evaluation to guide the design of the public awareness program. 4. Recruit expertise for the evaluation and program design as appropriate.</p>	<p>Environment Division Teachers Union Environmental Awareness Group Ministry of Education</p>	<p>- Paper on key issues prepared. - ToR drafted and expertise recruited. - Evaluation report prepared. - New awareness program designed.</p>	<p>\$30,000</p>
<p>PRINCIPLE 9: Manage The Impacts Of Disaster</p>	<p>10. Implementation of National Disaster Management Plan (NDMP)</p>	<p>1. Update the NDMP. 2. Develop National Hazard Mitigation Plan. 3. Identify and access key resources required for implementation. 4. Continue to provide training for staff of selected agencies and selected communities in the more vulnerable areas. 5. Improve on public awareness on natural and other disasters.</p>	<p>National Office of Disaster Services/ Ministry of Social Transformation Caribbean Conference of Churches</p>	<p>- Revised NDMP. - NHMP adopted. - Financing and equipment procured. - Number of staff and others trained.</p>	<p>\$60,000</p>
<p>PRINCIPLE 11: Ensure The Sustainable Use Of Natural Resources</p>	<p>11. Develop a national environmental management strategy that takes account of current conditions and priorities.</p>	<p>1. Develop a NEMS based on wide participation among key stakeholder groups and agencies. 2. Seek adoption of NEMS by Cabinet of Ministers. 3. Promote NEMS among all state agencies, private sector and NGOs. 4. State of Environment Report prepared every 3-yrs</p>	<p>Environment Division NGO network Barbuda Council Ministry of Social transformation Agriculture Division; Fisheries Division</p>	<p>- Report on consultations. - NEMS prepared and adopted by Cabinet. - Report on promotion of NEMS.</p>	<p>\$30,000</p>

<p>PRINCIPLE 13: Protect And Conserve Biological Diversity</p>	<p>12. Establish mechanisms for the design and implementation of national biological diversity conservation plans</p>	<p>1. Finalise National Biodiversity Strategy and Action Plan (NBSAP). 2. Adoption NBSAP by the Government. 3. Utilise the National Coordinating Mechanism to oversee the development of biodiversity conservation plans. 4. Develop at least two conservation plans.</p>	<p>Environment Division Environmental Awareness Group Fisheries Div Forestry Unit Barbuda Council</p>	<p>- NBSAP adopted by government. - Reports from the NCM. - Three conservation plans prepared.</p>	<p>\$15,000</p>
<p>PRINCIPLE 17: Negotiate And Implement Multi-Lateral Environmental Agreements</p>	<p>13. Discussions and consultations at national level and regional levels on provisions and implications of multilateral environmental agreements (MEAs) 14. Develop the mechanism for civil society participation in MEA negotiations and international /regional meetings.</p>	<p>1. Identify the key MEAs on which national consultations are required. 2. Prepare audio-visual presentations on the issues that these MEAs seek to address, the national obligations under these MEAs, and measures proposed to discharge national obligations. 3. Host presentations for key government agencies, private sector, NGOs and other stakeholders.</p>	<p>Ministry of Agriculture, Lands, Environment, Marine Resources, Agro-Industry and National Parks Ministry of Foreign Affairs Barbuda Council</p>	<p>- Audio-visual presentation on MEAs prepared. - At least 3 presentations delivered.</p>	<p>\$20,000</p>

YEAR I Total Budget = ECS\$435,000

Year 2 – Action Plan

SGD PRINCIPLE	ACTION	LEAD AGENCY	INDICATOR	BUDGET (EC\$)
PRINCIPLE 1: Foster Improvement In The Quality Of Life	1. Identify and promote the environmental basis for major livelihoods.	Ministry of Agriculture, Lands, Environment, Marine Resources, Agro-Industry and National Parks Barbuda Council	Paper on relationship of environment to human health and livelihoods prepared.	\$3,000
PRINCIPLE 2: Integrate Social, Economic and Environmental Concerns into National Development Plans, Policies and Programs	2. Strengthen the participatory planning and analysis capacity of agencies responsible for project and program design and implementation.	Ministry of Agriculture, Lands, Environment, Marine Resources, Agro-Industry and National Parks/ DCA Barbuda Council	Report on National Capacity Needs Self Assessment completed with recommendations for capacity building.	\$200,000
PRINCIPLE 3: Improve on Legal and Institutional Frameworks	3. Conduct an assessment of institutional framework to determine roles and responsibilities of agencies involved in natural resource and environmental management 4. Conduct an assessment of physical and financial capabilities of agencies and NGOs to implement the NEMS and enforce legislation.	Environment Division Barbuda Council	Report on evaluation of institutional framework.	\$10,000
PRINCIPLE 4: Ensure Meaningful Participation By Civil Society	5. Develop and implement a mechanism for the mandatory exchange of information among government agencies, and between government agencies and NGOs, including a clearing house mechanism via the internet. 6. Develop and implement capacity building activities for civil society groups.	Ministry of Finance and the Economy Barbuda Council All Ministries Barbuda Council	Assessment report completed. - Policy on information sharing adopted. - Number of training activities for civil society groups.	\$10,000 \$10,000
PRINCIPLE 5: Ensure Meaningful Participation By The Private Sector	6. Establishment of legal/policy frameworks that articulate environmental standards and management practices against which private sector operations can be accountable.	Environment Division and Attorney General Barbuda Council	- Legal framework adopted. - Policy on good environment practices adopted.	\$10,000

<p>PRINCIPLE 6: Use Of Economic Instruments For Sustainable Environmental Management</p>	<p>7. Provide incentives through investment promotion for environmental technologies and environmentally sound business enterprise.</p>	<p>Economic Planning/ Environmental Division Barbuda Council</p>	<p>At least 2 incentives developed and adopted.</p>	<p>\$10,000</p>
<p>PRINCIPLE 7: Foster Broad-Based Environmental Education, Training And Awareness</p>	<p>8. Integrate environmental training into the national school curriculum and allied courses within national institution such as the Hotel Training Center, Antigua and Barbuda State College with ad hoc training for the private sector.</p>	<p>Environment Division/ Ministry of Education</p>	<p>Environmental curriculum developed.</p>	<p>\$10,000</p>
<p>PRINCIPLE 9: Manage The Impacts Of Disaster</p>	<p>9. Review/revise and enforce zoning ordinances and building codes. 10. Strengthen the Barbuda Planning and Development Office</p>	<p>Development Control Authority Barbuda Council</p>	<p>Zoning ordinances and building codes revised.</p>	<p>\$30,000</p>
<p>PRINCIPLE 11: Ensure The Sustainable Use Of Natural Resources</p>	<p>11. Strengthen enforcement against illegal sand mining. 12. Develop procedures for conducting carrying capacity studies</p>	<p>Environment Division Barbuda Council (Fisheries Dept)</p>	<p>- Alternatives to illegal sand mining developed. - Procedures for carrying capacity developed.</p>	<p>\$15,000</p>
<p>PRINCIPLE 13: Protect And Conserve Biological Diversity</p>	<p>13. Implement a system of biodiversity protected areas.</p>	<p>Environment Division/ Fisheries Division/ National Parks Barbuda Council</p>	<p>Number of protected areas declared and demarcated.</p>	<p>\$100,000</p>
<p>PRINCIPLE 16: Manage And Conserve Energy</p>	<p>14. Provide incentives for application of renewable and efficient energy technology and monitoring their impacts. 15. Develop a national policy on energy use and conservation</p>	<p>Environment Division / Antigua Public Utilities Authority/ Ministry of Finance Barbuda Council</p>	<p>Number of incentives identified and developed.</p>	<p>\$10,000</p>

<p>PRINCIPLE 17: Negotiate And Implement Multi- Lateral Environmental Agreements</p>	<p>16. Encourage focal-points to disseminate information derived from international meetings and negotiations.</p>	<p>National Coordinating Mechanism NGO Network</p>	<p>Number of MEA bulletins issued.</p>	<p>\$3,000</p>
---	--	--	--	----------------

YEAR 2 Budget Total = EC\$421,000