

Section 1 - Overview

1.1. Introduction

The Government of Dominica secured assistance from the Global Environment Facility (GEF) and United Nations Environment Programme (UNEP) to undertake a “*National Capacity Needs Self-Assessment for Global Environmental Management*” (NCSA). The NCSA process provided Dominica with the opportunity to conduct a thorough assessment of the capacity needs and constraints facing national efforts to improve environmental conservation and sustainable development programmes, and to meet global environmental management obligations as set forth in the Rio Conventions and related regional and international instruments. The Rio Conventions include –

- the *United Nations Framework Convention on Climate Change* (UNFCCC);
- the *United Nations Convention to Combat Desertification and Drought* (UNCCD); and
- the *Convention on Biological Diversity* (CBD), and related international instruments include the *Cartegena Protocol on Biosafety*. .

The NCSA process was intended to analyze the institutional capacity framework that was initiated under the UNFCCC and the strategies put in place to conserve biodiversity in Dominica as outlined in Dominica’s *National Biodiversity Strategy and Action Plan* (NBSAP), and facilitate the identification of management strategies relevant to the environmental and sustainable development. More specifically, the project was intended to:

- a) determine capacity needs with a view to implementing the overall national environmental objectives of the Ministry of Agriculture and the Environment at the individual, institutional and systemic levels;
- b) assess the capacity of the Environmental Coordinating Unit (ECU) to coordinate issues of sustainable development and to give support and guidance relevant to needs of the respective ministries, agencies and parties;
- c) review and test national mechanisms for stakeholder participation;
- d) identify conflicts and strengthen synergies among multi-lateral environmental agreements (UNCCD, UNCBD, UNFCCC), and among the stakeholders and ministries implementing activities under these agreements;
- e) assess the institutional capacity of the various Divisions within the Ministry of Agriculture and the Environment and other Ministries to respond to the sustainable development objectives as required in the UNCBD, UNCCD and UNFCCC communications;
- f) develop a framework to facilitate accessing and preparation of future requests for external funding and assistance.

In pursuing these objectives, the NCSA was coordinated with ongoing projects and programmes for environmental management in Dominica. The NCSA provided valuable strategic directions for the consolidation of environmental planning and management activities within the Environmental Coordination Unit (ECU). The NCSA provided a framework whereby it was possible to liaise with and share findings with other multi-sectoral initiatives and related initiatives and plans, whose focus on economic and social issues related to sustainable development, thereby complementing the focus of the NCSA on environmental issues. It also served to coordinate Dominica's goals and obligations

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under regional agreements such as the *St. Georges Declaration of Principles of Environmental Sustainability in the OECS* and the *Caribbean Regional Environmental Programme (CREP)*. With its unprecedented focus on analysing issues that cut across the Rio conventions, the NCSA represented a critical step in their effective implementation by promoting a more integrated and synergistic approach to environmental management.

The NCSA also builds upon and supplements the capacity assessment and capacity building components of ongoing activities related to each convention, including the biodiversity add-on project, the climate change add-on project and the Mainstreaming Adaptation to Climate Change (MACC) project. Finally, the NCSA establishes a basis for coordination with significant ongoing development and environmental management projects with thematic linkages to the goals of the conventions. The project has produced the following outputs:

- (i) Building national capacity to take issues related to the three Conventions into account in general planning and strategy formulation;
- (ii) The identification and development of ways to coordinate and harmonize overlapping activities among the three Conventions and help to ensure effective national measures to protect the global environment;
- (iii) A comprehensive national action plan focused on capacity building that identifies overall goals, specific objectives to be achieved, and courses of action;
- (iv) Support for the transition from this enabling activity to the actual implementation of identified follow up measures addressing loss in biodiversity, losses in soil fertility and climate change;
- (v) Enhanced general domestic awareness and knowledge about the three Conventions and their interrelationship; and
- (vi) Strengthened dialogue, information exchange and cooperation among all relevant stakeholders including governmental, non-governmental, academic and private sectors.

As part of the NCSA process, a stocktaking was undertaken to evaluate commitments and progress achieved in implementing the three Rio Conventions. Additionally, an assessment has been undertaken of the linkages between thematic areas which provides an important opportunity to facilitate an integrated approach to implementation of the conventions at the local, national and regional levels, through greater understanding of the commonalities and overlaps between the conventions. These reports were presented at national workshops where stakeholders –

- reviewed the outcomes from the stocktaking and linkages reports;
- developed a list and description of capacity constraints and needs in the three thematic areas;
- identified priority cross-cutting issues and synergies;
- prioritized capacity constraints and needs, cross cutting issues impacting upon effective national implementation of national sustainable development policies the Rio Conventions, and opportunities for improving national capacity;
- developed a comprehensive national action plan focused on capacity building that identifies overall goals, specific objectives to be achieved, and courses of action.

A summary is provided of these assessments that addresses, amongst other matters:

- the lack of formal institutional mechanisms for coordinated action or information sharing among government resource management agencies (either bilateral or multi-institutional);

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- unclear and often overlapping institutional mandates (e.g. mangroves are the responsibility of both forestry and fisheries divisions);
- policies of the international agencies currently providing financial assistance to the country are sometimes in contradiction of environmental goals or government priorities, and often conflict with one another;
- monitoring and enforcement of environmental laws and regulations is inadequate, because of lack of resources, incomplete laws and regulations, and lack of cooperation and support of the police and judiciary;
- and finally, environmental laws are not binding on government activities (e.g. government projects do not have to perform environmental impact assessments), which limits the capacity to manage resources sustainably or to generate public support for conservation.

The assessment of these issues was undertaken with the view of identifying inadequate existing legislation and policy, overlaps in legislation and institutional mandates, and ways of harmonizing laws and regulations to provide a more efficient legal and policy framework. This initial report was presented to a broad stakeholder group at a national workshop with policy makers in the key ministries and organizations. The results of this work, and its review at the workshop, formed the basis for the development of this *NCSA Strategy and Action Plan*, which has been submitted to the Government of the Commonwealth of Dominica for approval.

1.2. Context - NCSA and “Capacity Development”

One of the key reasons for undertaking the assessment of inter-linkages between thematic areas was to determine, evaluate and develop capacity whereby national implementation of the Rio Conventions and Dominica’s sustainable development agenda could be strengthened. In establishing the basis for this assessment, it was necessary to identify the context of the capacity that is to be developed. One widely accepted definition of capacity development advanced by the United Nations Development Programme (UNDP) is that the term encompasses “the actions needed to enhance the ability of individuals, institutions and systems to make and implement decisions and perform functions in an effective, efficient and sustainable manner”¹.

At the *individual* level, capacity development refers to the process of changing attitudes and behaviors, most frequently through imparting knowledge and developing skills through training. However it also involves learning by doing, participation, ownership, and processes associated with increasing performance through changes in management, motivation, morale, and levels of accountability and responsibility.

Capacity development at the *institutional* level focuses on overall organizational performance and functioning capabilities, as well as the ability of an organization to adapt to change. It aims to develop the institution as a total system, including its constituent individuals and groups, as well as its relationship to the outside. In addition to improvements in physical assets, such as infrastructure, institutional capacity building involves clarification of missions, structures,

¹ CDI, October 2000, *Country Capacity Development Needs and Priorities: A Synthesis*.

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responsibilities, accountabilities and reporting lines, changes in procedures and communications, and changes in the deployment of human resources.

At the *systemic* level capacity building is concerned with the creation of “enabling environments”, i.e. the overall policy, economic, regulatory, and accountability frameworks within which institutions and individuals operate. Relationships and processes between institutions, both formal and informal, as well as their mandates, are important.²

The failure of many capacity development interventions can often be attributed to the narrow view of capacity that informed their design. For example, complex change initiatives such as a change in the way a particular government service is delivered, often limit capacity development activities to addressing individual training needs or, in some cases, may include an institutional strengthening component. Often missed are important dimensions of capacity at the policy or legislative levels, or in supporting processes and regulations.

Capacity development interventions can be focused at local, national, or global levels and amongst any individual or group of stakeholders – individuals, entities or institutions, as well as at an overall systems level. Interactions between the different levels are also important to overall capacity. Capacity is relevant in both the short term (for example, the ability to address an immediate problem) and the long-term (the ability to create an environment in which particular changes will take place). And capacity development does not always involve the creation of new capacity, but often the redeployment of existing capacities or the release of latent capacities³.

Meeting the Rio Convention commitment cannot be accomplished simply by providing resources to developing countries; the government of Dominica, civil society, and the international community must work together to strengthen the country’s abilities to use resources effectively.

1.3. Country Background

The Commonwealth of Dominica is situated between Guadeloupe to the north and Martinique to the south, at approximately 15° North and 61° West, making the island the most northerly of the sub-regional Windward Islands grouping. Located in the middle of the Lesser Antilles, with a total land area of 750.6 km² (290 sq. miles), Dominica is the also the largest Windward Island. In 1996, the population was estimated to be 73,500 with an approximate growth rate of 1.3% per annum. With a population density of 94.8 persons per km², Dominica is the least populated Windward Island.

Dominica is very mountainous (see *Figure 1.1*) and of volcanic origin and measures 47 kilometers long and 22 kilometers wide, covering 751 square km. The topography of the island is dominated by a central line of volcanic peaks that rise to 1,220 metres and from which radiate numerous ridges that extend to the coastline where they sometimes end abruptly as steep sea cliffs. The central watershed is no more than 6.5 km from the sea in all directions and for

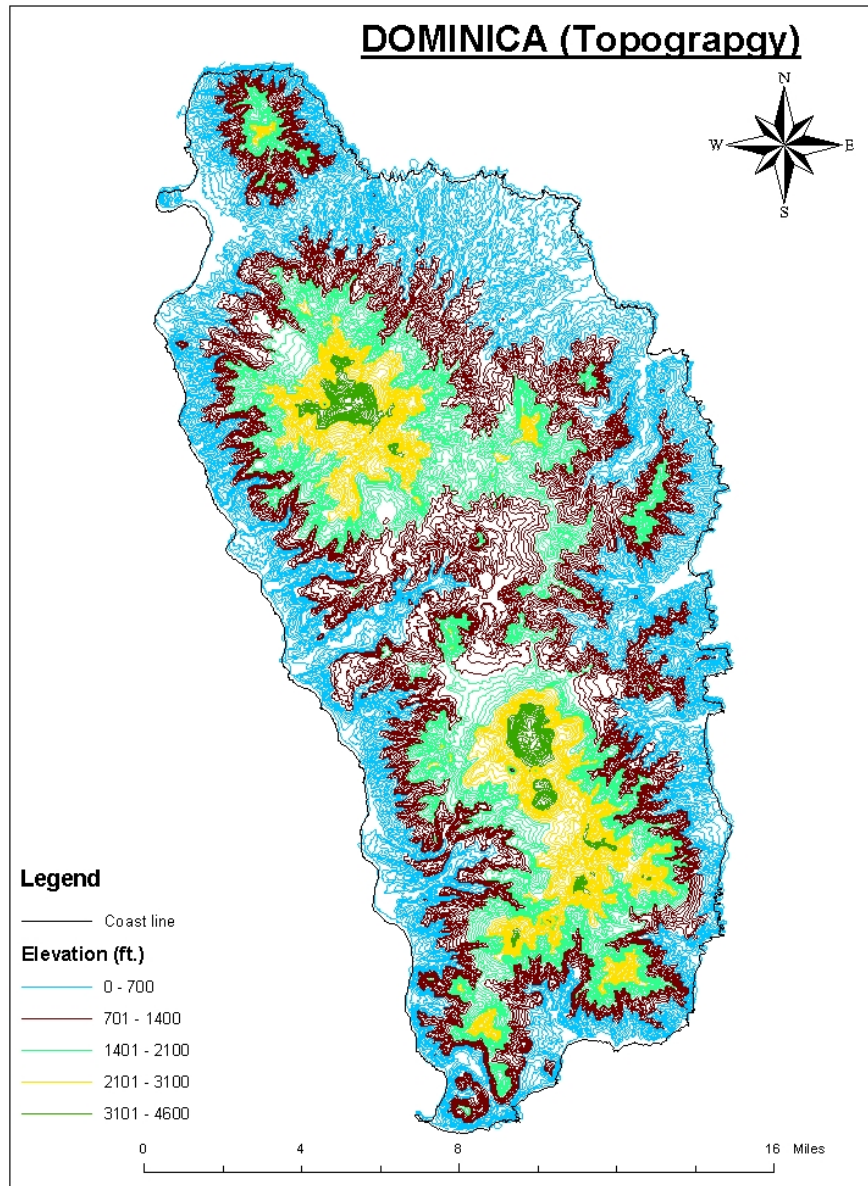
² UNITAR NCSA Reference Guide, page 5.

³ - *National Capacity Self-Assessments* - UNDP/GEF Resource Kit (No. 3)

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conservation purposes has been demarcated as National Park Reserve in which no agricultural farming is

Figure 1.1. – Dominica (Topography)



permitted. A number of subsidiary peaks (about 610 metres) are found just outside this central line of ridges, dislocating to some extent the natural radial distribution of the main ridges.

About 64, 780 hectares (ha) is considered available for agriculture, although an indeterminate proportion of this is unsuitable on account of slopes, excessive rainfall and accessibility. The relief is extraordinarily abrupt with highly dissected terrain, numerous steep or precipitous slopes and with relatively little flat land. Estimates of land slope classes as a percentage of the total

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area indicated that 85% of the land is very steep or mountainous, 13% is steeply undulating and 2% is flat or gently undulating.

Sixty-five percent (65%) of Dominica's land area is covered by vegetation ranging from dry scrub woodland on the coast to lush, tropical forest in the interior and a wide variety of fauna and flora (see *Figure 1.2*). The interior is interspersed with rivers, waterfalls and lakes. This has earned Dominica the name "The Nature Island of the Caribbean"

The coastline of Dominica is richly endowed with an abundance and very diverse array of flora and fauna. The topography as well as the geological features, rainfall and climate of the two coastlines are different and hence provide differing habitats. The sub-marine topography is similar to that of the land, rugged and mountainous with very deep valleys. There is a very narrow continental shelf around the island and as a result the water plummets to depths in excess of 200ft very close to shore. There is also a wide range of estuarine habitat resulting from the many rivers found on the island.

Dominica's climate is classified as "humid tropical marine", with average temperatures of 27°C (80°F). Because of the island's rugged topography, micro-climatic variability exist within very short distances, influenced by the high moisture content of the air masses that enter the region from the Atlantic Ocean. This makes Dominica a very high rainfall country, with an average rainfall of 175 inches per year during the wet season. Rainfall increases from the leeward side eastward towards the central parts of the island where it reaches approximately 400 inches annually. The high rainfall makes the country susceptible to landslides, particularly in the more mountainous regions. Dominica is also vulnerable to hurricanes. Within the last decade the social and economic infrastructure of the country were severely affected by a number of hurricanes.

A volcanic island with a series of complex mountain ranges, Dominica is characterised by very rugged and steep terrain. This topography has helped to protect the lush vegetation and has contributed greatly to the island's dramatic beauty and the conservation of its natural resources. Forests and arable land, estimated at 22.6% and 27.8% respectively of total land area, along with an extensive network of surface and underground water, make up the major natural resource base. Dominica possesses hydroelectric energy sources, and extensive marine resources including impressive coral reefs. Since the last decade increasing attention has been placed on the sustainable use of these natural resources.

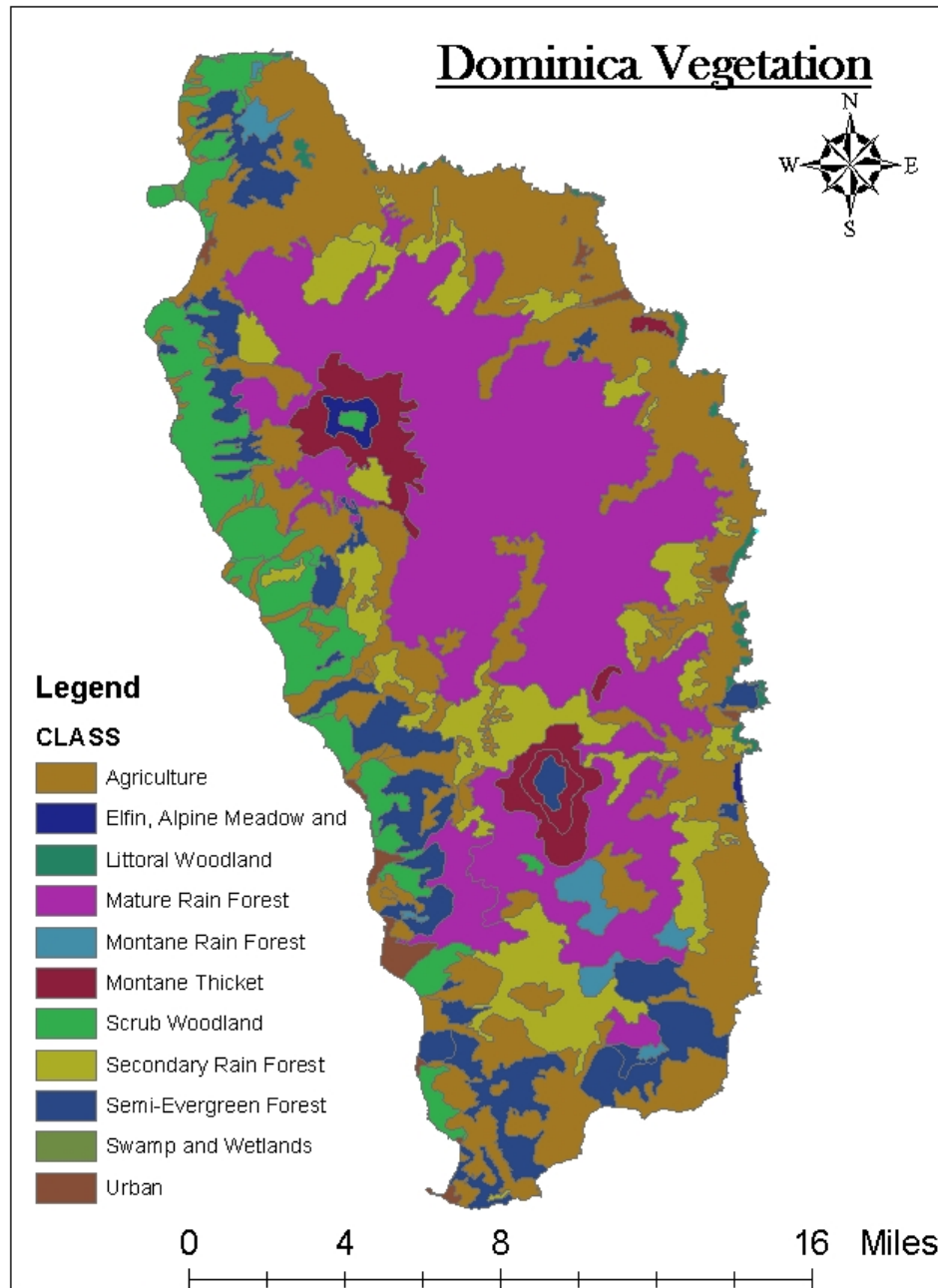
A detailed environmental protection strategy was proposed in a National Structural Plan formulated for the 1976 - 1990 period. This included protection and conservation measures related to beach pollution, forest conservation and utilization, national parks, scenic and recreational facilities, critical environmental areas, historic structures, water catchment, fisheries, and wildlife (GOCD, 1976). Over this period, local interest in environmental concerns increased, resulting in 1975 in the establishment of the Morne Trois Piton National Park. Two forest reserves were established in 1972 and 1977 respectively. The *National Parks and Protected Area Act* was passed in 1975, and during the same period the people of Dominica witnessed the establishment of two more national parks, the rejuvenation of the Dominica Conservation Association in 1990, and the designation of the years 1989 - 1990 as the "Years of

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the Environment and Shelter (YES)." Many of the recommendations contained in the National Structural Plan, such as the establishment of an Environmental Coordinating Unit and environmental impact assessment legislation, are now being implemented.

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Figure 1.2.- Dominica (vegetation)



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Dominica's economic growth has always been based on the utilization of its land resources and on the productive initiatives of an educated and healthy labour force of approximately 40,000. The small domestic market makes economic growth highly dependent on exports. Decline and stagnation characterised the major productive sectors, agriculture and manufacturing and tourism between the period 1995 - 1999.

Dominica is host to the most diverse assemblage of wildlife species remaining in the Eastern Caribbean. All the faunal groups are well represented. It is the great diversity of habitats encompassed within this island of less than 800 square kilometers (300sq.m) that give rise to this rich diversity of animals and faunal communities. The greatest diversity of animal life occurs in the rain forest with birds and bats particularly well represented⁴. Dominica has the most diverse avifauna of the Lesser Antilles despite its geographic location within the center of the island chain.

Numerous studies on species diversity has been conducted in recent years by Evans (1986, 1989); Faaborg and Arendt (1985); and Swank and Julien (1975). One hundred and seventy-five species of bird have been recorded from Dominica. Many of the birds are migratory and sixty species breed on the island. Dominica's resident birds include two single island endemics and nine regional endemic species.

Dominica boasts a phenomenal plant diversity of approximately 155 families, 672 genera and 1226 species of vascular plants (Nicolson, 1991). Malarly (1993) lists the number of indigenous species as *pteridophytes* (194), *gymnosperms* (1), *monocotyledons* (518) and *dicotyledons* (1,445). Dominica has two genera, *agave* and *furcrea* that are endemic to the Caribbean⁵.

Dominica's two endemic parrot species *Amazona imperialis* and *Amazona arausiaca* are both considered threatened (IUCN *Red Data List*) and are specially protected birds under Dominican law. The most recent population estimate put the parrot population at 200 for *A. imperialis*, and 1500-2000 for *A. arausiaca*. Although *A. imperialis* may never have been abundant in Dominica, it is now considered rare. Both species have been negatively impacted by the combined effects of forest clearance for agriculture and the damage to the forests caused by hurricanes. The populations of these two endangered parrots reached critical levels as low as 60 for *A. imperialis* and 200 for *A. Arausiaca* following Hurricane David in 1979.

Dominica is also important for seabirds. The commonest breeding species are: White-tailed Tropicbird (*Phaethon lepturus*); Red-billed Tropicbird (*Phaethon aethereus*); Common Tern (*Sterna hirundo*); Roseate Tern (*Sterna dougallii*); Bridled Tern (*Sterna anaethetus*); Sooty Tern (*Sterna fuscata*); and Brown Noddy (*Anous stolidus*). Magnificent *Frigatebirds* (*Fregata magnificns*) are non-breeding residents. Breeding colonies of most species are small and concentrate on relatively inaccessible coastal cliffs and islets where predation pressures are lower. One of the seabird species of regional interest is the Black-capped Petrel (*Pterodroma hasitata*) recorded on Dominica up to the later half of the 1800s. Considered to be extinct on

⁴ *Dominica Environmental Profile* 1991.

⁵ Source –. *Dominica's Biodiversity Strategy and Action Plan - Country Study*. Government of Dominica. 2001

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Dominica but a sighting in 1982 may be an indication that the species may be breeding on remote inaccessible coastal cliffs.

Eighteen species of terrestrial mammals have been recorded for Dominica. The wild mammalian population include twelve native species of bats, one species of opossum, one species of feral pig, and four species of rodents including the Agouti. Of the twelve bats species recorded on the island four are regionally endemic namely: *Monophyllus plethodin*; *Ardops nicholsil*; *Myotis dominicensis*; and *Bracyphylla cavernum*. Diversity and density of bats are highest in and around rain forests. The impacts of agricultural cultivation and hurricanes have reduced bat species populations and diversity.

Fifty-five species of butterflies have been recorded in Dominica. Two species are endemic to Dominica (Evans & James) and seven are endemic to the Lesser Antilles which is confined to montane areas is endemic to Dominica and Guadeloupe. This species is threatened due to habitat loss and widespread use of agro-chemicals.

1.4. NCSA Process in Dominica

The National Capacity Self-Assessment (NCSA) process if Dominica was guided by the *Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management* (UNITAR 2001). The NCSA process was conducted over 15 months, during which the following activities were undertaken:

Stage One: Project Planning & Initiation

1. The NCSA project commenced with the appointment of a project co-ordinator and the formal establishment of the Project Steering Committee (PSC). An important aspect of the project initiation stage was a full briefing of all the stakeholders from various sectors of the society, a critical step in engaging the stakeholders and encouraging their participation. Government agencies, NGOs, CBOs, academia, professional bodies, donor agencies and the private sector were invited to a national workshop at the inception of the NCSA process to present the work plan and to raise awareness about the initiative. Additional stakeholder consultations also took place, to share knowledge and solicit inputs regarding implementation of the NCSA, implementation of the three conventions, and in some cases, general knowledge on environmental issues and priorities. Mechanisms to keep the stakeholders informed at each juncture in the process were identified and agreed upon.

Stage Two: Capacity Self-Assessment within Thematic Areas

2. Work begin with a stocktaking process. This stocktaking took the form of a gap analysis to determine Dominica's current programmes with respect to each of the three global conventions, allowing the project team to arrive at an understanding of the baseline situation. A variety of reports, including the national communications to the conventions, the National Report to the Barbados + 10 Meeting, the National Report to the WSSD, *Dominica's Biodiversity Strategy and Action Plan*, *Dominica's Climate Change Adaptation Policy*, and others, were reviewed during this stage and provided an overview and brief profile of each thematic area. The process also identified any previous capacity

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assessment studies and previous and existing capacity building programmes within each thematic area.

3. The stocktaking phase was followed by a capacity assessment for each thematic area. Each assessment included:
 - Identifying and reviewing priority issues;
 - Identifying capacity constraints for the priority issues and analyzing the causes;
 - Assessing the constraints at the individual, institutional and systemic levels;
 - Categorizing opportunities in terms of:
 - a) creating new capacity,
 - b) mobilizing or redeploying existing capacity, and
 - c) enhancing existing capacities; and
 - Identifying necessary corrective action.
4. The output of the thematic assessments were presented in reports detailing and ranking the gaps, in terms of barriers to the implementation of the national action plans related to each Convention. The results of these assessments were shared at workshops with a broad cross-section of interested parties, within government and non-governmental organizations, to confirm the findings and to discuss strategies and approaches for the way forward. Actions for moving forward were presented, discussed and agreed upon. The results of this consultation feed into the development of the *NCSA Strategy and Action Plan*.
5. Preparation of the thematic assessment was carried out by three thematic experts (one for biodiversity and bio-safety; one for climate change, and one for land degradation and POPs). The thematic experts had the support of those technical experts executing national action plans and other projects related to implementation of the three Conventions. The preparation of the NCSA involved a series of national workshops to discuss results and identify priorities, and several regional workshops to exchange lessons learned from other Governments involved in similar projects.

Stage Three: Identification of Cross Cutting Capacity Issues

6. An assessment of the linkages between thematic areas provides was seen as an important opportunity to facilitate an integrated approach to implementation of the conventions at the local, national and international levels, through greater understanding of the commonalities and overlaps between the conventions.
7. During the preparation of this NCSA a study was undertaken by the International Consultant who was retained to provide technical support to the project steering committee and project team. This study identified a number of important crosscutting issues. Among the most important of these issues are:
 - the lack of formal institutional mechanisms for coordinated action or information sharing among government resource management agencies (either bilateral or multi-institutional);
 - unclear and often overlapping institutional mandates;

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- policies of the international agencies currently providing financial assistance to the country are sometimes in contradiction of environmental goals or government priorities, and often conflict with one another;
 - monitoring and enforcement of environmental laws and regulations is inadequate, because of lack of resources, incomplete laws and regulations, and lack of cooperation and support of the police and judiciary;
 - and finally, environmental laws are not binding on government activities (e.g. government projects do not have to perform environmental impact assessments), which limits the capacity to manage resources sustainably or to generate public support for conservation.
8. The project team presented its findings to a broad stakeholder group at a national workshop with policy makers in the key ministries and organizations. Additionally, the following international experts were invited to make presentations and help facilitate discussions during the national workshop –
- **Dr. U. O’D Trotz**, Program Manager, Mainstreaming Adaptation to Climate Change in the Caribbean (MACC);
 - **Dr. Reynold Murray**, Biodiversity and Environmental Specialist, United Nations Development Programme (UNDP);
 - **Dr. Leonald O’Garro**, Regional Biosafety Adviser, United Nations Environment Programme (UNEP);
 - **Dr Richard Cox**, UNCCD (Geneva);
 - **Derrick Oderson**, IFAD.
- These experts presented on the following –
- issues that cut across the Rio Conventions;
 - opportunities for synergies between the Rio Conventions;
 - impediments or progress towards international implementation and harmonisation of the Rio Conventions;
 - regional and international initiatives in support of national activities under the Rio Conventions.
9. The results of this work, and its review at the workshop, feed into the final into the development of the *NCSA Strategy and Action Plan..*

Step four: Preparation of the NCSA Report and Presentation to Key Stakeholders

10. Outputs from the previous stages of the project were synthesized into a single national report, which served as an important tool for decision-making. The NCSA report contained a review of the stocktaking exercise and gap analysis, a description of the various stakeholder consultations, a detailed analysis of the priority issues identified in the three thematic studies and the cross-cutting analyses, and a summary of Dominica's existing capacities and its needs and opportunities for further development. The NCSA report allowed the country to move from an understanding of the capacity constraints to a vision of potential opportunities and the development of strategies, goals, programmes and projects.

11. This draft report was distributed among the participating stakeholders before being presented at a national workshop, in order to promote discussion and obtain consensus on the NCSA document. This *NCSA Strategy and Action Plan* was developed based on the input obtained from stakeholders at the workshop.

1.5. Structure of *NCSA Strategy and Action Plan*

This *NCSA Strategy and Action Plan* provides a summary of the stocktaking that has been undertaken to evaluate commitments and progress achieved in implementing the three Rio Conventions (*Sections 2, 3 and 4*). Additionally, a summary of the assessment undertaken of the linkages between thematic areas (*Section 5*). The outputs from the national consultative workshops are presented in *Section 6* together with options for the way forward. Outcomes from the second national workshop that form the basis for the *NCSA Strategy and Action Plan* are presented in *Section 7*. An overview of the legal and institutional framework for environmental management in Dominica is provided in *Annex 1*. A summary of the key elements of the Rio Conventions is provided in *Annex 2*, while the list of participants for the national consultative workshops is included as *Annex 3*.

Section 2 – Capacity Assessment for Climate Change⁶

2.1. Overview

This stocktaking or “Capacity Assessment for Climate Change” was produced as part of the National Capacity for Self-Assessment (NCSA) Project. The specific tasks of the Capacity Assessment for Climate Change included the following:

- Reviewing and summarizing national obligations under the relevant multi-lateral agreement(s) for the thematic area;
- Reviewing relevant national documents, reports, policies and strategies pertaining to the thematic area;
- Interviewing relevant capacity constraints for the priority issues and analyzing the causes;
- Identifying capacity constraints for the policy issues and analyzing the causes;
- Assessing the constraints at the individual, institutional and systemic levels;
- Categorizing opportunities in terms of: a) creating new capacity, b) mobilizing or redeploying existing capacity, and c) enhancing existing capacities; and
- Identifying necessary corrective action.

A summary of the key elements of the *United Nations Framework Convention on Climate Change* (UNFCCC) is provided in *Annex 1*.

2.2. Methodology

In conducting the assignment extensive use was made of the existing national reports that already provide most of the information related to the climate change. Four studies reviewed were:

- i) the *National Climate Change Issues Paper*;
- ii) the *Initial National Communication* (INC);
- iii) the *Policy on Planning for Adaptation to Climate Change - Policy Framework for Integrated (Adaptation) Planning and Management in Dominica*; and
- iv) the *Initial National Communication Phase II Project-Building Capacity to Respond to Climate Change*.

In addition a questionnaire was prepared and some of the main agencies surveyed. Personal communication was held with relevant stakeholders to assess the degree of success in implementation of the recommendations made in previous reports or whether priorities have shifted.

2.3. United Nations Framework Convention on Climate Change and Dominica’s Response

In 1994 the Government of the Commonwealth of Dominica ratified the *United Nations Framework Convention on Climate Change*. The objective of the Convention is to achieve, in

⁶ *Capacity Assessment for Climate Change on the National Capacity Self-Assessment* (NCSA) by Albert Bellot (National Climate Change Consultant)

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accordance with the relevant provisions of the Convention's articles, the stabilization of greenhouse gas concentrations in the atmosphere at levels that would prevent the dangerous anthropogenic interference with the climate systems.

In October 2000 and May 2001, two national consultations were held to discuss issues related to climate change in Dominica. The process culminated with the production of a report in May 2001 entitled "*National Climate Change Issues Paper (Dominica)*".

In March of 2001 Dominica formally embarked on the production of its *Initial National Communication* in fulfillment of one of its commitment in signing the UNFCCC. The same was finalized and submitted to Cabinet for approval. In December 2001 the Dominica submitted its *Initial National Communication* to the Conference of Parties (COP) of the UNFCCC.

In March 2002 Dominica produced the *Policy Planning for Adaptation to Climate Change*. The document is a policy framework for integrated adaptation planning and management in Dominica. The policy outlines the critical risk management measures required to be taken by Government and the populace at large, to minimize the negative potential impacts of Global Climate Change on major vulnerable sectors including, *inter alia*, agriculture, human settlements and infrastructure, tourism, and finance.

The Phase II enabling activity, a capacity building project, intended to build upon the activities completed in the INC, followed. The overall goal was to allow Dominica to extend current knowledge to facilitate the emergence of networks and promote the integration of climate changes concerns in the developing national dialogue. The final draft was completed in 2005.

2.4. Climate Change in Dominica

Since Dominica signed the UNFCCC in March 1994 a considerable amount of resources has been invested in assessments required for compliance of the obligations of the Convention. These include the preparation of *Climate Change Issues Paper*, the preparation of the *Initial National Communication (INC)*, *Policy for Adaptation to Climate Change* and INC Phase II. Dominica's national measures to global climate change are extensively outlined in the documents reviewed. These measures address the two aspects of climate change:

- Reduction in green house gas emissions;
- Adaptation to the areas of vulnerability.

2.5. Dominica's Green House Gas Inventory

The GHG was conducted in 2001 as part of the preparation of the INC. The data shows that Dominica is a net sink for Carbon Dioxide amounting for net removals of 295.14 Gg of carbon dioxide in 1994. As the data indicates Dominica's contribution to global Green House Emissions of carbon dioxide is very insignificant (76.53 Gigagrams per year of carbon dioxide). There were also small quantities of methane, nitrous oxide and non-methane volatile organic compounds – 2.97 Gg, 0.042 Gg and 6.26 Gg respectively. The key sources of carbon dioxide emissions are:

- Transport – 50%.
- Energy Industries – 26%.

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- Commercial and Industrial Uses – 10%.
- Industry – 5%.
- Residential – 4%.
- Other – 5%

These emissions of carbon dioxide are mitigated by removals from changes in forest and other woody biomass stock and from the abandonment of managed lands. The contribution of its sink capacity (354.92 Gg of carbon dioxide) provided by land use change and forestry and more significantly the changes in forestry and other woody biomass stock *has resulted in the net sink* (i.e. Dominica’s natural resources remove more greenhouse gases than are generated by the country).

Several levels of uncertainty were reported in conducting the GHG Inventory in the different sectors. These uncertainties existed with respect to the in country activities and the various conversion and emission factors. The following were recommended:

- Future efforts focus on training, research and data collection activities as well as greater local capacity to undertake future inventories;
- Research be focussed in such areas as forest species coverage, using for instance, remote sensing coupled with GIS methods;
- Most pressing need is obtaining local data on emissions in various sectors.

The INC Phase II Project Report makes further recommendations for improvement in emission factors. These priorities are:

- Increase acreage of non-forest trees and reduce acreage affected by the indiscriminate burning of forests and grasslands during the dry season;
- Energy sector to specifically focus on the reduction of greenhouse gases from transport and electricity generation, with appropriate emission control measures developed and use of alternate fuel types promoted;
- Amount of Bitumen imported or the area of paved roads covered with bitumen should be calculated and the type of fuel determined.
- Volume of waste dumped into the landfill quantified and open-waste sites identified;
- livestock population be quantified by type to measure emission by enteric fermentation and manure management.

2.6. Vulnerability to Climate Change Impacts

A vulnerability assessment was conducted as part of the preparation of the INC. Internationally accepted climate change scenarios were utilized and examined possible impacts on the coastal zone, forestry, freshwater resources, human settlements, tourism, agriculture, fisheries, and human health. The assessment also identified data gaps, capacity building needs and implementation requirements for conducting more in depth vulnerability and adaptation activities.

With respect to the data collection the INC Phase II Project Report reports:

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- That the data being collected in Dominica is inadequate to support monitoring of climate change trends;
- That there is no data collection and monitoring of critical variables like sea levels and emissions of greenhouse gases, including carbon dioxide and methane;
- There is no data collection and monitoring of critical variables like sea levels and emissions of greenhouse gases;
- Dominica lacks a significant institutional capacity to carry out its responsibilities and obligations;
- There is no central clearinghouse for the data and no central purchasing office for equipment;
- That currently all the stakeholders in Dominica are facing the same problems, namely:
 - Lack of funds;
 - Lack of trained personnel; and
 - Broken equipment/no equipment.

The most pressing need in Dominica is for all the stakeholders to sit down and discuss their equipment and manpower needs, and decide on an institutional protocol for collection, storage, dissemination and submission of climate-related data to the appropriate users. Currently all the stakeholders in Dominica are facing the same problems.

As a result of the very vulnerable situation of the island the Cabinet of the Commonwealth of Dominica approved the *Climate Change Adaptation Policy and Action Plan*, thus becoming one of the first countries in the world with an Adaptation Policy approved by Cabinet. Despite its efforts the Adaptation Policy cannot be implemented, as adequate resources have not been provided to LDC's for the implementation of the Adaptation Policies. However, Dominica has been rewarded for its bold initiative in adaptation to climate change in that it is currently one of the first countries to benefit from the recently established "Special Program on Adaptation" (SPA), a Global Environment Facility (GEF) fund created specifically to implement pilot adaptation measures. Under this program, Dominica will benefit as being one of three countries in the Caribbean region to implement adaptation measures under the US\$6 million "Special Program on Adaptation to Climate Change (SPACC)" that is expected to commence in 2006, and which will implement priority measures outlined in the *Climate Change Adaptation Policy and Action Plan*.

2.7. Reduction in Green House Gas Emissions

Given the low level of emissions and more importantly as Dominica is a net remover of green house gases, emphasis will be placed on the adaptation measures. The huge challenge for Dominica is therefore how to maintain its position as a net remover of green house gases as reported in the INC, while at the same time sustain the level of economic growth and development which will provide the resources for implementation of the required adaptation measures, without compromising its natural environment.

The options identified for reducing GHG emission in these sectors were presented in the INC report. A total of twenty-two mitigation options were made. These include eleven in the transport sector, six in the energy sector and five in the commercial, residential and industrial sector. .An

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analysis of the status of the recommendations made for reducing Green House Gases in the Transport, Energy and Commercial, Residential and Industrial sector respectively.

Since the INC was approved by Cabinet in 2001 and submitted to the COP Very little of the recommended actions have been implemented. The main reasons for non-implementation are:

- i) Government's inability to provide the fiscal incentives to the private sector;
- ii) absence of legislation and governments inability to enact the necessary legislation to mandate compliance; and
- iii) lack of financial resources of government and private sector to invest.

Other reasons for inaction include, lack of awareness, and financing for conversion of existing technologies. The exercise indicates that the main impediment to success of the actions lies with the public sector. The first step to solving the problems is government's ability to enact the appropriate legislation.

As reported in the INC Phase II Project Report, as a developing country, it is important that Dominica pursue mitigation strategies and/or activities that are consistent with its wider development goals and objectives. In the present context, this will mean ensuring compatibility with environmental standards and protection, being supportive of economic development and not worsening the government's fiscal situation.

2.8. Adaptation to Vulnerability

Given the climate change scenarios predicted for the Caribbean and based on the vulnerability assessments conducted, Dominica's strategy in combating the effects of climate change is based on its ability to adapt to the predicted changing conditions.

The vulnerable sectors identified in assessments contained in the INC and the *Issues Paper* were forestry and terrestrial resources, coastal ecosystems, freshwater resources, human settlements, agriculture, fisheries, tourism and, human health. It was clear from the analysis that all the principal social and economic sectors in Dominica were vulnerable to the potential impacts of climate change.

An assessment was made on the present status of the status of the implementation of these urgent/priority actions to reduce the risk associated with climate change. As with the mitigation actions in the previous chapter, the constraints for non-implementation have been identified through personal communication with stakeholders.

In addition to the general adaptation strategies and actions, each of the four documents proposed prioritised actions/projects, which needed to be urgently implemented. Some of the 28 priority actions were accompanied with associated cost.

2.9. Status of the Recommendations

An assessment was made on the present status of the implementation of these urgent/priority actions. The constraints for non-implementation have been identified and listed. As with the

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mitigation actions, the main reasons for lack of implementation is due to the absence of legislation, undefined institutional framework and arrangements. The resulting recommendations and follow up actions of the studies remain largely unimplemented. The two main reasons for this situation are as follows:

- i) these processes are driven by international agendas rather than national needs; and
- ii) unavailability of adequate resources (human, institutional and financial) necessary for implementation of the recommendations and measures highlighted.

Despite the seriousness of the findings and the desperate need for corrective actions there seems to be no perceived urgency for implementation of the recommendations. It therefore means that unless the international community makes available the resources necessary to implement the recommendations related to adaptation, the situation will not only continue unabated but also grow progressively worse.

2.10. Institutional Framework

A variety of stakeholders in a wide range of institutions play an important role in climate change related activities in Dominica. The continued and active involvement of these stakeholders is necessary if Dominica is to achieve its commitments to stabilize Green House Gas emissions and more importantly for successful implementation of both mitigation and adaptation measures. These institutions come from the public, private and civil society sectors; hence considerable amount of coordination of efforts is required. Private sector and civil society mistrust of the public sector must first be overcome in order for an effective partnership to be developed.

The list of stakeholders involved with climate change related activities include agencies which are involved in energy generation and distribution, transportation sector, research and development, education, agricultural production, resource mobilization, resource management, fuel importers and retailers, etc. These include the various departments of fisheries, forestry and wildlife, physical planning, disaster preparedness, agriculture, private sector etc. However principal among these is the Environmental Coordinating Unit (ECU).

The majority of the public sector agencies have Corporate Plans, as this is standard requirement in the sector. The majority of the agencies surveyed are experiencing manpower shortage. This situation does not only has negative implications for the programmes which they are implementing but also limit their ability to implement additional ones especially these which are required given the new dispensation (e.g. Dominica's increasing number of initiatives as a result of the International Conventions). Many of the agencies expressed a desire for employing more specialize staff, but this was not possible. The lack of manpower also provokes frequent staff redeployment sometime to areas outside of staff competencies.

Another significant issue is government's inability to provide the departments with the funds required for optimum functioning. Of all the departments surveyed only one (Planning) reported receiving 100% of the requested budgeted funds. All the others reported being allocated significantly lower amounts than that requested, and even then some received less than their allocated amount.

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This situation is expected to continue given government's severe balance of payments deficit, and its present public service reform programme. The austerity measures are expected to further reduce the public sector work force. This may mean that the services of some of the departments may be further compromised. This situation may pose new challenges for the ECU, whose mandate may have to include mobilizing of external funding through the mechanisms of the various International Conventions, to employ specialist for programme implementation. The ECU must therefore be transformed /strengthened in order to meet these new challenges

Due to the limited manpower resources in the Legal Affairs Department, the overwhelming work load coupled with governments present austerity programme, one option is for the ECU to mobilize external funding to employ the services of an environmental lawyer to prepare all the relevant drafts for submission to the Department of legal Affairs. It is anticipated that this issue will be addressed under the GEF funded project entitled "Implementation of Pilot Adaptation Measures in coastal areas in Dominica, St. Lucia and St. Vincent and the Grenadines".

2.11. Status of Convention Obligations

The Commonwealth of Dominica as a signatory to the Convention on Climate Change has committed itself to a number of undertakings. Even as a small island state with limited resources, Dominica has managed to fulfil a number of the convention's commitments. This could only have been possible with the financial resources provided under the GEF/UNDP.

The funding has enabled Dominica and many other islands in the Caribbean, to recruit international, regional and local consultants to conduct assessments, train personnel, implement public awareness campaigns and also complete national reports. These reports include the *INC*, *INC Phase II*, *Climate Change Issues Paper* and *Policy on Adaptation to Climate Change*. In addition the funding has allowed the employment of fulltime National Climate Change Coordinators since 2001 to coordinate the implementation of the various climate change projects.

Despite all the efforts at complying with the commitments of the Convention, Dominica is handicapped in the implementation of many of the recommendations. This is due to the fact that although funds are available from the GEF for mitigation, hardly any funding is available for adaptation. Despite the fact that many of the recommendations of the *INC* have not been implemented, Dominica has again secured additional funding for conducting the assessments and final completion of yet another National Communication. It is anticipated that the findings and recommendations of the *Second National Communication* will not differ fundamentally from those of the *Initial National Communication*.

This has caused many to question the rationale for conducting more of these assessments without an accompanying financial mechanism for implementation of the recommendation more specifically those, which relate to adaptation measures. For the very vulnerable small island Caribbean States with relatively insignificant contributions to Global Green House Gas emissions, but which are constantly ravaged by climate change related events, it would be more beneficial if funds were also made available for adaptation to compliment that provided for mitigation.

Section 3 – Capacity Assessment for Biodiversity and Biosafety ⁷

3.1. Overview

This stocktaking or “Capacity Assessment for Biodiversity and Biosafety” was produced as part of the National Capacity for Self Assessment (NCSA) Project. The specific tasks of the Capacity Assessment were similar to the Capacity Assessment for Climate Change. A summary of the key elements of the *Convention on Biological Diversity* (CBD), and related international instruments including the *Cartegena Protocol on Biosafety* is provided in *Annex 1*.

3.2. Convention on Biological Diversity (CBD) and Protocol on Biosafety

The *Convention on Biological Diversity* (CBD), is dedicated to promoting sustainable development, and recognises that Biological Diversity is,

“about more than plants, animals and micro organisms and their ecosystems – it is about people and our need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment in which to live.”

Article 1 of the Convention delineates the objectives, to be pursued in accordance with its relevant provisions, “are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.”

Dominica as a Party to the convention has the sovereign right to exploit its own resources pursuant to its own environmental policies, within its jurisdiction in accordance with the Charter of the United Nations and the principles of international law. In this regard a series of activities, projects and programmes have been initiated in Dominica for the enhancement of the environment, all of which cause no “damage to the environment of other States or of areas beyond the limits of national jurisdiction.”

Following the decision of the Conference of Parties (COP) of CBD a Protocol on bio-safety was advanced “specifically focusing on trans-boundary movement of any living modified organism (LMO) resulting from modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity, setting out for consideration, in particular, appropriate procedures for advance informed agreement.” This protocol was developed consistent with the principles of the precautionary approach as articulated in Principle 15 of the Rio Declaration on Environment and Development.

⁷ *Dominica Capacity Assessment for Biodiversity and Bio-Safety* by Nigel Lawrence (National Biodiversity and Biosafety Consultant)

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The Cartagena Protocol on Bio-safety, which followed the CBD, is a precautionary approach with the objective to;

“contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on trans-boundary movements.”

It is the responsibility of parties to the aforementioned international agreements to take whatever measures necessary to implement their obligations. Whatever is done under these agreements must not put human health at risk or compromise the integrity of the environment.

In order to implement these agreements, parties must display their capacity for their effective implementation. If that capacity is not available, capacity-building opportunities are provided consistent with the stated articles. “In order to be able to implement their obligations, Parties need appropriate institutional mechanisms and infrastructure, well-trained human resources, adequate funding as well as easy access to relevant information.”

It is in this light, in the process of establishing capacity-building needs that the exercise in capacity assessment for biodiversity and bio-safety is conducted.

3.3. Methodology

The stocktaking was initiated through a review of relevant documents, including Dominica’s *National Biodiversity Strategy and Action Plan*, and the *National Biosafety Framework*. Additionally, to be able to paint an accurate picture of the relevant situation in Dominica, various institutions and stake-holders were contacted to review, augment and cite shortcomings that will have to be considered by the relevant authority in chartering a way forward to meeting this nation’s obligations as party to the CBD and Cartagena Protocol.

3.4. National Response - Biodiversity

Dominica is one of the 175 countries that have ratified the Convention on Biological Diversity, the first global agreement on the conservation and sustainable use of biological diversity. That Convention’s three main goals being

- “The conservation of biodiversity,
- Sustainable use of the components of biodiversity, and
- Sharing the benefits arising from the commercial and other utilization of genetic resources in a fair and equitable way”.

Since then Dominica has put in place some essential structures and has facilitated the development of the *Dominica Biodiversity Strategy and Action Plan* (DBSAP), following a nationally consultative process, guided by a Steering Committee and a Coordinator, appointed in the latter part of 2000. In January of 2002, the Government of Dominica approved the DBSAP.

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Highlighted as high priority to Dominica, in conformity to the CBD, are the thirty-two (32) Strategic Directions contained in the DBSAP. These strategic directions also contained in the *First National Report* to the Conference of Parties, are elaborated in the form of a series of actions, schedules and budget programming.

Because of inappropriate timing of the coming into effect of the DBSAP and Public Sector Programme plans, which were severely hampered by government's fiscal austerity measures, most of the anticipated actions could not be addressed. Despite these setbacks, according to that First Report, Dominica achieved a fair level of compliance based on traditional awareness of and the need for Biological Conservation and their sustainable use.

3.5. National Response - Biosafety

On 29 January 2000 in Montreal, Canada, the *Cartagena Protocol on Bio-safety* (CPB) to the *Convention on Biological Diversity* was adopted by the Conference of the Parties to the Convention. Dominica (*accession*) is among the 117 parties that have submitted their instruments of ratification or accession to the UN Secretary General. The aforementioned Convention and the Cartagena Protocol are "legally binding; countries that join are obliged to implement its provisions" and that presents a challenge to countries like Dominica. However, these challenges have not prevented Dominica from making progress in registering its commitment to the letter of the convention by way of planned framework of actions.

Section 6 of the *Dominica Biodiversity Strategy and Action Plan – Country Study* and the Stocktaking undertaken under the Biosafety Framework Project detail the implications and corollary impacts of biotechnology and the ratification of the *Cartagena Protocol on Bio-safety* by Dominica can have on the biological diversity of Dominica and the country on the whole. All major documents on the issue of Biological Diversity (Dominica's Biodiversity Country Study, Dominica's First and Second National Report to the Conference of Parties – Convention of Biological Diversity, Dominica's Biodiversity Strategy and Action Plan) highlight the importance of Bio-safety and set a course of action to be pursued for the attainment of requirements of the respective conventions in this regard.

The issue of Biosafety was not well-known in Dominica. Although Dominica like many other Small Island Developing States (SIDS) is heavily dependent on food imports and agricultural inputs including seeds and micro-biological agents, all of which have become targets for the application of modern biotechnology. In 2003, in view of the importance of the issue, Dominica initiated work on a project to develop a National Biosafety Framework. The objective of the project was to prepare the *National Biosafety Framework* in accordance with relevant provisions of the *Cartagena Protocol on Biosafety* with the main elements of this Framework: -

- A regulatory system;
- Administrative System; and
- A decision-making system that includes risk assessment and management mechanism for public participation and information.

As a result, the *Biosafety and Biotechnology Management Bill*, which legally establishes all the above elements and addressed the critical issues of biosafety, was produced. This draft

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legislation has been reviewed through extensive stakeholder consultations and is currently with the Office of the Attorney General awaiting presentation to the National Assembly (Parliament).

Public Awareness materials (biosafety handbook, brochure, factsheet on the proposed legal and institutional framework, and calendar) were produced as part of public awareness campaign and distributed to various Government departments, NGOs, schools, business places, and village and city councils around the island. Additionally, a five-day Training Course on biosafety risk management was conducted with International, Regional and local consultants for 30 key stakeholders from the public and private sector.

The Project met, or in the case of the new legislation that has been developed for Dominica exceeded, most of the outputs listed on the project document except the development of a National Biosafety database and linkage to the Biosafety Clearing House (BCH). The principal obstacle encountered in the establishment of the BCH relates to the limited availability of resources to design, establish and operate the web-based system.

3.6. Recommendations - Biodiversity

The findings of this stocktaking and evaluation reveal that there has been progress in certain areas since the development of the *National Biodiversity Strategy and Action Plan* but there remain salient bottlenecks that have to be overcome and related actions to see to development and strengthening of institutional capacities across all sectors as well as targeted profound public awareness.

A listing of recommendations or corrective actions based on stakeholders expressed needs is summarized below.

1. The major agencies to implement the different components of the *Convention on Biological Diversity* (and the Bio-safety Protocol) all have instruments of law, which legitimises their existence, and the execution of various functions. Many of these authorities and instruments were instituted before the CBD came into force and as such, the new roles and functions that are mandated by recent international agreements present varied challenges. Measures and mechanisms to address and accommodate the more recent developments in the said agreements have to be developed and or adapted. In many instances, subsequent regulations must be redrafted, or amended to be able to give the respective agencies the latitude and means to implement the convention's mandates.
2. Although the country does not have an "Environment Act", there are in excess of twenty (20) different pieces of legislation in place, which address the issues related to the preservation of the environment in Dominica. There are many more in process and several other pieces of proposed amendments awaiting enactment. There is a need to rationalize, harmonize and coordinate.
3. Laws are deemed "the instrument" giving each party involved in the implementation of CBD or the protocol the impetus to make the difference. Effective implementation of the CDB, in part through appropriate legislation, involves a number of new pieces of

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legislation to be drawn up and, or the amendment to many. Two issues now comes into focus, the rate at which the department responsible for framing these new or amended laws, must be improved or if it is an over-burdened entity, help must be sought to alleviate the situation. The new laws must be comprehensive enough to reduce the significant level of grey area, the many gaps and the substantial levels of overlapping of jurisdiction. All these will involve a certain degree of extension of time to become a reality when the expressed concerns have been set as urgent. An alternative could be the drafting of *one comprehensive piece of legislation applicable to CBD, Bio-safety and complete environmental protection, or an integrated environmental piece of legislation should be considered.*

4. The Dominica Bureau of Standards has developed a framework of standards which are globally accepted. In light of the many request for new regulations, *mandatory standards can be set up as alternatives.*
5. There are minute differences in the overall needs of the agencies that have a stake in the implementation of the CBD and the bio-safety protocol. The capacity constraints beam a similar picture, which hinges on the need for appropriate legislation, training and public awareness. Financial resources are a major factor that cannot be over emphasised as has been adequately articulated in the NBSAP and reports to the COP. This brings to bear on the notion to question whether there will ever be the required human and financial capacity to execute the relevant parts of the CBD.
6. There is no absence of enthusiasm on the part of the various institutions and agencies to implement the relevant sections of the CBD and the Bio-safety protocol. Likewise, there is an abundance of hurdles to overcome before any implementation can take place. What is definitely required for any forward process is captured in this excerpt from the *Biodiversity Strategy and Action Plan Country Study (2002)*:
“There is need for adequate institutional, political and technical capacity and the necessary legal framework to effectively conserve and manage the country’s terrestrial and marine biodiversity”.
7. Any factor, which would tend to deprive these needs, must be deemed a constraint and there are many. Moreover, the constraints are so similar it appears that there seems to be little difference viewing them in different categories. This may be because the ambit within which to assess any degree of capacity constraint is relatively small. There is no excess capacity existing in any sector that can be re-deployed. The potential for creating new and enhancing existing capacities is almost equal right across the board. Thus, this presents a scenario which would imply that most of the capacity needs and constraints can be addressed collectively or within set pooled areas, jurisdictions or fields of interest. Such has been the case that is already under review - *to have a central laboratory facility to collectively serve all sectors, institutions, departments, etc.*
8. Finance is an overall limiting force which in all circumstances is not readily available. Government’s policy dictates that there will be austerity measures and so *all strategies, to improve capacity, will have to be under limited scope, and made to be super efficient.*

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Thus, *finance from alternate sources will have to be sought. Advantage must be taken of mechanisms developed in Articles 20 and 21 of the CBD which will reduce considerably financial burden of the government.*

9. Consideration must be given to *pooling of human resources* wherever possible to develop the capacity for implementation of all conventions. This should follow the lead of the central laboratory proposal and the same in cases of expertise. Therefore, *training opportunities granted must be structured and made in consideration of the overall national need.*
10. The Environmental Coordinating Unit (ECU) which has been the hub around which all environmental activities pertinent to relative international conventions revolve and evolve, must have its status augmented. It must be given the status of an Environmental Management Department as opposed to a unit (signifying an accommodating arrangement) and, or a resource management component of it be established. Any change in the status of this entity must carry with it the required staffing contingent.
11. Public sensitization has been deemed an area within the lowest ebb by most sectors. In order to give public awareness that boost *a revival or revitalization of an entity such as the Rural Communications Unit (RCU) should take effect.* That would be dedicated resources towards PR for promoting international agreements among others.
12. A high degree of ignorance or disregard for the convention had been observed during the execution of the assignment, notably by prominent stakeholders such as statutory bodies, large private enterprises and the likes. Educating that sector of society is critical and is urgently required. Innovative ways of getting to the key policy and decision making persons is to be devised. Measures beyond workshops and seminars that their subordinates attend are needed. Laws and incentives to encourage direct participation as a means of sensitizing them must be considered. Measures such as sponsorship of media blitz citing a particular institution as a corporate model is to be looked into.
13. To prevent loss of traditional knowledge (*ethno-knowledge*), and *pirating of same from vulnerable sources as is the case with the First People, a policy to guarantee patenting such information must be put in place. There is need to develop capacity within the Territory, through appropriate educational opportunities to the First People, to be able to play a leading role in the direction of sustainable utilization of the available natural resources.*

3.7. Recommendations – Biosafety

In regard to the *Cartagena Protocol*, the stocktaking report found that considerable progress had been made in the establishment of the necessary biosafety framework that is required to effectively implement requirements of this agreement. However, it was recommended that there must be a definite policy by government on biotechnology. The issue of the ethics of that new sphere should not be ignored.

Dominica joins other CARICOM countries in implementing the provisions of the Biosafety Protocol. Of these provisions, those relating to the “Decision Making System” will be the most challenging to enforce. This is because this provision requires significant multidisciplinary technical capacity in biosafety, particularly in areas of risk assessment and risk management. Adequate skills in these areas are usually available within well-developed industries requiring their frequent application. The biosafety challenge for Dominica and other CARICOM countries is brought into sharper focus when one considers that LMOs are new developments and for this reason their behavior in the environment and risks associated with their use are generally not known at the moment. The immediate justification for enforcing the biosafety provisions is based on the nature and relevance of the potential threats LMOs pose to CARICOM countries.

A regional expert⁸ undertook a study for Dominica of regional biosafety activities and capabilities. This study concluded that LMOs could be considered great potential threats to agriculture with implications for rural development and sustainable livelihoods in CARICOM. There are also potential threats to biodiversity. The study and assessment concluded that capacity to comply with the Biosafety Protocol in the areas of risk assessment and risk management is seriously lacking in CARICOM. As mentioned before, biosafety based on risk assessment and risk management is dependent on access to a broad skills base. The UNEP/GEF- sponsored National Biosafety Framework Project has identified the minimum complement of skills drawn from the following disciplines: genetics, agronomy, weed science, plant pathology, animal breeding, animal pathology, environmental toxicology, ecology, entomology, virology and microbiology. Within CARICOM, the fullest complement of these skills is generally available, albeit, in limited supply in Trinidad and Tobago, Barbados and Jamaica and most frequently associated with the University of the West Indies.

Inadequacy in biosafety capacity will minimize safeguards to potential adverse risks associated with the application of modern biotechnology. Adequate capacity to undertake risk assessment and risk management is also needed to support development of biotechnology within CARICOM. This is because compliance with the biosafety regime of the Biosafety Protocol is important for development of a biotechnology industry conforming to international standards.

The modern biotechnology thrust within CARICOM is based mainly at the campuses of the University of the West Indies. For most part, the thrust is based on the application of genetic engineering techniques to areas other than LMO development.

⁸ *Survey and Evaluation of National and Regional Capacities in the Area of Biosafety Risk Assessment/Management*. Professor L. O’Garro. Government of Dominica. 2004.

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Given that importance of biosafety based on risk assessment and risk management for the operation of the Biosafety Protocol and the acute lack of capacity in Dominica and other CARICOM countries in these areas, it is important that action be taken to adequately address biosafety concerns associated with modern biotechnology. This is because an effective biosafety capacity in each CARICOM country is required to give government, policy makers, the general public and international biotechnology industry confidence in each country's ability to deal effectively with the increasing number of confronting biotechnology related issues requiring biosafety response.

Notwithstanding the fact that individual CARICOM countries lack effective biosafety capacity, harnessing the relevant regional skills in an institutional arrangement to establish a common human resource and technical capacity for all participating countries could adequately address the biosafety capacity concerns. Given the multiplicity of stakeholders that will be involved in the biosafety process, coordination and cohesion will be critically important points of any intention to bring regional cooperativity to biosafety enforcement. In this context, a proposal is being made for the creation of a CARICOM or Regional Competent Biosafety Authority (RCA) for the overall purpose of meeting the shortfall in skills by coordinating and enhancing the human and infrastructural capacity within the collective principal regulatory body to carry out comprehensive and efficient biosafety enforcements. This approach is supported by the legislation developed in Dominica.

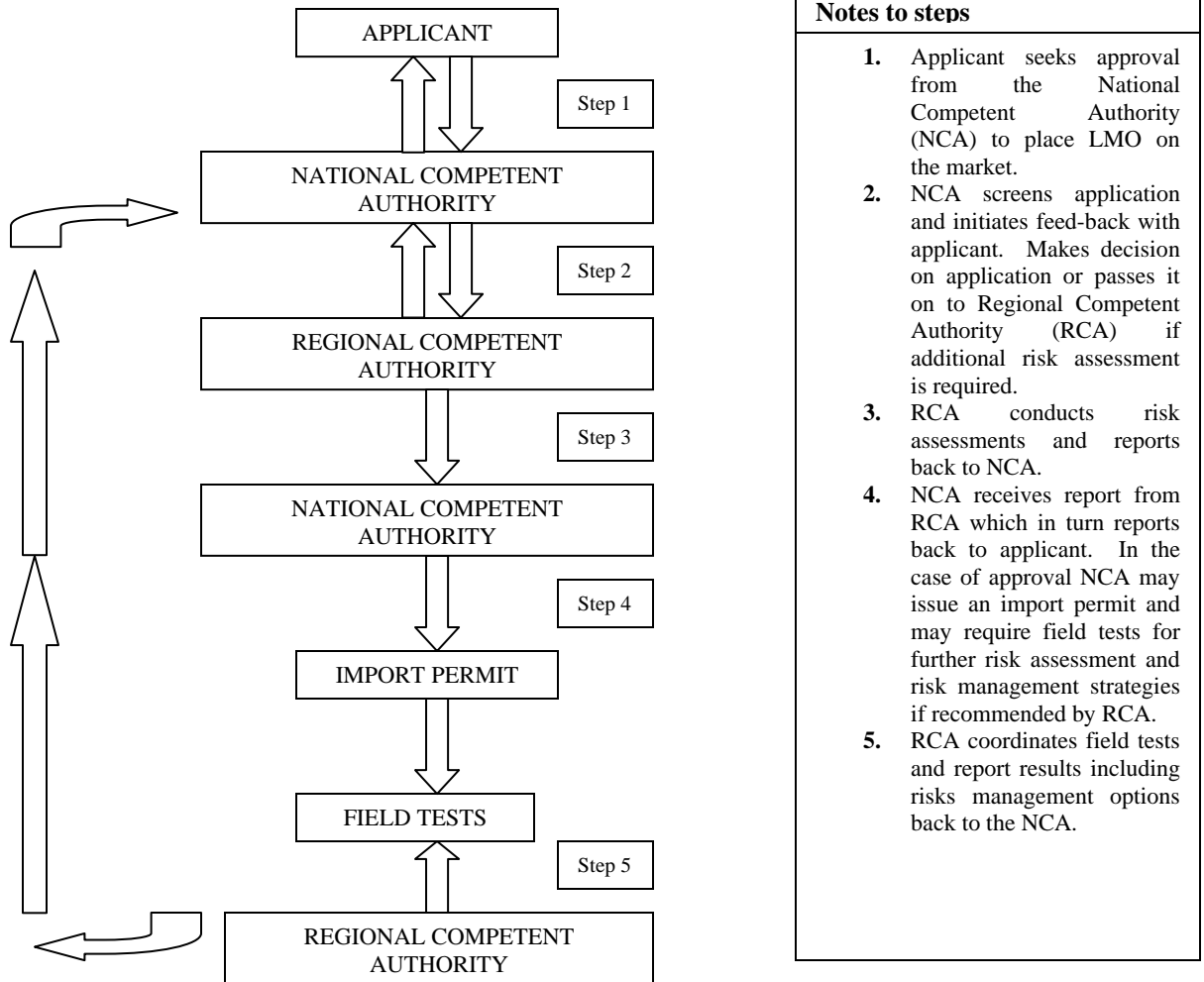
The RCA will accomplish the general aim above through the following specific objectives:

- 1) Provide national biosafety regulatory agencies, which will otherwise lack indigenous capacity to carry out and oversee technical functions in biosafety operations, access to the appropriate technical and human resource capabilities.
- 2) Provide complementary infrastructure to create greater capacity to detect and handle products of modern biotechnology and assist in establishing co-sharing arrangements of containment facilities.
- 3) Provide and enhance acquisition of technical information on biosafety of relevance to CARICOM.
- 4) Provide partnerships and regional cooperation in capacity building through effective collaboration and linkages among national biosafety regulatory agencies as well as with more advanced laboratories, donors and stakeholders in the area of biosafety.
- 5) Provide common pre-clearance of modern biotechnology products deemed safe for entry to the CARICOM market.
- 6) Provide the functions of a regional node for biosafety information for each participating country and for the Biosafety Clearing House of the Biosafety Protocol.

It is expected that the advent of the RCA will lead to the operation of standardized efficient biosafety regimes in each CARICOM country. The proposed role of the RCA in risk assessment and risk management and its functional relationship with the national regulatory body (NCA) are illustrated in the figure overleaf:

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Figure 1. Proposed role of a regional competent authority in risk assessment and risk management and its functional relationship with national regulatory bodies.



Section 4 – Capacity Assessment for Land Degradation and Persistent Organic Pollutants⁹

4.1. Overview

This stocktaking or “Capacity Assessment for Climate Change” was produced as part of the National Capacity for Self Assessment (NCSA) Project. The specific tasks of the Capacity Assessment were similar to the Capacity Assessment for Climate Change. A summary of the key elements of the *United Nations Convention to Combat Desertification and Drought* (UNCCD) is provided in *Annex I*.

4.2. United Nations Convention to Combat Desertification (UNCCD)

In 1997 Dominica became a party to the 1996 *United Nations Convention to Combat Desertification* (UNCCD) - an international convention aimed at combating land degradation. The objective of the convention is “*to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification*”. Under the CCD, *desertification* refers to “land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities”. These areas are particularly vulnerable to over-exploitation, inappropriate land-use, the effects of poverty, political instability, deforestation, overgrazing and poor irrigation practises. The CCD Secretariat estimates that drought and desertification affects 110 countries and directly threatens the livelihoods of 250 million people with more than one billion people at risk. In *combating desertification* the Convention envisages “activities which are part of the integrated development of land in arid, semi-arid and dry sub-humid areas for sustainable development which are aimed at:

- (i) Prevention and/or reduction of land degradation;
- (ii) Rehabilitation of partly degraded land; and
- (iii) Reclamation of desertified land.”

UNCCD defines “land degradation” as the deterioration or total loss – temporary or lowering – of the productive capacity of land for present and future use. Such loss occurs mainly because of soil erosion, adverse human impact on water resources, deforestation, and of chemical and physical deterioration. The biggest threat to land degradation and water resources is improper human practices mainly through deforestation and the intensive cultivation of agriculture on steep slopes leading to soil erosion. High sedimentation rates in rivers are encountered during the rainy season whilst a dry season during the first part of the year requires irrigation to sustain agricultural production/productivity

The convention is of particular importance to the island given its fragile natural environment and unique physiographic features which make it very susceptible to the effects of land degradation.

⁹ *Capacity Assessment for Land Degradation and Persistent Organic Pollution (POP’s) on the National Capacity Self-Assessment (NCSA) Project* by Oliver Grell (National Land Degradation Consultant).

Central to meeting the provisions of the Convention is the development and implementation of a National Action Programme to prevent land degradation, with a focus on public participation and assisting local communities to help themselves in preventing and reversing the effects of degradation and drought.

4.3. Stockholm Convention on Persistent Organic Pollutants

On August 8, 2003 Dominica adopted an international treaty called the *Stockholm Convention on Persistent Organic Pollutants* aimed at restricting and ultimately eliminating their production, use, release and storage. Persistent Organic Pollutants (POPs) are chemicals that persist in the environment, accumulate in high concentrations in fatty tissues and are bio-magnified through the food-chain. Hence they constitute a serious environmental hazard that comes to expression as important long-term risks to individual species, to ecosystems and to human health. Dominica does not have any persistent organic pollutants (POPs) and co-ordination under the Convention is carried out by the Pesticides Control Board of the Ministry of Agriculture.

The objective of the *Stockholm Convention on Persistent Organic Pollutants* is to protect human health and the environment from persistent organic pollutants (POPs) which pose significant threats to health and the environment. The treaty targets 12 particularly toxic POPs for reduction and eventual elimination. It sets up a system for tracking additional chemicals identified as unacceptably hazardous. It recognizes that a special effort may sometimes be needed to phase out certain chemicals for certain uses and seeks to ensure that this effort is made. It also channels resources into cleaning up the existing stockpiles and dumps of POPs that litter the world's landscape.

4.4. Status of Implementation in Dominica

The stocktaking study reviewed and summarized national obligations under the relevant agreements. Its findings support the recommendations contained in the first and second national reports and considers them still relevant. It was also found that one of the most critical components of the Convention, the National Action Plan (NAP), has not yet been prepared. The NAP needs to be prepared urgently. Overall, status of compliance to the convention was low.

Work has recently commenced on a GEF-funded project to implement the *Stockholm Convention on Persistent Organic Pollutants*. Within the overall objective of the Convention, the project will:

- Prepare the ground for implementation of the Convention in Dominica;
- Assist Dominica in meetings its reporting and other obligations under the Convention; and
- Strengthen Dominica's national capacity to manage POPs and chemicals generally.

Since most of the POPs are agricultural chemicals and Dominica's economy is very much dependent on agriculture, it is important for Dominica as party to the Stockholm Convention to be aware of any existence of POPs within the island especially this sector. Given the undesirable characteristics of POPs, the preparation of the *National Implementation Plan (NIP)* as required under the Convention would be very advantageous to Dominica. As party to the Convention, Dominica will be in a position to prevent entry through trade of these products and to monitor

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their movement in trade worldwide. As a first step towards implementation of the Convention, Dominica will need to transmit its NIP to the CoP by May 16, 2006.

Initial research indicates that Dominica no longer imports most of the POPs currently covered by the Convention. Dominica does not possess the industries known as having potential for comparatively high formation and release of dioxins and furans from combustion processes. In addition, there is very limited available data on industrial POPs. Disposal of POPs will have to be a major component in the development and implementation of the NIP.

No research has been carried out in Dominica to examine the impact of POPs, its unintentional by-products and other toxic chemicals. This is compounded by the fact that there are no laboratory facilities for testing of POPs and POPs contaminated materials.

Funding from GEF will set Dominica securely on the path to ensuring that POPs and other hazardous chemicals are restricted, and its safe use, storage and disposal are adequately prohibited/regulated as necessary. Additionally, the capacity of various departments involved in environmental and health protection would be enhanced through the information acquired and the enactment of the appropriate legal framework, as a result of the implementation of the NIP.

4.5. Recommendations

The stocktaking and evaluation highlighted the following shortcomings and capacity constraints:

- Shortage of and inaccessibility to scientific data;
- In some cases legislation was deficient and enforcement often inadequate;
- Shortage of technically trained personnel;
- Inadequate infrastructure to support decision making;
- Limited involvement of the private sector in the decision making process and the implementation of safeguarding activities;
- Insufficient human and financial resources;
- Lack of harmonized policies and co-operative frameworks;
- Difficulty in developing and maintaining effective coordinated networks.

To correct the shortcomings identified above, the stocktaking report recommended that Dominica consider the following:

- Maintain forest reserves and national parks and establishment of forest on private lands;
- Encourage farmers to adopt and implement soil conservation measures that are cost effective and do not utilize scarce financial land and human resources;
- Build management and research capacity;
- Raise awareness in the general public on key issues relating to land degradation and the management of POPs;
- Maintain databases and facilitating access to technology;
- Promote interaction among all stakeholders including the private sector, local, national and international entities;
- Developing technical capacity to identify, prevent, monitor and manage potential threats;

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- Undertaking effective actions to prevent, mitigate, control problems associated with land degradation and POPs;
- Expanding resource capabilities through short formal in-service training courses or attachments.

As is the organisation mandated to implement the Conventions, the human and financial resources of the Environmental Coordinating Unit (ECU) need to be strengthened. The study notes the continuous efforts of the Ministry of Agriculture and the Environment at implementing programmes aimed at sustainable development. Such efforts are co-ordinated within the Ministry's internal management and reporting system.

Presently, the quantum of funds available at the local level for effectively fighting land degradation and desertification is far from sufficient. Innovative mechanisms and approaches will need to be adopted to effect urgently required interventions in the fight against desertification. Given these limited resources within Dominica, identification of opportunities to exploit and maximize the derived benefits from synergies among the Conventions will enhance the efficacy with which Dominica responds to the Convention and utilisation of limited resources. In this regard, the government of Dominica will seek to mobilize resources from local, regional and international funding agencies and other friendly governments, as well as the UNCCD Secretariat to undertake projects and programmes geared at implementing the Convention.

Section 5 – Synergies and Inter-Linkages Between Rio Conventions ¹⁰

5.1. Overview

As part of the NCSA process, an assessment was undertaken of the linkages between thematic areas which provides an important opportunity to facilitate an integrated approach to implementation of the conventions at the local, national and regional levels, through greater understanding of the commonalities and overlaps between the conventions. The report on the evaluation contains the assessment that addresses, amongst other matters:

- the lack of formal institutional mechanisms for coordinated action or information sharing among government resource management agencies (either bilateral or multi-institutional);
- unclear and often overlapping institutional mandates (e.g. mangroves are the responsibility of both forestry and fisheries divisions);
- policies of the international agencies currently providing financial assistance to the country are sometimes in contradiction of environmental goals or government priorities, and often conflict with one another;
- monitoring and enforcement of environmental laws and regulations is inadequate, because of lack of resources, incomplete laws and regulations, and lack of cooperation and support of the police and judiciary;
- and finally, environmental laws are not binding on government activities (e.g. government projects do not have to perform environmental impact assessments), which limits the capacity to manage resources sustainably or to generate public support for conservation.

The assessment of these issues was undertaken with the view of identifying inadequate existing legislation and policy, overlaps in legislation and institutional mandates, and ways of harmonizing laws and regulations to provide a more efficient legal and policy framework. A summary and comparative analysis of the key elements of the *United Nations Framework Convention on Climate Change* (UNFCCC), the *United Nations Convention to Combat Desertification and Drought* (UNCCD), and the *Convention on Biological Diversity* (CBD), and related international instruments including the *Cartegena Protocol on Biosafety* is provided in **Annex I**.

5.2. Interlinkages, Overlaps and Synergies

In arriving at a practical definition of synergies in the implementation of the Rio Conventions, the report highlighted the importance of drawing a distinction between three separate but interrelated concepts: interlinkages, overlaps, and synergies:

- *Interlinkages* often represents the formal and informal coordination mechanisms that have been come into being between different MEAs, though some consider the term to be synonymous with “overlaps” or “intersections”;

¹⁰ *Report on Synergies and Inter-Linkages Between Rio Conventions* by George de Berdt Romilly B.L., LL.B., LL.M. (International Consultant)

- *Overlaps* describe situations where particular MEAs intersect with respect to their specific provisions or areas of competence creating the potential for conflict, duplication of efforts, and, of course, synergy;
- *Synergies*, on the other hand, refer to the amplified positive impacts that can result from coordinating the implementation of related or interlinked MEAs in an effective and appropriate manner¹¹.

The starting point for this evaluation was a comparison of key elements of the relevant Rio Conventions. This comparative analysis has been presented in table format for ease of reference (see *Annex 1*).

5.3. Summary of Interlinkages, Overlaps and Synergies

The following summary identifies interlinkages, overlaps, and synergies between the three Rio Conventions that have been identified.

5.3.1. *Interlinkages* – which represents the formal and informal coordination mechanisms that have been come into being between different MEAs, namely:

- Universal need to strengthen legal framework and provide legislative basis for improved inter-agency collaboration and coordination and collaboration.
- Improved inter-agency coordination and collaboration required for effective implementation of all Conventions.
- Mainstream into all sectoral policies and programs – which facilitates policy coordination, joint preparation for negotiation and ratification of Conventions, and integrated implementation strategies.
- Multi-stakeholder participation required for effective implementation of all conventions – which facilitates participatory assessments and joint planning procedures, and ensures strengthened ownership, and information sharing.
- Universal need for coordination and collaboration on public education and awareness.
- Universal need for improved collaboration and coordination on research and data management.
- Universal need for training in order to effectively implement all Conventions.
- Establishment of land use policy and plan and hazard/vulnerability maps required for effective implementation of Rio Conventions.

5.3.2. *Overlaps* - describes situations where particular MEAs intersect with respect to their specific provisions or areas of competence creating the potential for conflict, duplication of efforts, and, of course, synergy, namely:

- High level political support required for the effective implementation of all Conventions.
- Communicate to the Conference of the Parties information related to implementation required for all Conventions.
- National Sustainable Development Strategies required for effective implementation of all Conventions.

¹¹ - *National Capacity Self-Assessments* - UNDP/GEF Resource Kit (No. 3)

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- Sustainable forest management, and the conservation and enhancement, as appropriate, of sinks and reservoirs (i.e. forest areas) required in Rio Conventions.
- Effective implementation of all Conventions requires the review and strengthening of existing institutional and legislative frameworks for physical planning and environmental management.
- Development and elaboration of appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas affected by drought and desertification, as well as floods - required for effective implementation of all Conventions.
- Protection of traditional knowledge required for effective implementation of all Conventions.
- Strengthened networks within the environmental community, and between the environment and the broader governance communities required for effective implementation of all Conventions.
- Use of Environmental Impact Assessments (EIA) as a tool for implementing Convention requirements – to be legislated.
- Universal need for sound land, forest and watershed management for effective implementation of all Conventions.
- The effective implementation of each Convention requires the protection of agro-biodiversity, the development of national food security program, and the promotion of agricultural diversification.
- Development and implementation of an integrated multi-sectoral national water resources management framework with supporting legislation required for effective implementation of all Conventions.
- Training required for effective implementation of all Conventions.
- Public awareness and information programs required for effective implementation of all Conventions, in addition to the facilitation of public access to information.
- All Conventions require promotion and cooperation in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives.
- Public consultations required for the development of National Reports and Strategies in respect of all Conventions.

5.3.4. Synergies - refers to the amplified positive impacts that can result from coordinating the implementation of related or interlinked Conventions in an effective and appropriate manner, namely:

- Harmonization of reporting and Strategies/Action Plans under Conventions – which serves three purposes, namely (i) the reduction in resource requirements; (ii) the integration and harmonization of public consultation processes; and (iii) the formal integration of cross-sectoral issues into a unified and coordinated report or strategy (National Sustainable Development Strategy?).
- Establishment of single coordinating structure for implementation of Conventions (restructured National Sustainable Development Council under legal mandate?)
- Strengthen the legal and institutional capacity of key agencies – including the ECU and the National Parks Division - to coordinate the effective implementation of all the Conventions.
- Strengthen institutional synergies and rationalize the sharing of institutional resources between government agencies responsible for environmental and resource management (i.e.

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ECU, National Parks and Wildlife, Physical Planning) to facilitate the effective implementation of all the Conventions.

- Establish a coordinated public education, information and awareness program to address all the Conventions.
- Collaborative data collection, storage, management and exchange and the development of key inventories and data banks.

While there has been considerable rhetoric at the global level about promoting synergies between Multilateral Environmental Agreements (MEAs), the reality of implementation at the national and local levels falls far short of this goal. Stand-alone, piecemeal approaches to helping Dominica meet its obligations have proven inadequate and have resulted in the diversion of already scarce resources from national sustainable development efforts. It is anticipated that the cross-cutting focus of this study, which is one of the unique aspects of the NCSA process, will assist in identifying opportunities for strengthening Dominica's capacity for effective implementation of the Rio Conventions.

Section 6 – Outputs from National Workshops – The Way Forward

6.1. Overview

A series of national consultative workshop were convened with key stakeholders (see list of participants *Annex 2*) on the 28th and 29th July 2005, and the 18th January 2006. Facilitated by regional and international experts, the objectives of the workshops were to:

- Review the thematic (climate change, biodiversity and biosafety, land degradation and POPS) stocktaking and cross-sectoral reports;
- Identify priority capacity limitations and needs; and
- Identify key elements of a Strategy and Action Plan that includes concrete proposals for capacity building initiatives for future consideration by the Global Environment facility (GEF) and other interested donors.

6.2. Priority Capacity Limitations and Needs

Stakeholders at the national consultative workshops identified the following priority capacity limitations and needs:

6.2.1. Priorities - Climate Change

- (a) Strengthen the Environmental Coordinating Unit (ECU) with a legal mandate to carryout their functions under the various MEAs.
- (b) Establishing an Environmental Advisory Committee that should be legally established with selected sub-committees to address the specific MEAs. The Environmental Advisory Committee should have a defined composition and procedure.
- (c) Propose one formal strategy with various action plans rather than a separate strategy for each MEA. One descriptive report and several prescriptive components should be the structure of such an integrated strategy. General support for filing of one country report which covers all thematic areas under the conventions rather than separate reports to each convention Secretariat. Need to mobilize regional support for the filing of a single report by SIDS in the region.
- (d) Need strengthened capacity for negotiation of MEAs. A dedicated and technically-oriented team with knowledge of the Conventions is required.
- (e) Standardization of equipment and procedures required for effective implementation of MEAs. Pooling of resources and equipment is preferred.
- (f) Develop national capacity to address meteorology and hydrology needs, and acquire skills in hydrology.

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- (g) Human resources for data collection to be strengthened. Sharing of data needs to be formalized and technical capacity strengthened. Need to harness the capacity of youth, farmers, fishermen and local communities in furthering environmental issues (e.g. to undertake various monitoring programmes).
- (h) ECU needs to establish a website/personnel to input information on the various MEAs to allow great access to public.
- (i) Develop a national capacity in the area of environmental laws to deal with negotiation, implementation and enforcement of MEAs and the rationalization of national laws.

6.2.2. Priorities - Biodiversity and Biosafety

- (a) Legislation - Review, revise, update and implement legislative framework for effective environmental management and implementation of relevant MEAs. Enact biosafety legislation as a priority.
- (b) Training and Public Awareness - Establish comprehensive training and public awareness campaign. Training needed on biosafety risk assessment, certification and labeling. Public education and awareness required to address transportation, handling and storage of GMOs. Specialized training required for farmers, agricultural extension officers, shippers, ports officers, customs.
- (c) Human Resource Capacity – Upgrade and strengthen the National Parks Unit. Strengthen capacity of existing human resources, in part through training of trainers. Continued education and training required for agencies and relevant departments directly involved in implementation of MEAs. Biosafety training and awareness campaign required for custom officers. Need to strengthen inspection capacity to address “barrel economy”.
- (d) Biosafety Risk Assessment - No national capacity to do biosafety risk assessment. Regional cooperation required on risk assessments, labeling, training of experts, transportation and certification at point of export. Need to look at regional capacity and training to address this issue. Lab facilities to test GMOs if Dominica cannot access regional resources to do biosafety risk assessment.
- (e) Communications - Formal communication systems to be established and strengthened.
- (f) Regional Co-operation - CARICOM/EU Cooperation required on trade and environmental/health risk and setting regional environmental standards.
- (g) Traditional Knowledge - Take traditional knowledge and use into account in all biodiversity conservation measures.

6.2.4. Priorities - Land Degradation

(a) Institutional Capacity

To be strengthened through -

- (i) Development and implementation of comprehensive land use plan;
- (ii) Training;
- (iii) Data collection (includes economical evaluation of natural resources: water, forest);
- (iv) Strengthened technical and human capacity within the Physical Planning Unit which is important for effective implementation.

(b) Synergies

Synergies between the MEAs promote the following:

- (i) Harmonizing and strengthening of legislation, developing new legislation where required (e.g. to address ownership/copyright issue and the establishment of environmental legislation) which should be supported by government policy that supports legislative reform.
- (ii) Harmonized training/public awareness/education/capacity building/networking programs.
- (iii) Harmonized reporting to International Agencies.
- (iv) Pooling of resources and improved networking (inter- and intra- Ministries) and between regional and international agencies.

6.3. Key Elements of a *Strategy and Action Plan*

Stakeholders at the national consultative workshop identified the following key elements of a strategy and action plan to address priority capacity limitations and needs – (*See over*):

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ACTION PLAN – Climate Change

Action to be taken	How	Responsible Agency	Timeframe	Resources
Strengthen the ECU with a legal mandate as well as technical capacity to carryout their functions. Revisit MEA Council with selected technical committees to address the specific MEAs. Council should have a defined composition and procedure. Also, a legal mandate.	(a) Staffing, (b) Review and update existing environmental related legislation and develop new Act	ECU/Minister for Environment, Legal Affairs	1 year	Legal draftsman (international), technical expertise, finance,
Develop a national capacity in the area of environmental laws to deal with negotiation, implementation and enforcements of MEAs and the rationalization of national laws.	(a) identify resource needs; (b) train a cadre of recent graduates to develop environmental legislation.	MEA Committee, ECU, legal affairs	2 years	International Expertise, young graduates, finance
Standardization of equipment and procedures required; Pooling of resources and equipment.	Review and update inventory with a view to standardize equipment and procedure	Met. Office	2 years	Technical staff, equipment, finance
Human resources for data collection to be strengthened. Sharing of data needs to be formalized and technical capacity strengthened; Need to harness the capacity of youth, farmers, fishermen and local communities in furthering environmental issues; e.g. to undertake various monitoring programmes.	(a) Gap analysis and needs assessment; (b) training (c) public awareness	All stakeholders	1 year	Technical staff, equipment, finance
Develop national capacity to address meteorology and hydrology; Needs skills in hydrology.	(a) Establish a Met and hydro department	Ministry of Communication s & Works	1 – 3 years	Finance, Technical Expertise
One formal strategy with various action plans; One descriptive report and several prescriptive components; General support for filing of one report which covers all thematic areas under the conventions. Need to mobilize regional support for the filing of a single report by SIDS in the region.	(a) Regional support (b) COP Meetings	Min. Foreign Affairs, Min. Agri – ECU OECS, CARICOM	1 year (?)	Technical expertise, Finance

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ACTION PLAN – Biosafety

Note: The priorities were placed into two broad categories;

- Training, Institutional strengthening, Public Awareness and Education
- Regional / International Co-operation

Capacity Issues	Who	How	Time-Frame	Resources
Enactment of Biosafety legislation <i>(Draft version of new legislation is in advanced stage of finalization. Requires parliament's approval to become law)</i>	ECU, Min of Agriculture	Workshop of Parliamentarians (PM., Ministers, Members of the Opposition), PS', Heads of entities such as: DBOS, Forestry, Police, Pest Control Board (PCB), ECU, Customs, Fisheries, Dom. Port Authority (DPA), etc	3 – 6 months	ECU / UNEP
Implementation	DBOS, Min of Agric., Police, PCB, ECU, Customs, DPA, etc.	Involves the execution of the bio-safety framework: <i>(implementation goes hand in hand with training listed on the sheet. All parties must be trained before matter is opened to the public)</i> -institutionalization -operationalisation -develop structures -establish expertise	6 mo. after enactment, up to 4 years to complete	UNEP-GEF, Gov't of Dom., FAO
Training:	<i>(From field level s to university level) cross-cutting with other training needs and targets (e.g. farmers)</i>	<ul style="list-style-type: none"> • Administrators <i>(risk assessments, LMO detections)</i> • Regulators • Experts 	From earliest convenience	
Regional / Int'l Cooperation <i>-risk assess't -laboratories etc.</i>	Head of State (PM), Ministers of Gov't, Diplomatic Corp, Foreign Service	Proposal from Gov't to be presented at respective forum such as Heads Meetings, COTED, Ministers of Agric/Environment, Meeting of Foreign Ministers, etc. At diplomatic Summits (as it pertains to EU/CARICOM).	Earliest Opportunity	Government
Traditional Knowledge (Priority K on attached sheet)	Collaboration with other sources and agencies in the region and diaspora to create awareness of the importance and value of traditional knowledge and preservation of gene pool			

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ACTION PLAN - Biodiversity

Action	Who (Executing Agency)	How	When (timeframe)	Resources (US\$)
LEGISLATIVE				
Review, revise, update and implement legislative	Ministry of Legal Affairs	Establish a review team made up of legal persons, technical persons and other stakeholders.	2 years	US\$150,000
Training and Public Awareness	ECU in collaboration with technical agencies	Media, Consultation	6 months	US\$50,000
Human Resource – Training of Trainers	Ministry of Education, HRD Centre, State College	On the job training: Persons with first degree given Masters or short term. Persons involved or those with interest.		US\$200,000
Training for agencies and relevant departments directly involved in implementation	Dominica State College Government Human Resource Centre	Group seminars and workshops	10 months	US\$150,000
INSTITUTIONAL				
Strengthen National Parks Unit	Ministry of Agriculture, Forestry and the Environment	Upgrade to National Parks Service and strengthen legal and policy framework, and human resources	12 months	US\$150,000
Formal Communication Systems	Ministry of Education, Documentation Centre, Government evolving website	Building database available for dissemination	18 months	US\$300,000

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ACTION PLAN – Land Degradation

Action	Who	How	When (timeframe)	Resources (US\$)
Public Awareness	ECU in collaboration with international partners and agents	Mass media, schools, meetings, seminars, workshop	ASAP – Duration: 1 year	100,000 from which the Government would donate 50,000 in kind
Training	ECU, relevant agencies (regional & international agencies).	Workshops, attachments, courses, seminars, university training, training of trainers.	ASAP-Duration: 3 years	500,000 from which the Government would donate 50% in kind
Data Collection and sharing	ECU, CARDI, UWI, other relevant agencies (regional, local, international)	Surveys, GIS Remote Sensing, field activities.	ASAP – Duration: 2 years	1,000,000 – Dominican Government will donate 50% in kind
Comprehensive Land Use Policy/Plan	Physical Planning relevant agencies trained personnel	National consultation, Literature review, data collection, interviews	ASAP – Duration: 2 years	1,000,000 – Dominican Government will donate 50% in kind
Law Reform	Ministry of Legal Affairs in collaboration with relevant agencies	Revise old laws, pass new laws, codification of all the laws	ASAP – Duration: 3-5 years	500,000 – Dominican Government will donate 50%

6.4. Evaluating Strategic Options

This NCSA Report containing the outcomes of the national consultations with stakeholders was circulated for public review and comment over a period of 6 weeks during the months of October and November 2005. This review of the report allowed Dominica to move from an understanding of the capacity constraints to a vision of potential opportunities and the development of strategic strategies, goals, programmes and projects.

At the completion of the public review process, a final national workshop was convened to evaluate comments arising from the public review of this Report in order to promote discussion and obtain consensus on a *Strategy and Action Plan* (see Section 7) to implement recommendations based on the outputs from the various stages of the NCSA process.

SECTION 7 - STRATEGY AND ACTION PLAN

7.0. Introduction

This section contains the final output from the NCSA process, namely the *Strategy and Action Plan* that provides for:

- Identification of strategy and actions to move Dominica into the next phase of implementation of Rio Conventions;
- Development of concrete project proposals for capacity building initiatives for future consideration by the Global environment Facility (GEF) and other interested donors.

Dominica's *NCSA Strategy and Action Plan*, as outlined in this section –

- defines practical measures that will build national capacity to take issues related to the three Conventions into account in general planning and strategy formulation;
- identifies ways to coordinate and harmonize overlapping activities among the three Conventions and help to ensure effective national measures to protect the global environment;
- focuses on capacity building that will identify overall goals, specific objectives to be achieved, and courses of action;
- supports the transition from this enabling activity to the actual implementation of identified follow up measures addressing loss in biodiversity, loss in soil fertility and climate change;
- defines mechanisms to facilitate and promote domestic awareness and knowledge about the three Conventions and their interrelationship; and
- defines mechanisms to facilitate and promote dialogue, information exchange and cooperation among all relevant stakeholders including governmental, non-governmental, academic and private sectors.

The NCSA process in Dominica has determined that the human and institutional resources required to optimize environmental management are currently not in place. To compound this problem, at present there is no holistic institutional system, with adequate structures and mechanisms, in place for environmental management in Dominica. Instead, there is fragmentation and duplication, without any clear delineation of roles and responsibilities. Currently, there is little real and meaningful consultation between the various bodies involved in environmental management. Meaningful consultation means that each entity not only knows what the others are doing, but also that the impact of actions in each area is assessed and evaluated before any actions are taken. Therefore, the effective establishment of an effective environmental management framework that will, amongst other national priorities, provide for the implementation of the Rio Conventions will require -

- the establishment and strengthening of linkages and networking between the institutions involved in environmental management;
- the strengthening of institutions and organizations that have key mandates and responsibilities for environmental management, most notably the Environmental Coordinating Unit (ECU), the National Parks Unit, and the Physical Planning Unit;
- the engagement of stakeholders for meaningful collaboration and consultation on environmental management.

7.1. Establishment and Strengthening of Linkages and Networking Between Institutions Involved in Environmental Management

7.1.1. Establishment of Environmental Advisory Committee (*Strategy 1*)

One of the most important issues identified by stakeholders was the need to strengthen inter-agency coordinating mechanisms which is necessary to address duplication and inconsistencies inherent in the current administrative framework for environmental management. A key feature of the proposed organizational framework for improved environmental management includes the formal establishment and empowerment of an *Environmental Advisory Committee*. Such a committee could effectively reduce the overlap, duplication, and poor use of limited resources that are evident in the establishment of various Rio Convention implementation committees. In this manner, it is suggested that the *Environmental Advisory Committee*, which should serve as a technical advisory group to the Director of the *Environment Department* (see *Section 7.3.1.*) could effectively serve the functions hitherto undertaken by the Climate Change Committee, the Biodiversity Committee, the Biosafety Committee, and the Convention Implementation Committees under the UNCCD, POPs, and other MEAs, in addition to an advisory group responsible for coordinating implementation activities under the *St. George's Declaration*, and the *Barbados Program of Action*.

Additionally, stakeholders consulted during the NCSA process have recognised that urgent consideration needs to be given to the harmonisation of all approval, licensing, permitting, monitoring and enforcement activities where they impact upon the environment or natural resources. Additionally, it was considered that the role of relevant utilities (i.e. utilities responsible for water, electricity, sewerage and solid waste), the private sector, non-governmental organisations, academic institutions, and community groups in development, planning and environmental management should be clearly identified. Stakeholders recognised that mechanisms should be established to resolve disputes relating to environmental and resource management, with consideration being given to alternate dispute resolution processes. It is considered that a high-level *Environmental Advisory Committee* should be formally established for this purpose.

Environmental Advisory Committee

The Environmental Advisory Committee should have a mandate to:

- (i) sensitize key players and decisions makers at all levels of society by facilitating dialogue on the importance of sustainable development and the responsibility it imposes on Government and other sectors and interests in society, as well as the need for all to work together in an integrated and coordinated manner;*
- (ii) coordinate the implementation of Dominica's programs under the UNFCCC, CBD, UNCCD, POPs, Cartagena Protocol, and other MEAs, and serve as national implementation committee for this purpose;*
- (iii) monitor national progress towards sustainable development measured against the dictates of AGENDA 21, the Programme of Action for Small Island Developing States, the St. George's Declaration, and the Rio Conventions;*
- (iv) advise the Government on issues related to international co-operation in the promotion of sustainable development and the implementation of the MEAs to which Dominica is a signatory;*
- (v) identify policy gaps, influence policy makers, and promote research, policy reform, programmes and legislation for sustainable development and the implementation of the Rio Conventions;*
- (vi) promote and facilitate capacity building and awareness programmes on sustainable development and the implementation of the Rio Conventions; and*
- (vii) co-ordinate and harmonize sustainable development and Rio Convention implementation activities at the national level.*

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It is proposed that the *Environmental Advisory Committee* be provided with a legislative basis (see Section 7.1.2.) that would allow it to function with confidence.

In order to ensure the sustainability and increase the effectiveness of the *Environmental Advisory Committee*, it has been recommended that consideration be given to providing legal status to the entity. The legislative framework that formally establishes the Committee should:

- (a) outline mechanisms for appointment of Committee members;
- (b) establish the structure of the Committee (sessions, frequency of meetings, reporting structures, working groups, sub-committees, technical support, etc.);
- (c) establish the roles, duties and functions of the Committee on which should include:
 - assist in the development and implementation of policies and strategies for environmental management and sustainable development;
 - co-ordinate sustainable development programmes, initiatives and activities;
 - facilitate dialogue, consultation, and consensus-building in furtherance of sustainable development;
 - follow-up and monitor implementation of *AGENDA 21*, the *Programme of Action for Small Island Developing States*, the *St. George's Declaration*, and the Rio Conventions (UNFCCC, CBD, UNCCD);
 - identify policy gaps, influence policy makers, and promote research, policy reform, programmes and legislation for sustainable development;
 - advise the Government on issues related to international co-operation in the promotion of sustainable development;
 - promote and facilitate capacity building and awareness programmes on sustainable development;
 - provide a forum for dispute resolution in development, environmental and resource management conflicts;
 - promote research in the area of sustainable development;
 - establish public awareness and education programmes in furtherance of sustainable development;
 - coordinate and harmonize sustainable development activities at the national level;
 - creating the linkages with the national planning process, and the national policy formulation process.
- (d) outline the policy formulation and dispute resolution processes to be utilized by the Committee, which should be through the broadest possible consultation.

One of the first tasks of the *Environmental Advisory Committee* shall be the rationalisation and harmonisation of the work of existing Committees and Boards that have an environmental management function (e.g. Climate Change Committee, Biodiversity Steering Committee, Biosafety Committee, Pesticides Control Board, etc.). It is considered that where possible, these Committees and Boards should be constituted as Sub-Committees of the *Environmental Advisory Committee*, reporting to the Director of the *Environment Department* (see Section 7.3.1.) in his capacity as Chair of the Committee. For the sake of certainty and to ensure co-ordination and harmonisation across government, all decisions of the Committee should be submitted to Cabinet for review and approval.

7.1.2. Improved Legal Framework for Environmental Management (*Strategy 2*)

Effective environmental management is inhibited by the failure to enforce environmental legislation. In some instances, it is a case of the absence of will to enforce or a lack of knowledge about existing legislation. In other cases, the legislation is outdated or the regulations for enforcement are absent.

Stakeholders have recognized that responsibility for the management of the environment must continue to be treated as a shared responsibility among Governmental, non-Governmental agencies, community groups and individuals. However, it is evident that a co-ordinated and integrated legal and institutional structure should be established, if duplication, confusion and wasted effort are to be avoided in the administration of the above-mentioned functions and responsibilities. There are a large number of legislative provisions in place that cover environmental issues and issues of sustainable development. However based on the research carried out during the NCSA process and the review of the existing legislation in Dominica, it is evident that there is a waste of resources in some cases since there is duplication of the functions of various bodies established under the different pieces of legislation.

It should be recognized that this situation is one that is not unique to Dominica, and is a legacy of colonial administrations. The establishment of a harmonized and coordinated legal and institutional structure for sound environmental management and planning at the national level has been initiated in recent years by other small island state governments. Notable among these are, Jamaica, Trinidad and Tobago in the Caribbean region, Fiji and Vanuatu in the South Pacific, and Seychelles and Mauritius in the Indian Ocean region. The experience of Jamaica and Trinidad and Tobago and these other small island countries is that considerable savings and improvement in effort will be achieved from the development of a comprehensive, consolidated and integrated institutional structure for environmental and resource management, within the context of a holistic legal framework.

The experience of other Caribbean countries such as Jamaica and Trinidad and Tobago, has demonstrated that sound environmental management will require the establishment of a comprehensive and integrated legal and institutional framework to address various environmental management matters. Most importantly, the enactment of comprehensive environmental legislation has been demonstrated to be an effective “instrument for change” and has acted as a catalyst to promote and encourage a variety of environmental management activities by government, non-governmental organizations and civil society. It is considered that the enactment of comprehensive environmental legislation in Dominica would serve a similar function. For this reason, the development and enactment of comprehensive environmental legislation should be regarded as a high priority.

It is recommended that Dominica embark upon an extensive consultation process to formulate a comprehensive *Environmental Management Act*. To initiate the process, Cabinet approval should be sought, and adequate resources provided to ensure a successful conclusion to the exercise. The initiative should be undertaken by the **Environment Department** (see *Section 7.3.1.*) and the Attorney General's Chambers. To develop the level of public support that will be necessary to ensure that the legislation is enacted and subsequently enforced, the legal drafting process

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should be carried out through broad-based consultation with government departments, the private sector, non-governmental organisations, and the public. In order to avoid inter-ministerial conflict, it is apparent that there will need to be established an inter-departmental consultative process in view of the fact that the proposed new *Environment Management Act* will impact upon the administrative and regulatory operations of a number of government ministries and agencies. Adequate resources should be provided to support the initiative. In this regard, some guidance can be obtained from similar exercises carried out in small island developing States, namely Fiji where in 1996-1997 the Asian Development Bank (ADB) provided US\$250,000 to support the development and drafting of Fiji's *Sustainable Development Bill* through a broad-based consultative process. Also, in the case of Trinidad and Tobago, the United Nations Development Program (UNDP) provided a similar amount to support the development and drafting of the *Environmental Management Act* through an extensive consultative process.

Although the scope, content and structure of Dominica's *Environmental Management Act* will be determined through the consultative process and in conformity with established legal drafting protocols, its is anticipated that the legislation should address the following matters:

Institutional/Policy

- Provide for the establishment of the ***Environmental Advisory Committee*** (see *Section 7.1.1.*), define the duties and functions of the Committee, and specify the term of appointment of members;
- Establish the powers, duties and functions of the ***Environment Department*** (see *Section 7.3.1.*) including the establishment and administration of a public environmental registry, data-base and clearing-house mechanism (see *Section 7.4.2.*);
- Require that an effective and integrated sustainable development policy formulation process be established within a variety of government ministries, departments and agencies, and outlines the process for the formulation of such policies and for ensuring that environmental considerations are incorporate into all sectoral policies through the broadest possible public participation.

Reporting/Public Education

- Require regular ***State of the Environment Reports*** (see *Section 7.4.1.*) to be prepared, and define the procedures for formulating such reports with the broadest possible public participation);
- Require the Director of Audit to undertake regular sustainable development assurance audits of government ministries, departments, and agencies, and define the scope of such audits.

Pollution Control and Enforcement

- Establish legal structure to manage pollution (air, water, land), including appropriate standards, and monitoring, auditing, reporting and inspections procedures;
- Establish water quality standards and criteria, and appropriate reporting, monitoring and enforcement mechanisms. Prohibit the pollution of any water resource;
- Establish air pollution standard for motor vehicles, and empower the Ministry responsible for Road Transport to enforce such standards through the utilization of a process requiring regular vehicle inspections;

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- If not provided under the proposed *Marine Pollution Act*, establish provisions to control marine pollution from marine and land-based sources. Prohibit the dumping of wastes by ships and aircraft, and establishes a procedure for the issue of special licences, thereby implementing the requirements of the *Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter (London Dumping Convention)*. Regulate the manner of disposing of wastes generated by ships, and requires the discharge of such waste into facilities provided at designated ports, thereby giving effect to the *International Convention for the Prevention of Pollution from Ships and Related Protocols (MARPOL 73/78)*. Establish powers to take such measures as may be necessary to prevent, mitigate or eliminate grave and immediate danger to Dominica's coastline from pollution, thereby giving effect to the *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969*. Establish liability for oil pollution damage from ships in accordance with provisions under the *International Convention on Civil Liability for Oil Pollution Damage, 1984* and the *International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1984*. Provide for the regulation of pollutants from land-based sources. Empower the Minister to designate any substance as a marine pollutant, and declares the substance tributyltin (TBT) as a marine pollutant that may not be applied to any vessel in the form of anti-fouling paint. Establish powers of enforcement in events of marine pollution incidents, and require various parties to report in the event of marine pollution incidents;
- Establish the organisational structure to effectively respond to oil spill incidents on a national basis, thereby giving effect to the requirements under the *International Convention on Oil Spill Preparedness, Response and Co-operation (OPRC)*;
- Provide for the establishment, review and implementation of a National Oil Pollution Contingency Plan, establishes the procedure to be employed in the event of an incident, and imposes duties to report oil pollution incidents upon various parties.

Management of Hazardous Substances

- Where not provided under the proposed *Waste Management Act* or the legal framework developed under the POPs project, establish standards and procedures for the management (import, export, storage, transportation, sale, labeling, placarding, and handling) of hazardous substances. Empower the Minister to prohibit the importation of any hazardous substance. Declare DDT as prohibited hazardous substance. Establish requirements for the labeling and marking of hazardous substances, and require specific documents to accompany any hazardous substance in transit by air, sea or on land. Require the segregation of hazardous substances, and the provision of placards on vehicles that are transporting such substances by road. Restrict the importation of hazardous substances to controlled areas, and specify the procedures to be undertaken in the importation and exportation of any such substance, and for their handling in any controlled area. Provide procedures for the storage of hazardous substances in any area and for transportation of such substances by road and on inland waterways. Establish a permitting system to control the import, export, transport, and storage of all hazardous substances. Prohibit the dumping of any hazardous waste, strictly control the import and export of hazardous waste, and establish strict requirements relating to the movement of hazardous waste in transit at sea. Establish duties and responsibilities on

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those parties in control of any hazardous substance, and establish penalties on any person who fails to comply with such responsibilities.

Environmental Planning and Resource Management

- Establish the broad requirements for environmental planning and resource management at the national level and address important aspects of these subjects that are not covered under other legislation. Where not provided under the *Physical Planning Act*, establish an environmental impact assessment (*Certificate of Environmental Clearance*) process (see *Section 7.1.3.*) to be undertaken by all government ministries, departments and agencies for all proposed developments, undertakings or other activities which are likely to cause adverse impacts on human health, society or the environment. Define the nature of activities that are subject to an environmental impact assessment (*Certificate of Environmental Clearance*), and specifies activities that do not require such an assessment. Define the environmental impact assessment process (*Certificate of Environmental Clearance*), including procedures for screening, scoping, and the preparation of a comprehensive study report or a mediation report where alternative dispute resolution has been utilised. The process should provide for the greatest possible public participation, and ensures that the public has access to information concerning any proposed activity. Specify enforcement measures under the *Certificate of Environmental Clearance* process.

Energy Conservation and Control of Atmospheric Emissions

- Provide mechanisms for the regulation of discharges into the atmosphere, and prohibits the use of leaded petrol after a determined date;
- Establish the legal basis for implementation and enforcement of the Energy Conservation Strategy and Action Plan, including economic incentives, energy conservation standards, labelling, etc;
- Provide for the phasing out of ozone depleting substances by certain dates, and establishes procedures for the management, storage and processing of such substances. Require the licensing of persons to handle ozone-depleting substances, and establishes duties, responsibilities and offences in relation to the control or disposal of such substances. Establish provisions to give effect to the requirements under the *Vienna Convention for the Protection of the Ozone Layer* and *Montreal Protocol on Substances that Deplete the Ozone Layer*;
- Establish provisions to give effect to the requirements under the *United Nations Framework Convention on Climate Change*, including provisions to reduce emission of greenhouse gasses.

Environmental Management Systems

- Require the establishment of appropriate Code of Environmental Practices by any industrial or commercial facility that: (a) discharges any waste or pollutant; (b) handles any hazardous substance; (c) produces any waste, pollutant or hazardous substance; or (d) engages in any activity that is likely to impact human health or the environment. Establish procedures for negotiating and concluding such Codes of Environmental Practice (possibly as part of the

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Certificate of Environmental Clearance Process), which may be based on the ISO 14000 series standards. Define the content of the Codes of Environmental Practice, and require broad-based public consultation and participation in the approval of such codes. Establish procedures for the monitoring and audit of Codes of Environment Practice, and for enforcement in the event of non-compliance. Establish procedures to implement private sector programs to promote sound environmental stewardship and “cleaner production”.

Biodiversity Protection, Conservation and Habitat Management

- If not provided under separate Parks and Wildlife Act, provide for the establishment of a National Parks Service within the Department of Forestry, with specific responsibility to implement various international agreements in the areas of biodiversity protection, conservation and habitat management. Define the duties and functions of the National Parks Service, and establish appropriate provisions to conserve and manage national parks and wildlife. Provide procedures for the establishment of marine and terrestrial protected areas, including the process for the designation of protected areas on State Land and on private lands (with landowners consent through conservation easements) which shall be through an extensive consultative process with interested parties. Require the preparation of Protected Areas Management Plans for all protected areas designated on State or private lands. Provide for the establishment of "buffer zones" where necessary to protect or screen certain portions of a protected area from surrounding forms of resource use. Provide measures for the designation and protection of endangered or specially protected flora and fauna, and create offences for the hunting or removal of such species;
- Provide for the control on the import and export of foreign animals, plants, insects and organisms through the establishment of a permitting process;
- Provide for the regulation of captive specially protected animals that are captive at the time the Act comes into force. Provide for the protection of wildlife on private lands;
- Establish procedures to regulate biodiversity prospecting which includes a permitting process;
- Establish a system of permits to regulate the trade of endangered species, thereby giving effect to the requirements under the *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES Convention)*.

Penalties and Enforcement

- Establish a variety of offences under the Act, and define the penalties to be imposed. Provides that for every day an offence continues, the person who committed the offence may be convicted for a separate offence for each day the offence continues. Establish liability of directors, officers or agents of any company that has committed an offence. Establish burden of proof, and provides for various matters relating to evidentiary proof. Establish “due diligence” defense for any offence involving a pollution incident whereby the accused person shall be acquitted if it can be proved that a Code of Environmental Practice was in force and the person took all reasonable measures to implement the Code and to prevent the pollution. Establish powers for various environmental inspectors. Provide for employee protection where pollution incidents at a workplace are reported to the authorities. Create legal

“standing” for NGOs and other parties where environmental harm or damage has been caused.

7.1.3. Certificates of Environmental Clearance (Statutory) (*Strategy 3*)

One of the critical elements in establishing a strengthened environmental management framework is the need to create closer collaboration between environmental planning/management and the physical planning process. Land Use (or Physical) Planning, which is carried out at the national and local levels, usually establishes the type, intensity, size, and rate of development (or conservation) for specified areas. Traditionally, land-use or physical planning has focused on achieving orderly urban settlement and development, and providing for the conservation and protection of special or sensitive areas. However, there is limited formal linkage between the land-use or physical planning process and national environmental management frameworks. It is recognized that steps have been taken towards the environmental impact assessment (EIA) process becoming an integral part of the physical planning process, through the inclusion of provisions for EIAs in the *Physical Planning Act*. However, the EIA process needs to be linked to the environmental regulatory process established for the purposes of pollution control. The precedent for this model is the “Certificate of Environmental Clearance” process that has been established in Trinidad and Tobago (see over).

“Certificate of Environmental Clearance” Process in Trinidad and Tobago.

As part of the Government of Trinidad and Tobago’s commitment to developing a national strategy for sustainable development, the Environmental Management Authority (EMA) was created through the *Environmental Management Act* that was enacted in 1995 and then subsequently repealed and replaced in 2000 (with no significant differences between the two). The EMA is an independent body governed by a board. The creation of the Act and EMA was partially in response to piecemeal and uncoordinated attempts at environmental protection in the past. (included more than 40 pieces of legislation and involved some 28 government agencies). The objectives of the EMA include:

1. Reducing pollution
2. Improving awareness of environmental issues
3. Regulating and monitoring development
4. Promoting wise use of natural areas, flora and fauna
5. Establishing linkages locally, regionally and internationally.

Among the many roles that the EMA has, the role of most significance in relation to land use planning is the issuance of Certificates of Environmental Clearance to new development projects to ensure that environmental sustainability considerations are addressed. It is noted that depending on the form and size of development, an environmental impact assessment may need to be conducted which would then require review and approval by the EMA.

Section 26 of the *Environmental Management Act* empowers the Environmental Management Authority to make rules for the purpose of giving effect to the requirements of the Act. Acting under this provision, and to give effect to some of the goals and objectives of the *National Environmental Policy*, the Environmental Management Authority has developed the *Certificate of Environmental Clearance Rules 1999*. These Rules outline the process and procedures to be applied in any application for a Certificate of Environmental Clearance under section 36 of the Act. For example, the list of activities that require a Certificate of Environmental Clearance include newly constructed wastewater facilities. Additionally, a system of monitoring and reporting has been established as part of the certificate approval process. Such a requirement is provided in section 47 of the *Environmental Management Act* which provides that the Environmental Management Authority may require any person who releases a pollutant or who handles any hazardous substance to:

- (a) sample and analyze such pollutant or hazardous substance for specified constituents or characteristics;
- (b) install, use, and maintain such monitoring equipment, and implement such environmental audit procedure, as may be specified in any permit or licence issued under the Act;
- (c) establish and maintain records regarding such sampling, monitoring and environmental auditing;
- (d) establish and maintain records regarding pollution control equipment;
- (e) submit reports and compliance certificates; and
- (f) provide any other information that may be required by the Environmental Management Authority.

In regards to the third objective, regulating and monitoring development, the EMA manages a process called the “Certificate of Environmental Clearance”, which is issued to applicants to certify the environmental acceptability of proposed development activities. The EMA may require an environmental impact assessment be conducted prior to issuing the certificate. Specific development activities that require a CEC are detailed in the CEC Designated Activities Order of 2001. There is a national register of CECs issued.

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In establishing a *Certificate of Environmental Clearance* process in Dominica, it is considered that closer collaboration and coordination will be achieved between environmental management and physical planning. In order for integrated environmental planning and management to be achieved, an effective mechanism needs to be established to provide for co-ordinated and integrated decision-making in all aspects of the planning and management process. This can be achieved within the *Certificate of Environmental Clearance* process. However, it is necessary to ensure that all affected stakeholders are adequately represented in, or are consulted as part of the co-ordinating and decision-making process envisioned under the *Certificate of Environmental Clearance* framework. The establishment of such a framework should, amongst other matters:

- X promote and strengthen interagency and inter-sectoral collaboration;
- X establish formal linkages between the physical planning, environmental impact assessment (EIA) process, and pollution control and regulation processes;
- X reduce interagency rivalry and conflict;
- X minimize duplication of functions in line agencies;
- X provide a forum for conflict resolution amongst sectors and stakeholders;
- X develop, implement, monitor and evaluate integrated development plans and programs.

To ensure the effectiveness of the process, the responsibility for the administration of the *Certificate of Environmental Clearance* process should be jointly shared between the *Environment Department* (see *Section 7.3.1.* below) and the Physical Planning Unit. Enforcement and monitoring will be shared with competent line ministries include the Ministry of Health.

7.2. Harmonization of Reporting and Amongst Strategies/Action Plans

The “Synergies Report” that has been prepared as part of the NCSA process has highlighted two key elements that are required, namely the harmonization of: (a) national reporting under various Rio Conventions; and (b) harmonization amongst the various national strategies and action plans that have been developed under various Conventions. Stakeholders consulted during the NCSA process consider that such harmonization would serve three purposes, namely (i) the reduction in resource requirements; (ii) the integration and harmonization of public consultation processes; and (iii) the formal integration of cross-sectoral issues into a unified and coordinated report or strategy (e.g. National Sustainable Development Strategy).

7.2.1. National Sustainable Development Strategy (*Strategy 4*)

A series of national reports in addition to stakeholders consulted during the NCSA process have identified the need for Dominica to develop a single, harmonized and integrated *National Sustainable Development Strategy* that would serve to integrate climate change, biodiversity conservation, biosafety, and land degradation management within national development planning framework. Most importantly, it is considered by stakeholders consulted during the NCSA process that that existing strategies developed under the Rio Conventions (i.e. *Dominica’s Biodiversity Strategy and Action Plan, Dominica’s Climate Change Adaptation Policy and Action Plan, Dominica’s National Action Plan* for the UNCCD, and *Dominica Biosafety*

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Framework) should be consolidated into an holistic and integrated national planning framework that promotes sustainable development and sound environmental management.

Balancing the three pillars of sustainable development – economic, social and environmental objectives - has emerged as a common global vision. Such a shift in vision began in 1987 with the launch of *the Brundtland Commission Report, Our Common Future*. At the Rio Conference in 1992 governments made a firm commitment under Chapter 8 of *Agenda 21* for the development of national sustainable development strategies (NSDS). Ten years on, at the World Summit on Sustainable Development, countries once again underscored the importance of NSDS for addressing the sustainable development goals. Countries agreed in the Johannesburg Plan of Implementation (JPOI) to complete their national sustainable development strategies by 2005. The relevance of a strategic approach to addressing sustainable development goals was once again reiterated at the Mauritius International Meeting of the Small Island Developing States (SIDS) in January 2005 to further implementation of the *Barbados Program of Action (BPOA)* for sustainable development of SIDS.

Dominica has acknowledged that the development of a ***National Sustainable Development Strategy*** is a national responsibility, recognizing that there is a need for a holistic and programmatic approach if sustainable development is to become a reality. Sustainable development will require key structural changes, a new way of thinking and new decision-making process at the national level. As noted by (Dalal-Clayton and Bass 2002 : 29)¹², there is a need to:

- move away from developing and implementing fixed development plans, which are ‘blue print’ , towards adopting an adaptive process that is continuously being improved
- move away from seeing the government as having the responsibility for development towards a situation where society as a whole having the responsibility for development
- move away from centralized and controlled decision-making towards a process which is participatory and involving all relevant stakeholders in a concerted effort and in a transparent negotiation process
- move from focus on outputs (projects, legislations, plans) towards a focus on outcomes (impacts) on people, and/ or the quality of participation and management process
- move from sectoral planning towards an integrated ‘holistic’ planning
- move from a focus on donor driven ‘projects’ towards domestically driven development

That is, to achieve sustainable development, a change in mindset, a change in approach, and strategic policy and planning mechanisms at national level are required. It is also recognized that while integration of economic, social and environmental goals is the ideal, and wherever possible should be pursued, pragmatically, decision-makers may need to make tradeoffs between objectives where integration is not possible. Decision-making processes need to become more participatory, integrated and flexible. In such a process, new information about progress, or lack of progress, towards achieving a goal would be used in a constructive manner to revise the

¹² Dalal-Clayton, B. and Bass, B. 2002 *Sustainable Development Strategies: A Resource Book*. Organisation for Economic Cooperation and Development, Paris and United Nations Development Programme, New York, Earthscan, London.

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mechanisms and the means of realizing those objectives. Such changes are required at all levels of planning and decision-making – national, communal, sectoral, program and project.

National sustainable development is not a new, master plan for sustainable development but a set of coordinated mechanisms and processes that collectively offer a participatory system to develop vision, goals, and targets for sustainable development and to coordinate their implementation and review. Mechanisms and processes that could strengthen the effectiveness of countries' development strategies include: those that encourage participation of relevant stakeholders; decision-making process that encourages integration of economic, social and environmental objectives, or at least an explicit recognition of the need for trade off between the objectives; a negotiation based decision-making process and resolution of conflict over competing goals.

Relative importance of, and or emphasis on, different mechanisms will no doubt depend on the local/ national institutional context, the state of the national planning process and prevailing decision-making process context. Dominica, like many other countries, has a strong tradition of preparing periodic national development plans. In the preparation of these national plans, many line ministries prepare sector plans as per guidelines issued by national planning departments or ministries. These sector plans feed into the national development planning process and national plans. More recently, efforts are also made to engage with civil society and to at least obtain their inputs into the planning process.

Stakeholders consulted during the NCSA process agree that the development of a *National Sustainable Development Strategy* will be one of the first steps towards developing a set of coordinated mechanisms and processes that collectively offer a participatory system to develop vision, goals, and targets for sustainable development and to coordinate implementation and review. Such a Strategy should also serve as the framework for the effective and coordinated implementation of the Rio Conventions within a strategic national development context.

7.2.2. Single National Reporting Framework for MEAs (*Strategy 5*)

Each of the Rio Conventions requires that national governments prepare and submit regular national reports to document progress in implementation of convention requirements. In compliance with this requirement, Dominica has prepared and submitted the following:-

- *Initial National Communication*, and *Second National Report* as required under the UNFCCC;
- the *First National Report* and *Second National Report* as required under the CBD (and in the process of finalizing the *Third National Report*);
- the *First National Report* as required under the UNCCD;
- the *First National Report* as required under the Cartagena Protocol.

The “Synergies Report” prepared during the NCSA process has identified the preparation of various national reports to Conventions Secretariats as one of the single greatest mis-use of limited human and financial resources at the national level. The principal concerns are: (a) little progress has been made in the implementation of convention requirements at the national level in the time between the filing of first and subsequent national reports; and more importantly; (b)

the format and structure of the reporting frameworks under the various Rio Conventions does not facilitate, promote or support an integrated and harmonized approach to environmental management in that each report is sectoral in nature with little opportunity to address cross-sectoral issues or promote a holistic approach to the implementation of these Conventions. Indeed, it is recognized at the national level that Dominica cannot address climate change, biodiversity or land degradation in isolation, and that any implementation plan developed under any of the Rio Conventions must recognize the inter-connected nature of these issues, and the inter-connected nature of any effective remedial response plan.

Accordingly, stakeholders consulted during the NCSA process recommended the establishment of a *Single National Reporting Framework* for the UNFCCC, CDB, and UNCCD so as to reduce the burden on limited resources available in Dominica, while pioneering a harmonized report structure that would integrate climate change, biodiversity and land degradation issues within an ecosystem (or “Island System Management”) approach to environmental management. It is considered that such a *Single National Reporting Framework* would address the capacity limitations of Dominica and other Small Island Developing States (SIDS) by: (i) facilitating a reduction in resource requirements needed to develop a series of national reports that have limited value in the national planning context; (ii) promoting the integration and harmonization of implementation programs under the MEAs; (iii) facilitating the formal integration of cross-sectoral issues into a unified and coordinated reporting framework and within national planning and development frameworks; and (iv) supporting the establishment of single coordinating structure for reporting on and implementation of the Rio Conventions.

7.3. Strengthening of Key Environmental Management Institutions and Organizations

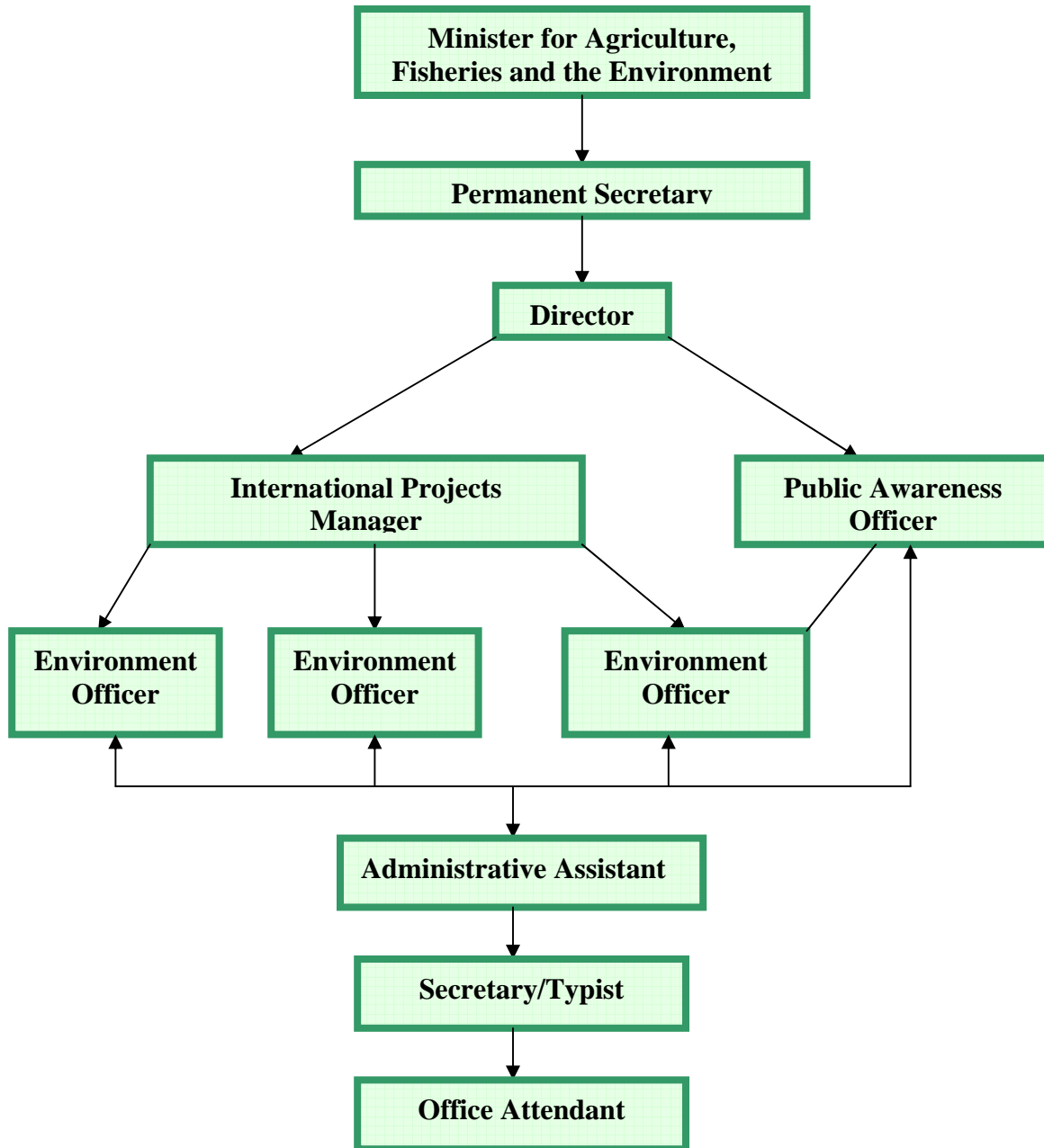
Stakeholders consulted during the NCSA process have recognized that the institutional capacity of key institutions involved in environmental management needed to be strengthened, most notably the Environmental Coordinating Unit (ECU), and the National Parks Unit.

7.3.1. Strengthening Environmental Coordinating Unit (ECU) (*Strategy 6*)

The Environmental Coordinating Unit (ECU) of the Ministry of Agriculture, Fisheries and the Environment (MOAFE) serves as the technical focal point for the UNCCD, UNFCCC and UNCBD. The ECU also has direct responsibility for coordinating all activities related to the conventions nationally. The ECU’s mission statement “is to function as the coordinating, facilitating, administering and collaborating body for all environmental management and sustainable development management programmes, projects, and activities in the Commonwealth of Dominica”. However, whilst the Unit has this responsibility, there is no legal power in enforcing its obligations. In the absence of any legal jurisdiction under which it operates, the day-to-day operations of the Environmental Coordinating Unit are primarily focussed on international project activities, including programs to implement the Rio Conventions. This focus is clearly reflected in the organizational structure of the Unit (see *Figure 7.1.*)

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Figure 7.1. – Current Organizational Structure of the Environmental Coordinating Unit (ECU)



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In the absence of clear legal mandate, environmental management in Dominica is currently dispersed among several government ministries, statutory bodies, and quasi-agencies. This arrangement, which is typical of government ministries in the Caribbean, is a legacy of British colonial rule and does not ensure adequate cross-sectoral communication and co-ordination among key resource sectors. In addition, resource management functions are not always clear-cut, with the consequence that agencies often have overlapping responsibilities. This often results in a fragmentation of some key government functions such as development control, resource protection, enforcement of exciting regulations and resource development as these relate to the environment. This fragmented structure is reflected in the existing legal framework for environmental and resource management.

With the increasing importance being given to the work of the Environmental Coordinating Unit, stakeholders have recommended that the Unit be designated as a full-fledged Department within the Government organisational structure. It should be noted that the environment portfolio is incorporated into the title of the Ministry, yet the portfolio is allocated to a Unit. This is not consistent with the normal approach of assigning important portfolios to full-fledged Government Departments.

Facing similar difficulties in their attempts to establish a comprehensive basis for sound environmental management, other countries in the Caribbean have taken steps to create a co-ordinated and integrated legal and institutional structure for environmental management. In June 1990, Jamaica enacted the *Natural Resources Conservation Act* which formally established the Natural Resources Conservation Agency (NRCA), and gave the agency responsibility for environmental policy and planning, environmental impact assessment, pollution control, and the conservation of natural resources. Similarly, in 1994 Trinidad and Tobago enacted the *Environmental Management Act*, which established the Environmental Management Authority (EMA) with similar responsibilities as the Agency created in Jamaica. Since their establishment, these agencies have acted as a co-ordinating and implementing agency for government's environmental management activities, and have successfully served as focal points for the co-ordination of environmental and resource management activities of other ministries and departments. Encouraged by the success of these two agencies, other countries in the region (notably Barbados and Guyana) have recently initiated steps to establish similar legal and institutional structures to promote co-ordination and harmonization in the area of environmental management. It should be noted that the Environmental Management Authority (EMA) established in Trinidad and Tobago has experienced some difficulty in undertaking its roles and responsibilities under the *Environmental Management Act* since it was created as an independent agency outside government. Effective operation of the Agency could only be achieved with the conclusion of Memoranda of Agreement with every line agency and government department. Additionally, the Agency required considerable support in the form of funding from the World Bank and the United Nations Development Programme (UNDP) in order to establish an effective operation and institutional structure. It should be noted that other environmental agencies in the region (i.e. the NRCA/NEPA in Jamaica, the BEST Commission in the Bahamas, and the EPA in Guyana) are also receiving external financial support for various institutional strengthening initiatives.

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A strengthened *Environment Department* in Dominica stands to play a key role in the emerging institutional framework for environmental management and as such its mission, role, and structure need to be carefully and thoroughly considered. Further, the implementation of the Rio Conventions in addition to the Barbados *Program of Action* and the *St. George's Declaration* requires that the role and responsibilities of the *Environment Department* need to be clearly (and legally) established, and these issues should be factored into the consolidation process.

In view of pressing resource (human, financial, technical) constraints, it is considered that the Government of Dominica should not establish an institutional framework modeled on the Trinidad and Tobago styled Environmental Management Authority (EMA). Rather, the Government should develop an institutional framework that will enhance and improve the powers of existing resource management ministries, departments and agencies, while creating suitable co-ordination and enforcement mechanisms. Where no other agency currently performs particular environmental management functions, these responsibilities should be vested with the *Environment Department*. Where possible, the private sector and civil society should actively participate in environmental management initiatives and programs. With this in mind, it is considered that the role, duties, functions and responsibilities of the *Environment Department* should be the following:

Policy and Institutional

- Providing technical and administrative support to the *Environmental Advisory Committee* in the formulation, implementation and periodic review of environmental policies. This role will include providing technical and scientific advice, preparing research papers, drafting policy documents, co-ordinating public consultation, preparing Cabinet submissions, co-ordinating public information programs;
- Co-ordinating the development and implementation of periodic *National Environmental Management Plans* – which shall be an integral part of the process to develop and implement a *National Sustainable Development Strategy* (see *Section 7.2.1.*) which integrates into one holistic and integrated development strategy, existing policies, programs and strategies on climate change, biodiversity, land degradation, POPs, poverty, MDG, etc;
- Co-ordinating national environmental management initiatives, projects and programs, including Rio Convention initiatives and programs;
- Serving as Focal Point for environmental management projects undertaken by Government or in collaboration with the private sector or Non-Government Organisations;
- Providing Secretariat and Administrative support to the Environmental Advisory Committee.

Reporting/Public Education

- Co-ordinating the establishment of an environmental information system, and operating/maintaining the environmental database and clearing house;
- Preparing periodic *State of the Environment Reports* (see *Section 7.4.1.*);
- Co-ordinating environmental education activities, which shall include the development of environmental education and awareness materials, the establishment of educational

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courses with the Ministry of Education, and the establishment of standards and accreditation requirements for environmental professionals;

- Co-ordinating the development and establishment of environmental health and safety programs;
- Co-ordinating all reporting on the implementation of all multi-lateral environmental agreements to which Dominica has become a signatory, including the development of a ***Single Report for all Rio Conventions*** (see (*Section 7.2.2.*));
- Maintaining the registry of multi-lateral environmental agreements to which Dominica is signatory;
- Maintaining the clearing-house mechanism at the national level for information on multi-lateral environmental agreements and upcoming international conferences where new treaties are to be negotiated;
- Serving as the focal point to develop negotiating positions for various multi-lateral environmental agreements at the national level.

Control of Atmospheric Emissions

- Co-ordinating and directing the management of ozone depleting substances (ODS) and green-house gases.

Environmental Management Systems

- Co-ordinating and supporting the establishment of voluntary environmental standards (based on the ISO 14000 Standards or equivalent standards) in collaboration with the Dominica Bureau of Standards.

Environmental Planning and Resource Management

- Participating in the review of all environmental impact assessments (EIA) within the Certificate of Environmental Clearance (CEC) process (*see sub-section (d) below*), and undertaking or directing monitoring activities to verify compliance with any environmental approval or environmental management plan.

Biodiversity Protection, Conservation and Habitat Management

- Supporting and providing technical input into conservation, wildlife management, and private conservancy/stewardship initiatives;
- Supporting measures to regulate the trade in endangered species, and supporting the work of the Scientific and Technical Committee established under the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES Convention);
- Supporting measures to regulate biodiversity prospecting and the introduction/importation of foreign imported organisms.

Pollution Control and Enforcement

- Co-ordinating pollution control activities, principally in the setting of environmental and emission standards, the establishment of voluntary compliance structures for the public and private sectors, the co-ordination of enforcement activities with line ministries and departments, the maintenance of reporting structures, and the monitoring/auditing of

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compliance activities – all within the *Certificate of Environmental Clearance* (CEC) process (see *section 7.1.3.*).

Environmental Enforcement

- Supporting the prosecution of environmental offenders in collaboration with the Attorney General’s Office and the Police, and providing training courses in environmental enforcement for law officers.

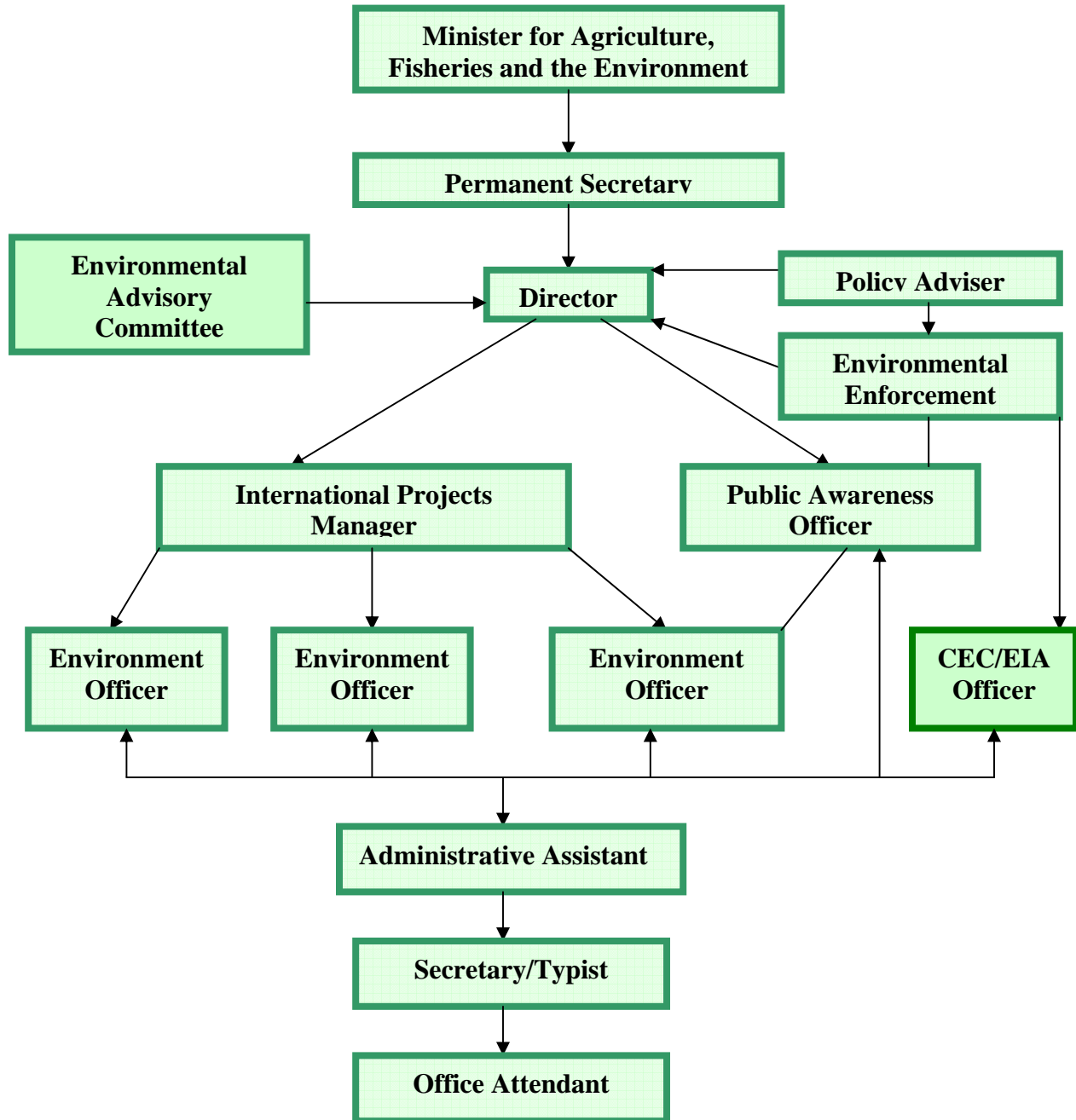
It is recognized by stakeholders that the above duties, responsibilities and functions of the *Environment Department* should be clearly established by statute, and where possible, such functions should be undertaken utilizing existing human resource capacities within the Government structure. Additionally, in order to effectively undertake the duties and responsibilities outlined in the proposed environmental management framework, the *Environment Department* will require the following staffing compliment –

- ***Director of the Department***
- ***Policy Adviser*** to coordinate the development of environmental policies, and coordinate the implementation and reporting on environmental treaties and agreements
- ***Environmental Enforcement Officer*** to support the work of the Environmental Advisory Committee and legal enforcement agencies (Attorney General’s Office, Police, Coastguard, etc.), to establish the pollution control structures, and enforce the Biosafety Framework under the *Cartagena Protocol*, and the phase out and control of CFC’s under the *Montreal Protocol*, and phase out of POPs under the *Stockholm Convention*);
- ***CEC and EIA Officer*** to coordinate EIAs and Certificates of Environmental Clearance – (shared with the Department responsible for Physical Planning) thereby giving effect to a strengthened physical planning regime to address land degradation in conformity with requirements under the NAP developed under the UNCCD (in addition to recommendations under *Dominica’s Biodiversity Strategy and Action Plan*, and *Dominica’s Adaptation Policy and Action Plan*);
- ***Environmental Information and Education Officer*** to coordinate the development of *State of the Environment Reports*, maintain the Department’s webpage and information systems (including clearing house for the Biosafety Framework under the *Cartagena Protocol*, and the POPs management framework under the *Stockholm Convention*) including the registry of CECs and EIAs, and coordinate public education and outreach activities with line Ministries.
- ***Environment Officer(s)*** to coordinate biodiversity protection, the implementation of climate change adaptation measures, the regulation of biosafety under the *Cartagena Protocol*, in addition to the coordination of conservation and habitat management in collaboration with line Ministries and conservation agencies/organizations (This position could be shared with resource management agencies such as fisheries, forestry, National Parks).
- ***Support Staff***.

The proposed organizational structure for the strengthened *Environment Department* is provided in *Figure 7.2*.

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Figure 7.2. – Proposed Organizational Structure for Environmental Department



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In order for the *Environment Department* to undertake the programmes and activities described above, it will be necessary to add at least three (3) professional staff to the Department. The Government therefore needs to increase the minimum staff compliment of the *Environment Department* if this *NCSA Strategy and Action Plan* is to become a reality. It is therefore recommended that the government commit to financing the additional staff, which will result in an increase in the recurrent expenditure of the Department of approximately US\$50,000 per year. Recognising the severe budgetary constraints facing Government at this time, it is suggested that the additional technical staff could be financed by any one or combination of the following:-

- Setting aside the necessary amount from the existing environmental levy - provided that this would not impede or affect the operations of the Waste Management Corporation, which is the primary recipient of environmental levies collected;
- Rationalising positions within existing government departments and seconding staff to augment the *Environment Department*;
- Charging "user fees" and charges for services performed by the *Environment Department* - for example fees for biosafety permits required under the proposed *Biosafety and Biotechnology Management Act 2006*, the Certificate of Environmental Clearance (as is the case in Trinidad and Tobago), extracts from the environmental registry, copies of the State of the Environment Reports, etc.

The above are the primary options for consideration by Government. However an additional option which may be considered is that of raising a "pollution levy" to secure the necessary US\$50,000 from industrial and commercial operations with poor environmental performance. The framework for implementation of that option is described in the box below. It is however recognised that this option may not be easy to implement in the current economic and investment climate, and consideration will have to be given to whether it is acceptable under the provisions of the CARICOM Single Market and Economy. The imposition of such a levy may be construed as being contrary to efforts to promote investment and expand business. Currently there is a general reluctance by OECS Governments to add any additional levies on businesses or the general public, particularly if these levies are related to such sectors as the environment, which is not considered to be one of the all-important "productive sectors".

Although threats to businesses are often construed as threats to jobs, and to the general public at this time, employment is often perceived as much more important than the environment. However, all OECS Governments have subscribed to the "polluter pay" principle (see Principles 3 (g) and 6 (c) of the *St. George's Declaration*), and it must be recognised that Governments cannot bear the full costs associated with pollution control. Such costs must be shared with those parties responsible for causing pollution.

“Pollution Levy” – Implementing the “Polluter Pay” Principle

- Should the "pollution levy" approach be acceptable to government - it should be "capped" at the amount necessary to fund the additional positions with the Environment Department so that the private sector does not perceive it to be a cash grab by Government.
- The levy is should be evenly spread amongst industrial and commercial operations with poor environmental performance.
- There should be no attempt to quantify blame by allocating a disproportionate levy against serious environmental offenders.
- The levy should be seen as the environmental "cost to government" of regulating pollution and environmental management.

The levy could be established without legislation along the lines employed very successfully by the Governments of Egypt and Chile. In these countries, the Ministry responsible for Finance or Public Utilities sent out a detailed questionnaire to all commercial and industrial premises. The questionnaire required detailed information on electricity use/conservation, water use/conservation, waste management practices, sewerage practices, etc., and was required for long-term "planning" for the necessary utilities. With this background, the response rate was very high (+95%), and the government obtained a clear picture of the state of environmental performance in the private sector's own estimate. This information resulted in the publication of "Red" and "Green" list of industries and commercial premises - based on the private sector's own response to the questionnaire. For the purposes of establishing the environmental levy, those industries on the Red List would be required to support the costs of the EU\$100,000 (or whatever is necessary to fund the additional positions with the Sustainable Development and Environment Department). Experiences in Egypt and Chile indicate that by making the Lists publicly available, the resulting public awareness/pressure was sufficient for many industries to take active steps to clean up their environmental performance so get off the Red List. The lists should be updated on a regular basis so as to reward those industries that had taken measures to clean up their environmental performance. Such industries could also be publicly recognised by suitable "awards" and publication of the fact that they were recently graduated to the Green List of industries. As various environmental standards are developed and established by legislation and annual environmental reporting required, a sound technical basis could be established to perpetuate the system. In such a way, the government could ensure a sustainable source of revenue to fund the technical staff of the Environment Department.

7.3.2. Strengthening National Parks Unit of the Division of Forestry, Wildlife and Parks (Strategy 7)

The *National Park and Protected Areas Act* (1975) provides for the establishment of a system of National Parks and Protected Areas establishment. Dominica's national parks system consists of the Morne Trois Pitons National Park of 17,000 acres (6,879.8 ha) established in 1975 which was officially declared as a UNESCO World Heritage Site in 1998; the Cabrits National Park 1,313 acres (531 ha) established in 1986, and the Morne Diablotin National Park 8,242 acres (3,336 ha) established in January 2000. Additionally, Dominica has two Forest Reserves that have been designated under the *Forests Ordinance* of 1958, namely the Northern Forest Reserve (5,557 ha) and the Central Forest Reserve (410 ha). In the past relatively large scale wood harvesting was permitted in these forest reserves, although currently large scale wood harvesting has principally been stopped within these areas, which are principally maintained and managed as forest conservation areas. In 1998 the marine expanse around the southern tip of the island was declared as the Scotts Head-Soufriere Marine Reserve under the provisions of the *Fisheries Act* (1987), and is another key environmental feature, which affords conservation of pristine and unique aquatic ecosystems. That reserve has spectacular underwater scenery with steep drop-offs and a healthy coral cover, and is ranked among the top five dive sites in the world. The reserve promotes preservation of resources whilst seeking to allocate sections of the resource base for various economic usages to avoid user conflicts.

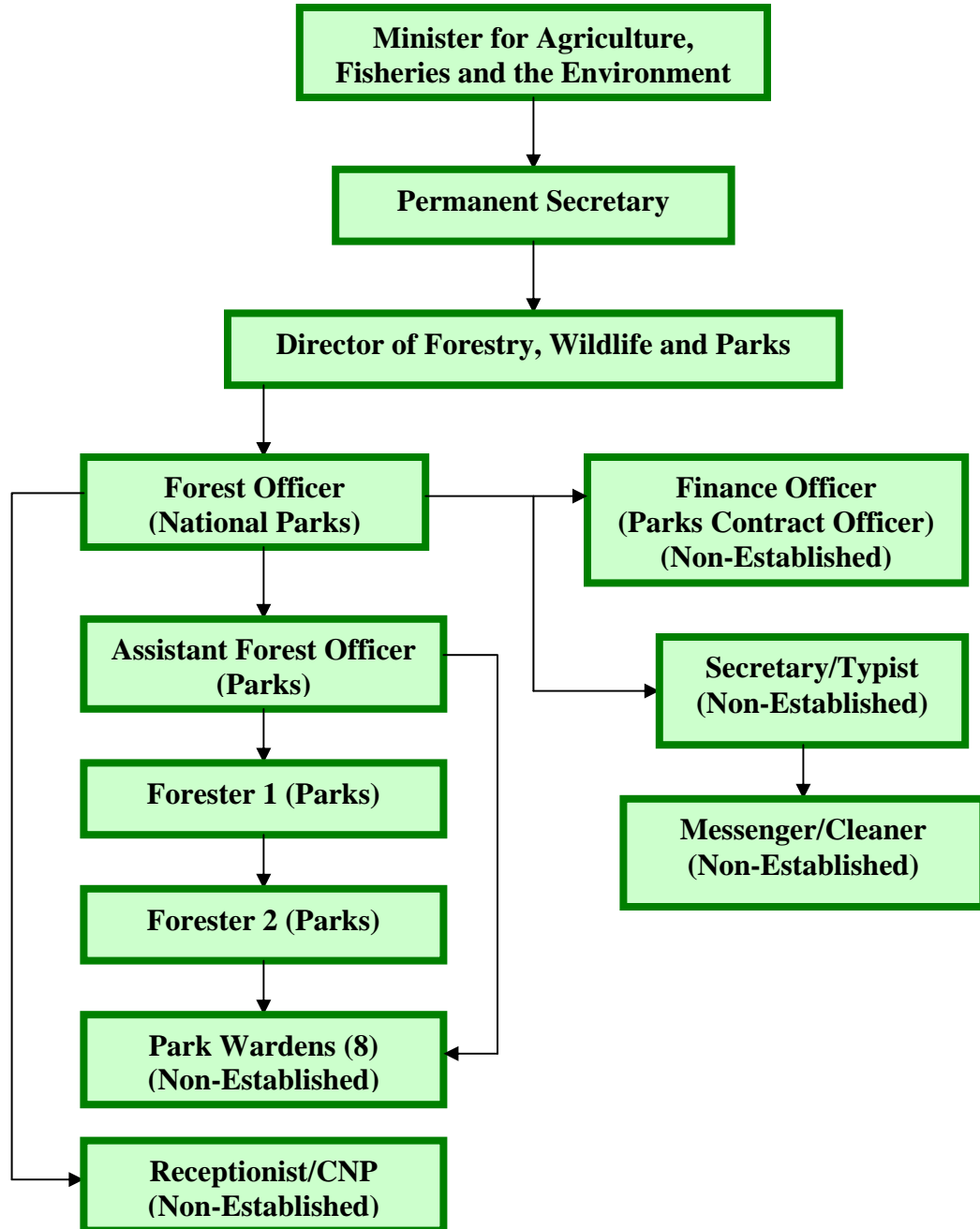
The Morne Trois Pitons National Park has earned the worldwide reputation of a World Heritage Site comprising several natural wonders, including the second largest Boiling Lake in the world. A ten year management plan for the Morne Trois Pitons National Park was drafted in 1989, which includes a detailed zoning and resource use plan. A detailed report entitled "Plans for Development Sites, Trails and Facilities - Morne Trois Pitons National Park" was prepared in July 1992, which provides the basis for proposed project activities at selected sites within the National Park. In October 2001 the "Morne Trois Pitons National Parks Management Plan 2002-2012" was prepared to establish the management and operational framework for the park. Although these three documents provide all the necessary information and guidance to establish an effective parks management system within the Morne Trois Pitons National Park, the NCSA process has determined that there had been no activity to implement these plans due to manpower and financial constraints within the existing parks management structure.

The Cabrits National Park, which includes the ruins of an extensive 18th century British fortification, was legally established in 1986. The 532 ha park includes the headland of the Cabrits, formed by twin peaks of extinct volcanoes, a freshwater wetland which is a nesting place for herons and a variety of migrant bird species and an extensive marine area which contains a variety of rock and coral formations. The Park is surrounded on three sides by the sea, with a freshwater wetland on the fourth side which is a nesting place for herons and a variety of migrant bird species. The Cabrits National Park presents the most outstanding combination to terrestrial and marine environments being collectively protected, the only existing one in the Caribbean. A Marine Park, which contains a variety of rock and coral formations, borders the peninsular. Since its establishment the Cabrits National Park was managed by the National Parks Unit within the Forestry and Wildlife Division of the Ministry of Agriculture and Environment. To-date no detailed development or site specific management plans have been developed for the Park, which is currently being considered for designation as a World Heritage Site.

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The Forestry, Wildlife and Parks Division of the Ministry of Agriculture, Fisheries and the Environment is responsible for the protection and management of the island's forests and wildlife, and the administration of terrestrial national parks. The National Parks Unit within the Division, headed by the Superintendent of National Parks, and supported by three technical staff, is responsible for the day-to-day management of the terrestrial national parks. When required, other staff within the Division provided support services to the National Parks Unit, which had its Headquarters in Bath Estates. The organizational structure for the National Parks Unit is presented in *Figure 7.3*.

Figure 7.3. – Current Organisational Structure of the National Parks Unit



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The *National Parks and Protected Areas Act* (16 of 1975), enacted on the 6th August 1975, is the principal piece of legislation relating to the management of national parks in Dominica. Although the Act provides for the designation of "National Parks" and "Protected Areas", only the Morne Trois Pitons National Park, the Cabrits National Park and the Morne Diablotin National Park have been legally designated under the Act. Section 5 of the Act provides that the Minister may set aside any Crown land as a protected area for the purpose of:

- a) preserving the natural beauty of such area, including any flora and fauna;
- b) creating a recreational area;
- c) commemorating an historic event of national importance; or
- d) preserving any historic landmark or any area or object of historic, pre-historic, archaeological or scientific importance.

To-date no protected areas have been designated under the Act.

The Act provides that all lands that constitute national parks and protected areas are vested in the State, and are dedicated to the people of Dominica for their benefit, education and enjoyment. Section 3 (2) provides that the lands within the national parks "system" (i.e. national parks and protected areas) shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations. The administration, management and control of the national parks system is vested, under the provisions of section 3 (3) of the Act, with the Minister of Agriculture. Section 6 provides that no state lands within the national parks system shall be sold or disposed of, and no person may settle, use or occupy and lands with a national park or protected area.

Section 7 of the Act provides for the appointment of a Director of National Parks, together with superintendents of parks, park wardens, and such other officers, who shall constitute the "National Parks Service". The Director is empowered to employ such casual workers as may be necessary for the administration of the national parks system (Section 7 (2). of the Act). The Act provides for the appointment of A National Parks Advisory Council, consisting of the Director of National Parks, three members appointed by the Minister, and one on the recommendation of the Dominica Conservation Society (section 8). The function of the Council is to advise the Minister on matters relating to the administration, management and control, of the national parks system.

Section 11 of the Act provides that the Director of National Parks shall prepare a management plan for areas within the national parks system, for submission to the Minister. A management plan shall contain a scheme of operations that is proposed to be undertaken in respect of the area. If the Minister proposes to adopt a plan, it shall be submitted for public review, and consideration by the Central Water Authority and National Parks Advisory Council, under the provisions of sections 11 (4) and 12 of the Act. Where a plan is adopted and in force, all activities within the area shall be conducted in accordance with the plan, and no activity contrary to the plan shall be undertaken (section 13 (3) of the Act). However, the Central Water Authority and the Hydro-Electric Corporation may be permitted to undertake certain activities within the national parks system under the provisions of sections 14 and 15 of the Act.

Regulations may be made under the provisions of section 16 of the Act, for *inter alia*, the preservation of flora and fauna, the regulation of hunting and fishing, the preservation of water catchment areas, the prevention of encroachment, the prevention of soil erosion, the control of fire, the charging of fees and to control the entry and movement of persons within the parks system area.

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The *Eco-tourist Site-User Fee Regulations* (S.R.O.27) were passed in 1997, and the *National Park Regulations* (S.R.O.54) was passed in 2003, which provides for the regulation of access, opening and closing hours, control of litter and fires, damage to property, etc.

A 1996 report found that “the legislation relating to national parks and protected areas is fragmented, and having been enacted over twenty years ago, no longer reflects present day needs and institutional practices. Inconsistencies occur between the *Fisheries Act* (Cap. 61:60), the *Forestry and Wildlife Act* (Cap 60:02), and the *National Parks and Protected Areas Act* (16 of 1975), with no clear management authority having been created for the administration and management of all national parks and protected areas. This has caused jurisdictional overlap, lack of management harmonization, and in most cases has rendered individual legislation ineffectual in regard to the management of a variety of protected areas.” Some ten years later, further studies of the national parks management structure found that there had been little significant progress in implementing recommendations contained in earlier reports, and these reports recommended that “the ***National Parks Service*** proposed in the 1975 Act now be fully established and given control of all the Parks”. The findings of these reports have been endorsed by stakeholders consulted during the NCSA process, and highlights an urgent area where institutional strengthening is required if effective environmental management is to be achieved in Dominica.

Additionally, although the *National Parks and Protected Areas Act* (16 of 1975) provides for the appointment of a Director of National Parks, no-one has in effect been appointed to this position. The fact that the National Parks Advisory Council has never been appointed further renders an important provision of the Act ineffectual. No National Parks management plan has been submitted for public review, or approved, as required by the Act.

If the Dominica ***National Parks Service*** is to provide consistency in the management of all protected areas, which is an important national commitment under the CBD, the current legislation will need to be revised as soon as possible. Additionally, specific provisions will be required for the designation and management of a broader variety of protected areas, to ensure that adequate powers are provided to the Dominica ***National Parks Service*** which will be required, in the foreseeable future, to administer a wider range of protected areas (possibly including Marine Parks, a World Heritage Site, Community Ecotourism Sites, a "RAMSAR" site, Ecotourism Sites, Archaeological or Historic Sites, and Wildlife Sanctuaries). Additionally, since Dominica has acceded to the *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)* the ***National Parks Service*** will be required to fulfil some of the "Management Authority" functions as required under Article IX of the Convention. In any event, suitable national legislation should be enacted which would provide, amongst other things, for the creation of the management authority and the delegation of powers, including the granting of import and export permits, powers of inspection, the creation of penalties, etc.

An effective legal and institutional framework should also provide for the development and enforcement of site specific management plans by the Dominica ***National Parks Service***. An important legal consideration that will need to be addressed at an early stage is the legal establishment of those National Park areas and sites that are not currently protected by designation under the existing legislation. Additionally, the issue of liability for injury to visitors at parks' sites requires urgent attention. An effective legal framework should also provide for the development and

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enforcement, by the Dominica *National Parks Service*, of site specific management plans including the following:

- i) the regulation of access, opening and closing, the control of litter and fires, cutting of trees, damage to property and flora or fauna, powers of wardens including the power to impose spot fines;
- ii) the regulation of activities in the air above park sites where necessary for the protection of sensitive species;
- iii) the regulation of marine parks, including access, the placement of marine trails, mooring buoys, damage to marine flora and fauna; and
- iv) the promotion of "private conservancy" through economic and other incentives.

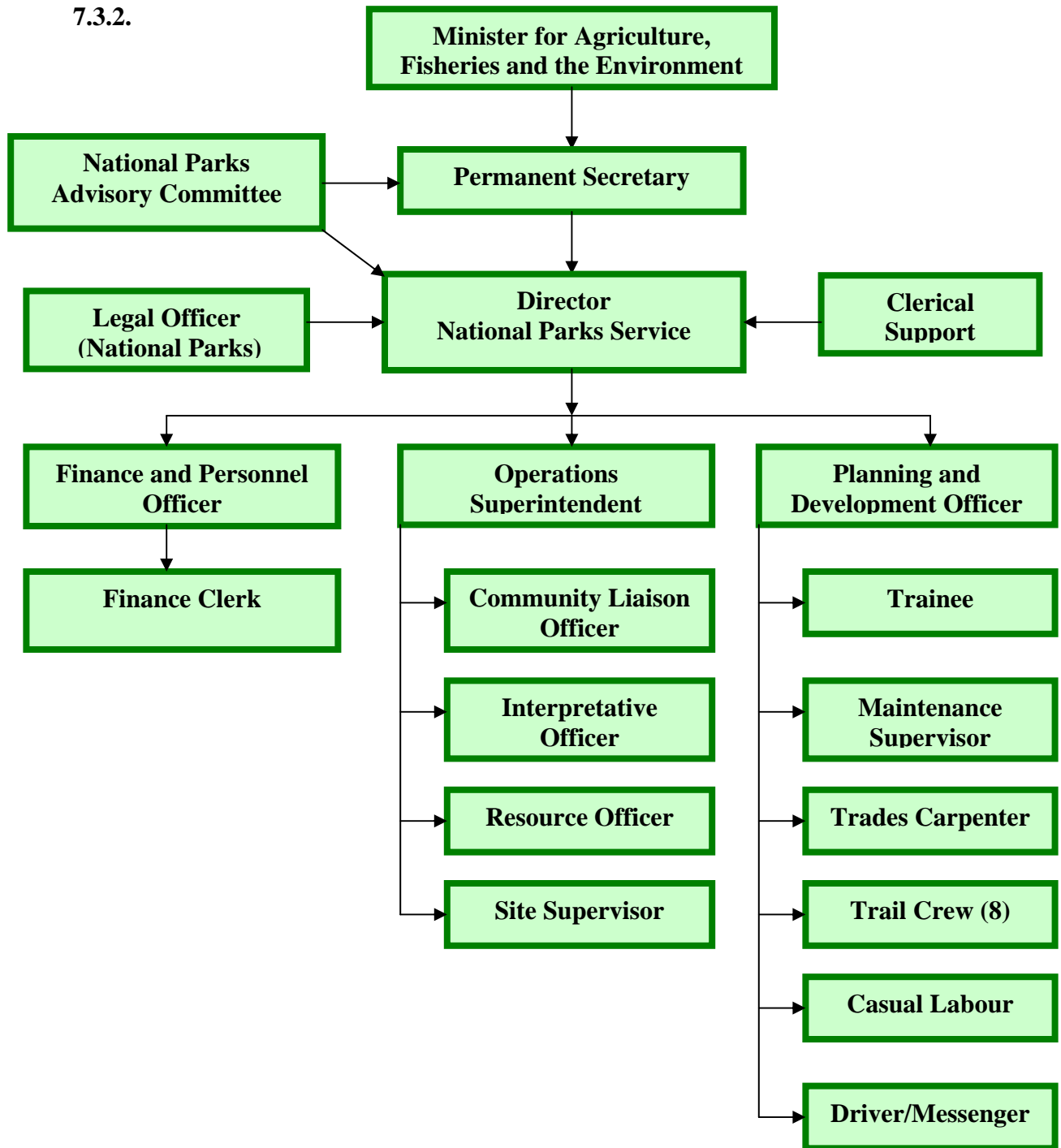
Several reports have over the past decade highlighted the need for a strengthened *National Parks Service* with “dedicated, well-trained work force with adequate time to concentrate, sufficient experience to plan and determination to implement the plan”. The NCSA process has determined that due to legal, financial and administrative constraints the establishment of an effective National Parks administration has not been possible. However, the failure to establish an effective *National Parks Service* has undermined Dominica’s ability to give effect to commitments under the CBD and other conservation conventions. More importantly, threats to vulnerable national parks’ ecosystems from land degradation and climate change cannot be effectively addressed – as required under the UNFCCC and UNCCD – without strong leadership from a dedicated *National Parks Service*.

Stakeholders consulted during the NCSA process, while supporting the need for the creation and strengthening of a dedicated *National Parks Service*, have highlighted the following:

- a need to avoid unnecessary administrative duplication;
- a need to use existing organisational structures where possible;
- an imperative to build upon established in-country strengths and train personnel as necessary.

These considerations apply to all capacity building for environmental management that is to be undertaken in Dominica as outlined in this NCSA Strategy and Action Plan. Of the various activities outlined in this NCSA Strategy and Action Plan, the establishment of an effective *National Parks Service* is largely within the financial and human resource capabilities of the Government of Dominica. What is required is the political will to give effect to the recommendations relating to the establishment of an effective *National Parks Service*. Two issues need to be addressed, namely human resource availability to staff the restructured *National Parks Service*, and the financing of the operations of the Service. It is considered that the necessary staff for the restructured *National Parks Service* (see *Figure 7.4.*) could largely be found within existing public service, particularly the Division of Forestry which is currently largely involved with conservation management activities. However, training will be required in parks management, site planning, wildlife management, and other areas required for the efficient management of the national parks system. It is recognised that the framework for sustainable financing is already in place to ensure the long term viability of a dedicated *National Parks Service*, principally in the form of “Parks User Fees” which currently generate approximately EC\$1,000,000 per year in revenue. However, it is recommended that these revenues, which are currently paid into a Special Deposit Account, be made available to finance the staffing levels required for the efficient long-term management of the national parks system.

Figure 7.4. – Proposed Organisational Structure of Dominica’s National Parks Service



7.4. Engagement of Stakeholders For Meaningful Collaboration and Consultation on Environmental Management

There are no comprehensive strategy for national programmes on environmental awareness or environmental education in Dominica. Despite the many public awareness and environmental education programs and campaigns that have been conducted in Dominica in the past, the population continues to practice environmentally unfriendly and unsound behaviour. It is however widely accepted that the success of national environmental management and sustainable development programmes is contingent upon changes in public behaviour brought about by successful public education programmes. It has also been recognized that there is need for the development of appropriate mechanisms to facilitate the sharing of information among agencies involved in environmental management and to make information available to students, researchers and the general public. NCSA Stakeholders have recognized that improved coordination and collaboration is required in the delivery of environmental education, information and outreach.

7.4.1. Public Education (*Strategy 8*)

A common constraint that affects the implementation of all the Rio Conventions and effective environmental management in Dominica is the absence of mechanisms for regular, systematic and ongoing training, both formal and informal in nature. In some instances such training is an essential element of any national implementation framework, as is highlighted in *Dominica's Biosafety Framework*, and the *National Implementation Plan (NIP)* currently under development in conformity with requirements under the *Stockholm Convention on Persistent Organic Pollutants*. In other instances, broad-based public education is needed to effect necessary behavioral changes at the community level, as highlighted in *Dominica's Biodiversity Strategy and Action Plan*, and *Dominica's Climate Change Adaptation Policy and Action Plan*. While Dominica generally possesses or has access to the skills needed to design and present such training programs, the absence of financial resources has effectively prevented the presentation of such programs.

7.4.2. Environmental Information System (*Strategy 9*)

In the development of its programme to facilitate easier access to information on environmental management and sustainable development in Dominica, it has been recommended by various stakeholders consulted during the NCSA process that the Government of Dominica give urgent consideration to the following initiatives –

- (a) the preparation and publishing, on a periodic basis, of a *State of the Environment Report* that should be made available to the public (at cost). This report would be similar to the Environmental Profile prepared for Dominica in 1991. It should:
 - (1) *contain a brief summary of the main environmental and natural resource features of the country, including -*
 - (i) terrestrial fauna and flora;
 - (ii) marine flora and fauna;
 - (iii) water resources, including surface and underground water;
 - (iv) mineral resources;

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- (v) soil and agricultural resources;
 - (vi) human resources;
 - (vii) socio-economic conditions.
- (2) *provide a brief summary of the main environmental and resource management issues, including -*
- (i) waste management;
 - (ii) land management;
 - (iii) coastal erosion and land degradation;
 - (iv) water supply and usage;
 - (v) industrial pollution;
 - (vi) resource use and conservation;
 - (vii) mining and quarrying;
 - (viii) climate change;
 - (ix) population growth and urban migration.
- (3) *contain a review of response programs and initiatives to address environmental and resource management issues, and an evaluation of their effectiveness, including -*
- (i) government policies and programs;
 - (ii) legislation;
 - (iii) institutional development activities;
 - (iv) community participation programs;
 - (v) other programs and projects;
- (4) *provide information on the development of non-governmental organisations (NGOs) and their involvement in environmental management and sustainable development;*
- (5) *contain a presentation of recommendations for future action in response to environmental issues, including -*
- (i) the identification of national priorities;
 - (ii) proposed capacity building activities;
 - (iii) proposed policies, programs and initiatives.
- (b) The ***Environment Department*** should establish and operate a web-based public “***Environmental Database and Registry***” for the purpose of administering the information management requirements of the Rio Conventions and proposed environmental management legislation (see *Section 7.1.2.*), including those relating to:
- (i) the import, export, transportation, disposal, processing, handling, manufacture and management of hazardous substances or wastes;
 - (ii) the dumping of wastes;
 - (iii) the administration of the environmental impact assessment and public consultation processes;
 - (iv) the administration of permit requirements under the *Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES Convention)*, the *Stockholm Convention on Persistent Organic Pollutants*, and the *Cartagena Protocol on Biosafety*.

The ***Environmental Database and Registry*** should also contain:

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- (1) registries of qualified and accredited environmental consultants, environmental mediators, and environmental laboratories;
- (2) current guidelines and codes of practice concerning the import, export, management, transportation and storage of genetically modified organisms (GMOs), hazardous substances or waste;
- (3) any national hazardous substance response plans;
- (4) copies of all public notices required under proposed environmental management legislation;
- (5) copies of all permits issued under the *Convention on the International Trade in Endangered Species of Wild Fauna and Flora* (CITES Convention), the *Stockholm Convention on Persistent Organic Pollutants*, and the *Cartagena Protocol on Biosafety*.

In addition, the ***Environmental Database and Registry*** should be capable of providing immediate information concerning any guideline, code of environmental practice or response plan in the event of any enquiry. All documents submitted during any public consultation required under proposed environmental legislation should be lodged with the ***Environmental Registry***. The public should have access to any record or document filed in the ***Environmental Registry***, except for such documents or records as may be restricted for reasons of public security, or to protect the confidentiality of the location of sites or species of special cultural or ecological significance.

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7.5. Human Resource Requirements for Implementation of the Proposed NCSA Strategy

It was strongly felt by many stakeholders consulted during the NCSA process that the proposed Strategy should be implemented, as far as possible, with little additional demand for additional human resources. It is considered that the following would be the minimum human resource needs to ensure the effective operation of the proposed NCSA Strategy –

- (a) Environmental Advisory Committee – One officer in the ***Environment Department*** to provide administrative support and Secretariat function.
- (b) Certificates of Environmental Clearance - The administration of the Certificate of Environmental Clearance process should be undertaken by one officer jointly shared between the ***Environment Department*** and the Department responsible for Physical Planning. Enforcement and monitoring responsibilities will be shared with competent line ministries include the Ministry of Health.
 - Environmental Information System – The Environmental Information and Education Officer within the ***Environment Department*** to coordinate information and outreach activities in collaboration with the Ministry of Education, and other line Ministries.

7.6. Financing for Proposed NCSA Strategy

It is recognised that the Government of Dominica has limited resources (human, technical and financial) and that in order to effectively implement the proposed environmental management framework, a strategic approach needs to be outlined which ensures that progress can be made in

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a meaningful and timely manner. Stakeholders at the Final National Workshop under the NCSA program suggested that the Government of Dominica consider the following approach to secure funding for the implementation of these strategies:

Strategy 1 - Establishment of Environmental Advisory Committee (US\$50,000).

- Funded by Government of Dominica.

Strategy 2 - Improved Legal Framework for Environmental Management (US\$150,000).

- Funded by either GEF-funded “Special Program on Adaptation to Climate Change (SPACC)” or NCSA follow-on.

Strategy 3 - Certificates of Environmental Clearance (US\$50,000).

- Funded by Government of Dominica

Strategy 4 - National Sustainable Development Strategy (US\$250,000)

- Funded by either GEF-funded “Special Program on Adaptation to Climate Change (SPACC)” or Italian Government funded National Sustainable Development Strategies project managed by UNDESSA.

Strategy 5 - Single National Reporting Framework for MEAs (US\$100,000)

- Funded by either GEF-funded “Special Program on Adaptation to Climate Change (SPACC)” or jointly by Secretariats to UNFCCC, CBD, and UNCCD.

Strategy 6 – Strengthening Environmental Coordinating Unit (ECU) (US\$50,000 per year)

- Funded by Pollution Levy

Strategy 7 - Strengthening National Parks Service (US\$300,000 per year)

- Funded by National Parks User Fees.

Strategy 8 - Public Education (US\$150,000)

- Funded jointly by Mainstreaming Adaptation to Climate Change (MACC) (US\$20,000), UNDP-funded “Sustainable Land Management” project (US\$30,000), Biosafety Follow-on Project (US\$50,000), and the NCSA follow-on. (US\$50,000)

Strategy 9 - Environmental Information System (US\$125,000)

- Funded jointly by Biosafety Follow-on Project (US\$70,000), NCSA Follow-on (US\$25,000), and UNDP-funded “Sustainable Land Management” project (US\$30,000)

7.7. Strategies to be Funded under NCSA Follow-On

Stakeholders at the NCSA consultative workshop developed the following profiles for those initiatives that are to be funded under anticipated GEF-funded NCSA follow on programs:

7.7.1. Institutional Strengthening (ECU, and National Parks Service) – (US\$250,000)

Objective

- Improve inter-departmental coordination and collaboration;
- Legally establish the *Environmental Department* (Strategy 6)
- Create separate *National Parks Service* (Department) (Strategy 7)
- Establish *Certificate of Environmental Clearance* (Strategy 3) process for use by Physical Planning Unit, National Parks Service, and Environment Department

Action

- Establish *Environmental Advisory Committee* (Strategy 1);
- Undertake needs assessment to review existing and new requirements for staff and equipment for all three units/departments;
- Develop organizational and operational framework, management structure, and performance criteria to meet expanding role of unit/department;
- Formulate operational budget and financing program;
- Develop performance-based job descriptions to meet expanding role of new unit/department;
- Develop and implement training program for new organizational and operational functions;
- Develop public accountability measures/mechanisms including performance evaluation mechanisms.

Time Frame

- 12 months.

Responsibility

- Ministry of Agriculture, Fisheries and the Environment.
- Attorney General's Office (legal reform).

Resources Required

- Coordinator
- Human Resource Management Specialist
- Specialized Trainers
- Environmental Law/Legal Drafting Specialist (legal reform)

7.7.2. Improved Legal Framework for Environmental Management (US\$150,000).

Objective

To develop, through a broad-based consultative process, a comprehensive, integrated and harmonized environmental legal framework (**Strategy 2**) which addresses key commitments under those multi-lateral environmental agreements (MEAs) to which the country is a signatory while improving the regulatory and institutional framework for environmental management in Dominica.

Action

- Presentation made by ECU to Cabinet of the need for environmental legal reform citing regional examples;
- Cabinet establishes Steering Committee (legal, finance, planning, civil society, education, resource management) to guide and oversee law reform process, with ECU and Attorney General's Office as joint Coordinators;
- ECU and Attorney General's Office as joint Coordinators appoint project team (Environmental Law/Legal Drafting Specialist, public consultation facilitator, local lawyer);
- Start up and Introductory Workshop;
- Situation Analysis (Legal, Policy and Institutional Review);
- National Consultative Workshop to present findings of Situation Analysis and identify priorities for new legislation;
- Position Paper outlining proposed framework for new environmental legislation developed from outcomes of National Consultative Workshop;
- Presentation to Cabinet on Position Paper;
- Public Consultations on Position Paper;
- Development of Green Paper summarizing outcomes from public consultation process;
- Presentation to Cabinet on Green Paper;
- Draft law developed from Green Paper;
- Draft law presented to Cabinet;
- Public consultations of draft law;
- Outcomes from public consultation integrated into draft law.
- Revised final law submitted to Cabinet.

Time Frame

- 18 months.

Responsibility

- Ministry of Agriculture, Fisheries and the Environment.
- Attorney General's Office.

Resources Required

- Coordinator
- Environmental Law/Legal Drafting Specialist
- Public consultation facilitator
- Local lawyer

7.7.3. Public Education, Information and Awareness

Objective

- Design and implement specialized training (**Strategy 8**) in the areas of :
 - biosafety management and risk assessment;
 - national parks management;
 - management of hazardous substances;
 - sustainable land management;
 - climate change risk management;
- Design, Produce and Disseminate Environmental Public Information and Awareness Program (**Strategy 9**)

Action

- Undertake training needs assessment to review existing and new skills requirements for staff in key environmental management agencies;
- Design training programs to meet new skills requirements as identified in training needs assessment;
- As necessary, retain specialized trainers to design and present training programs;
- Undertake evaluation of training program;
- Design and produce Environmental Public Information and Awareness Program involving the following elements:
 - TV & Radio short programs;
 - School environmentally sensitive books and DVD production;
 - National environmental curriculum;
 - Community-based environmental programs, including Soap Opera;
 - Radio and TV jingles;
 - Promotional materials Cups/ mugs/ bookmarks;
 - Poster competition resulting in calendar;
 - Mascot for Clean Dominica competition;
 - Public service announcements by Local celebrities;
 - **Environment Department** website – including biosafety and POPs clearinghouse, children’s pages development linking all key elements of fisheries, solid waste, and forestry management.

Time Frame

- 24 months.

Responsibility

- Ministry of Agriculture, Fisheries and the Environment.
- Ministry of Education
- Public Information Service
- Dominica Youth Environment Organization
- Media Workers Assn of Dominica
- Youth Development Division
- National Youth Council
- National Association of Youth in Agriculture
- Ministry of Legal Affairs
- Dominica State College

Resources Required

- Coordinator
- Specialized Trainers

ANNEXES

ANNEX 1

OVERVIEW OF THE LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT IN DOMINICA

Environmental Legislation

There are several laws in place in Dominica relating to environmental protection, and reflecting the key environmental concerns of -

- Waste Management (solid, liquid, other)
- Land use planning
- Development planning
- Deforestation
- Soil Conservation and Watershed Management
- Coastal Zone Management

Key pieces of environmental legislation include:

- The *Forest Act* (1959), which empowers the Ministry of Agriculture to establish Forest Reserves on Crown Lands as well as Protected Forest on private lands. It stipulates the conditions for timber harvesting, makes provision for the control of squatting, and defines various other offences.
- The *Beach Control Act* (1966, 1990), which protects beaches, controls the mining of beach material and requires that a permit be obtained for removal of beach material.
- The *Public Health Act* (1968), which provides general authority to maintain environmental health and control sources of pollution.
- The *Pesticide Control Act* (1974, 1987), which controls the importation and use of pesticides, however there are no regulations specifying environmental protective pesticide management practices or imposing restrictions on its application.
- The *National Parks and Protected Areas Act* (1975), which provides for the establishment of National parks and the protected area system.
- The *Town and Country Planning Act* (1975), which is a substantive piece of planning and development legislation for the island. It provides a framework for managing, guiding and coordinating public and private sector developments in accordance with overall development policy.
- The *Forestry and Wildlife Act* (1976), which makes provisions for the conservation and management of wildlife, through the listing of species, the establishment of reserves, and the setting of fines for a variety of offences.
- The *Territorial Sea, Contiguous Zone, Exclusive Economic and Fishery Zones Act* (1981), which establishes the extent of Dominica's maritime area and exclusive economic zone (EEZ).
- The *Fisheries Act* (1987), which provides an authority to promote sustainable management of fisheries and the establishment of protected areas.
- The *Water and Sewerage Act* (1989), which states the Government's water policy. It addresses the need for orderly and coordinated development, use and conservation of Dominica's water resources. It also makes DOWASCO responsible for the supply of water to all residents of the country.

- The *Litter Act* (1990), which provides general authority for the control and abatement of nuisances caused by litter on public and private lands.

However, there is serious overlapping between these legislative frameworks which are deficient in identifying definitive authoritative entities' linkages. There is also inadequate legislative, regulatory and enforcement mechanisms, and in some instances inadequate resources, human and otherwise.

Environmental Policy

Although the country does not have any formal environmental policy or management plan, Dominica's national priorities for environmental management are seen as -

- Biodiversity – conservation and sustainable use
- Poverty alleviation and sustainable development.
- Land use management including zoning (agriculture, settlement), and land use planning.

These national priorities for environmental management have been identified through several inter-sectoral consultations and interactions with various gatherings of civil society groups, and are in keeping with government policy. Government policies and a development thrust depict the importance of these policies. Considerable emphasis is placed on the preservation of biological diversity and its sustainable use based on scientific evidence. Emphasis on poverty alleviation is due to the contraction of the agricultural sector because of internationally established protocols, agreements (adverse to Dominica), and systems that have impacted on the mainstay agricultural crop, banana, and consequently rendered most of the stakeholders in this sector powerless, unemployed and bordering on the line of poverty. Of prime concern is the alleviation of this condition which in turn may cause a deviation of abandonment and abuse of land holdings.

National Environmental Management Strategy

Dominica initiated the development of a National Environmental Management Strategy (NEMS). The St. George's Declaration of Principles for Environmental Sustainability in the OECS (SGD) was signed by the Government of the Commonwealth of Dominica in April 2001. The SGD was developed by the OECS Member States under the Small Islands Developing States (SIDS) Programme of Action. This Declaration sets out the agenda for environmental management in the OECS region. Among other things, OECS States that are signatory to the Declaration commit themselves to developing a National Environmental Management Strategy (NEMS) within two years of signing the Declaration.

OECS Member States recognize that their limited natural resource base imposes very real constraints on sustainable economic progress. Because sustainable development involves complex, inter-sectoral interactions over prolonged periods of time, an integrated, inter/cross-sectoral approach will foster a better understanding of how environmental, social and economic factors relate to each other. A NEMS will provide direction and guidance for planning decisions so that environmental management will not be undertaken on an ad hoc basis. A NEMS will ensure an integrated approach by addressing problems of organizational and policy fragmentation and compartmentalization, by developing inter/cross-sectoral networks among a variety of stakeholders, and by developing organizational capacity to cope with integrated decisions. In general, a NEMS guides the decisions and actions of all sectors in society and individuals with respect to the impact of those decisions and actions on the environment.

Funding and technical assistance for the development of the Dominica NEMS was provided by the OECS -Environment and Sustainable Development Unit (ESDU) through its CIDA funded Environmental Capacity Development Project (ENCAPD). Dominica began the NEMS development process with the holding of an initial stakeholder meeting in August 2001. This was followed by initial discussions with the Government of Dominica on furtherance of the NEMS process. Thereafter, Cabinet appointed a NEMS Inter-Agency Co-ordinating Committee (IACC), who has the overall responsibility to guide the development of the NEMS. A National Consultant was hired by the OECS-ESDU to compile a document and programme review on or related to environmental management.

As one of the first steps in the process to develop the NEMS for Dominica, a NEMS Public Awareness (PA) Consultant was hired to implement a NEMS P A/Communication Strategy. The PA Strategy aimed to disseminate NEMS-related information and to obtain perspectives on what a Dominica NEMS should be, including but not limited to national environmental priorities, accountability and

management. Information obtained from the PA Strategy was submitted to the NEMS Consultants, who had the responsibility to develop the Dominica NEMS. Some activities under the PA Strategy included public consultations, newspaper articles and development of a Dominica NEMS brochure.

The planned date for completion of the Dominica NEMS was January 2004. However, the process to develop the NEMS was not undertaken with the active and meaningful involvement and participation of the Cabinet appointed NEMS Inter-Agency Co-ordinating Committee (IACC), with the result that limited progress has been made on the finalization of the document.

Environmental Programmes and Projects under the Rio Conventions

Dominica became a signatory to the UNCCD in 1993, the UNCBD in 1994 and the UNFCCC in 1997. As a party to these conventions Dominica has prepared:

- The Commonwealth of Dominica's *First National Report* and *Second National Report* on the Implementation of the United Nations Convention to Combat Desertification;
- *Dominica's Biodiversity Strategy and Action Plan* (DBSAP) and the *First National Report* to the Conference of the Parties;
- The *Initial National Communication* of the Commonwealth of Dominica under United Nations Framework Convention on Climate Change.

Although the aim of the reports under all three thematic areas is to assist in generating funding for the implementation of various projects, the reports are currently only being used as reference material.

Biodiversity

Dominica's Biodiversity Strategy and Action Plan (DBSAP) set out national priorities, strategies and action for the conservation and the sustainable use of natural resources. The plan was prepared under the responsibility of the Environmental Coordinating Unit, and evolved through a series of studies which determined the state of marine and terrestrial biodiversity by means of a consultative process involving stakeholders from different sectors. A full time coordinator was appointed to direct the day to day implementation of the project. Supervision of the coordinator and overseeing of the project's implementation were achieved by the establishment of a Steering Committee comprising of NGOs, CBO and Divisions of Agriculture, Forestry, Fisheries, Finance. In addition, an Awareness Officer, seven local and one international consultant were recruited to complete the team.

The DBSAP identified seventeen national projects for training, technical assistance, education and equipment in the area of forestry, fisheries, agriculture, community development, traditional knowledge, public awareness and legal framework. The GEF, through the United Nations Development Programme, made funding available to the Government of Dominica for the preparation of NBSAP.

Threats to Terrestrial Biodiversity

The island of Dominica was originally covered with dense primary oceanic forest sustained by high annual rainfall ranging from 10,000mm (400 in.) in the central zone to 1,200mm (50 ins.) on the leeward coast. Dominica boasts a phenomenal plant diversity of approximately 155 families, 672 genera and 1226 species of vascular plants. Dominica has several plant species which are recorded as endemic to the island, e.g. *Sabinea carinalis* (Bwa Kwaib) the National Flower of Dominica. Dominica is host to the most diverse assemblage of wildlife species remaining in the Eastern Caribbean. All the faunal groups are well represented. It is the great diversity of habitats encompassed within this island of only 750 square kilometers (290 sq. mile) that gives rise to this rich diversity of animals and faunal communities. The greatest diversity of animal life occurs in the rain forest with birds and bats particularly well represented.

Dominica has the most diverse avifauna of the Lesser Antilles despite its geographic location within the center of the island chain. One hundred and seventy-five species of bird have been recorded for Dominica. Many of the birds are migratory, while sixty species breed on the island. Dominica's resident birds include two single-island endemics and nine regional endemic species. Dominica's two endemic parrot species - the imperial parrot or "Sisserou" (*Amazona imperialis*)

and the red-necked parrot or "Jaco" (*Amazona arausiaca*) are both considered threatened (IUCN Red Data List) and are "specially protected" birds under Dominican law. The most recent (1999) population estimate put the parrot populations at approximately 200 *A. imperialis*, and 1,500 *A. arausiaca*. Although *A. imperialis* may never have been abundant in Dominica, it is now considered to be the world's most critically endangered Amazon parrot. Both species have been negatively impacted by the combined effects of forest clearance for agriculture and the damage to the forests caused by hurricanes. The populations of these two endangered parrots reached critical levels, as low as 60 *A. imperialis* and 200 *A. arausiaca*, following Hurricane David in 1979.

Dominica's marine biological diversity is most abundant along the deep slopes and narrow continent of this island. Most vulnerable of these are the diverse array of coastal resources, (coral base ecosystems) which are sensitive and very susceptible to land base pollution effluents. Measures to mitigate reduction of stress on these resources are ongoing but may require strengthening. Every effort and measures are being promoted and put in place to maintain and or mitigate threats to reduce the aforementioned resources among others. Tremendous work is being done in the area of education, public awareness and sensitization of civil society on the importance of these resources and the need to preserve the same. These are strengthened by declarations and demarcations of sites and sections of the island along with legislative facilities meant to regulate the use of the resource base.

Land Degradation

Historically, Dominica has had a strong tradition of conserving its land and land base resources, however, the introduction of plantations and the associated large scale land clearing, together with infrastructural development, have threatened land resources. Concerns gave rise to the 1950's Forest Ordinance, authorizing the establishment of forest reserves on both private and crown lands for the purpose of soil and water conservation. This was followed with the enactment of many other environmental acts. Despite these acts, agriculture and the expansion in other economic sectors, such as tourism and manufacturing, has had and continues to have a strong influence on land degradation on the island, raising environmental concerns. Bad agricultural practices on steep slopes and on lands not conducive to soil conservation measures over the last two decades have contributed to the increasing lost of land and soil erosion, all having detrimental effects on both terrestrial and aquatic ecosystems.

In order to enhance the overall framework for combating the problem of desertification/ land degradation at a national level, the Government of Dominica has been involved in the development of a number of key policy documents and projects. These include among others: the National Environment Management Strategy (NEMS) and the Land Use Planning Agricultural Zoning Project. In addition, a number of local initiatives have been implemented in the fight against desertification. These include:

- Funding of soil conservation works under the Rural Enterprise Project;
- Public Awareness Campaigns on Watershed Management;
- Programme for Irrigation of Approximately 1000 Acres of Farmland;
- Community Management of Protected Area Conservation (COMPACT).

The CCD *First and Second National Reports* were developed through a collaborative effort involving the public and private sectors, and civil society. The process was monitored by the Ministry of Agriculture and the Environment's, Environmental Coordinating Unit (ECU) in collaboration with the National Biodiversity Committee and different sectors of the Government. It was intended to evaluate whether intended goals and objectives can be attained, and was developed in fulfillment of the state's obligations under the Convention and as part of the Government's commitment to the sustainable management of the country's natural resources.

Climate Change

In 1994 the Government of the Commonwealth of Dominica, recognizing that Climate Change is a major environmental phenomenon with serious ramifications for all nations of the world, ratified the United Nations Framework Convention on Climate Change. This demonstrated the

country's commitment to meeting the goals of the convention, which are essentially to reduce global greenhouse gas emissions and to address the actual and anticipated effects of climate change.

The *Initial National Communication* was prepared by the Ministry of Agriculture and the Environment, Environmental Coordinating Unit, in fulfilment of the Commonwealth of Dominica's commitments under Article 12 of the UNFCCC. It consists of a description of Dominica's national circumstances, a *National Greenhouse Gas Inventory* for 1994, an assessment of Dominica's vulnerability to the potential adverse impacts of climate change, an outline of the existing institutional framework, a description of the national response measures that will be pursued by the Government and a listing of the priority actions that the Government of Dominica intended to implement in the short term.

The *Initial National Communications* has established that the principal priorities for meeting the challenges of climate change relate to the need for adapting to the anticipated impacts of climate change, as well as promoting sustainable development through introduction of Climate Change mitigation technologies and processes. The main components of the *Initial National Communication* are:

- An inventory of greenhouse gases following the guidelines adopted by the COP;
- An assessment of the potential impacts of climate change;
- An analysis of potential measures to abate the increase in greenhouse gas emissions and to adapt to climate change;
- Preparation of a National Action Plan to address Climate Change and its adverse impacts;
- Preparation of the first National Communication of Dominica to the COP.

Phase II activities provide an opportunity for engaging in select activities that advance technical knowledge among stakeholders at the national level, build up the body of knowledge available and promote greater public awareness of climate change issues and concerns. These activities should utilize internationally accepted methodologies and tools in such areas as technology transfer assessment, vulnerability and assessment, and greenhouse gas inventory preparation. The proposed phase II capacity building activities are:

- Technology Transfer;
 - Identification /Submission of technology needs;
 - Capacity Building to assess technology needs
- Capacity Building for participation in systematic observation network;
- Preparation of programmes on improvement of emission factors.

Environmental Institutions

Government Ministries and Institutions

The *Ministry of Agriculture and the Environment* (MOAE) has primary institutional responsibility for environmental management and sustainable development matters in Dominica with the *Environmental Coordinating Unit (ECU) of the MOAE* serving as the technical focal point for the UNCCD, UNFCCC and UNCBD. The ECU also has direct responsibility for coordinating all activities related to the conventions nationally. The ECU's mission statement "is to function as the coordinating, facilitating, administering and collaborating body for all environmental management and sustainable development management programmes, projects, and activities in the Commonwealth of Dominica". However, whilst the unit has this responsibility, there is no legal power in enforcing its obligations.

The *Environmental Co-ordinating Unit* (ECU) was established in 1999 and also serves as a clearinghouse mechanism for other agreements not directly under its control, such as MARPOL, CITES, UNCLOS, Cartagena Convention, Basel Convention and the Stockholm Convention, but again has no legislative authority to execute obligations under such agreements. In addition, the Unit is under-staffed.

The *Forestry, Wildlife and Parks Division* is a Division of the MOAE with a long history of being responsible for terrestrial environmental management. The Forestry Division, established in 1949,

has a sound history of protecting Dominica's pristine environment, dating back to the early 1950's. This Division is generally responsible for forest, wildlife, watershed and National Parks management.

The *Fisheries Development Division (FDD)* undertakes fisheries, coastal and marine management, including management of marine reserves and marine protected areas. Much of the work of the FDD is in pursuant to the United Nations Convention of the Law of the Sea, Part III (UNCLOS III).

The *Division of Agriculture* focuses on agriculture programmes, soil conservation, research, agro-forestry and agronomy.

The *Pesticide Control Board* manages the importation, use and safety of pesticides in Dominica, and advises the Minister of Agriculture and the Environment on making pesticide regulations.

The *Lands and Surveys Division*, also within the MOAE, addresses all land-related matters, including conducting surveys on behalf of Government, land and sub-division allocation.

The *Ministry of Communication, Works and Housing* also plays a role in environmental management through two Divisions, namely the *Division of Works* which has responsibility for roads and related infrastructure, and the Housing Division.

The *Physical Planning Division* is responsible for the orderly development of land, including preparation of physical development plans. This division also processes applications for development and regulates construction of buildings and other structures.

Under the *Ministry of Health and Social Security*, the *Environmental Health Division* monitors water supply systems, liquid and solid waste disposal systems, provides building control services, investigates communicable diseases, implements food safety and disaster preparedness programmes, enforces health and safety, and implements institutional and recreational hygiene standards. It also has responsibility for developing occupational health standards.

The *Dominica Solid Waste Management Corporation* is responsible for all solid waste disposals throughout the island. It controls the establishment of waste dumpsites and collection points.

Statutory Bodies

The *Dominica Water and Sewage Company (DOWASCO)* a Statutory Body responsible for water and sewage development has put in place reliable, safe and sustainable water facilities at all major communities and population centres. Small reservoirs and water catchment areas have been developed island-wide. In the urban area of Roseau, the capital, a recently completed sewer system has been commissioned. The work of that Body links with several government agencies as it relates to the sustainability of the environment.

The *Dominica Bureau of Standards (DBOS)* which is placed within the Ministry of Trade and Foreign also renders institutional support to the development of viable standards to industry which has positive implications for the environment

Non-Government Organizations

Other organizations involved in environmental management include the *National Association of Non-Governmental Organisations (NANGO)*, which is the main NGO body in Dominica. It is made up of all registered Non-Governmental Organizations in the State. NANGO has played a pivotal role in many environment related development process such as the NBSAP and are actively represented on many such committees as well. A few Government agencies and NGOs work closely together, such as NANGO and ECU.

Community Based Organisations (CBOs) are few in number such as the *Local Authority Management Area (LAMA)* of the *Scotts Head – Soufriere Marine Reserve (SSMR)*. This organization is mandated by statutes, derivative of the Fisheries Act of 1987, to develop measures

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and manage a section of the ocean space and its resources for the benefit of the fishing community while making allowances for the other parties that interact with the same resource base. That CBO has direct involvement of groups from three adjacent communities and a host of other independent private sector stakeholders. This entity has a strong environmentally inclined educational, research, monitoring and control focus. The *Cockrane Community* in another CBO that harnesses public manpower interest to promote and protect the environment. That group undertakes community projects that are self sustaining.

The *Community Management of Protected Area Conservation Project* (COMPACT) is a project that addresses sustainable livelihood within the boundaries of the World Heritage Site. This project involves three major communities that place emphasis on undertaking sustainable programme which generate returns to them while ensuring that these are environmental uplifting.

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ANNEX 2

Comparative Analysis of Key Elements of the Rio Conventions

	United Nations Framework Convention on Climate Change (UNFCCC)	United Nations Convention to Combat Desertification and Drought (UNCCD)	Convention on Biological Diversity (CBD)	Cartegena Protocol on Biosafety.
Convention Obligations	<p>Parties should:</p> <ul style="list-style-type: none"> ▪ Protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. ▪ Take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects - Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each country and should be integrated with national development programmes. ▪ Develop, periodically update, publish and make available to the Conference of the Parties, national inventories of 	<p>Parties shall:</p> <ul style="list-style-type: none"> ▪ Adopt an integrated approach addressing the physical, biological and socio-economic aspects of the processes of desertification and drought. ▪ Give due attention, within the relevant international and regional bodies, to the situation of affected developing country Parties with regard to international trade, marketing arrangements and debt with a view to establishing an enabling international economic environment conducive to the promotion of sustainable development. ▪ Prepare and implement National Action Programmes (NAPs) to combat desertification and mitigate the effects of drought as an integral part of their national policies for sustainable development. ▪ Integrate strategies for 	<p>Parties should:</p> <ul style="list-style-type: none"> ▪ Develop national strategies, plans or programs for the conservation and sustainable use of biological diversity. ▪ Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies. ▪ Identify components of biological diversity important for its conservation and sustainable use having regard to the indicative list of categories set down in Annex I. ▪ Monitor, through sampling and other techniques, the components of biological diversity paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use. ▪ Identify processes and 	<p>Parties shall:</p> <ul style="list-style-type: none"> ▪ Ensure that the development, handling, transport, use, transfer and release of any living modified organisms are undertaken in a manner that prevents or reduces the risks to biological diversity, human health and the environment. ▪ Country of export shall notify, or require the exporter to ensure notification to, in writing, the competent national authority of the Party of import prior to the intentional transboundary movement of a living modified organism. ▪ Ensure that there is a legal requirement for the accuracy of information provided by the exporter. ▪ Country of import shall acknowledge receipt of the notification, in writing, to

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	<p>anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties.</p> <ul style="list-style-type: none"> ▪ Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change. ▪ Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, 	<p>poverty eradication into efforts to combat desertification and mitigate the effects of drought.</p> <ul style="list-style-type: none"> ▪ Promote cooperation in the fields of environmental protection and the conservation of land and water resources, as they relate to desertification and drought. ▪ Cooperate within relevant intergovernmental organizations, determine institutional mechanisms, if appropriate, keeping in mind the need to avoid duplication, and promote the use of existing bilateral and multilateral financial mechanisms and arrangements that mobilize and channel substantial financial resources to affected developing country Parties in combating desertification and mitigating the effects of drought. <p>Parties shall undertake to:</p> <ul style="list-style-type: none"> ▪ Give due priority to combating desertification and mitigating the effects of drought, and allocate adequate resources in accordance with their 	<p>categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity, and monitor their effects through sampling and other techniques.</p> <ul style="list-style-type: none"> ▪ Maintain and organize, by any mechanism data on biological resources. ▪ Establish a system of protected areas. ▪ Regulate or manage biological resources important for the conservation of biological diversity. ▪ Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings. ▪ Promote environmentally sound and sustainable development in areas adjacent to protected areas. ▪ Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species. ▪ Establish or maintain means to regulate, manage or control the risks associated with the use and release of 	<p>the notifier within ninety days of its receipt.</p> <ul style="list-style-type: none"> ▪ Country of import shall, inform the notifier, in writing, whether the intentional transboundary movement may proceed. ▪ Where a final decision has been made regarding domestic use, including placing on the market, of a living modified organism that may be subject to transboundary movement for direct use as food or feed, or for processing the country shall, within fifteen days of making that decision, inform the Parties through the Biosafety Clearing-House. ▪ Risk assessments shall be carried out in a scientifically sound manner taking into account recognized risk assessment techniques in order to identify and evaluate the possible adverse effects of living modified organisms on the conservation and sustainable use of biological diversity, taking also into account risks to human health. ▪ Establish and maintain appropriate mechanisms,
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	<p>agriculture, forestry and waste management sectors.</p> <ul style="list-style-type: none"> ▪ Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems. ▪ Cooperate in preparing for adaptation to the impacts of climate change. ▪ Develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas affected by drought and desertification, as well as floods. ▪ Take climate change considerations into account, to the extent feasible, in relevant social, economic and environmental policies and actions, and employ appropriate methods, for example environmental assessments, 	<p>circumstances and capabilities.</p> <ul style="list-style-type: none"> ▪ Establish strategies and priorities, within the framework of sustainable development plans and/or policies, to combat desertification and mitigate the effects of drought. ▪ Address the underlying causes of desertification and pay special attention to the socio-economic factors contributing to desertification processes. ▪ Promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought. ▪ Provide an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies and action programmes. ▪ Encourage the coordination of activities carried out 	<p>living modified organisms resulting from biotechnology.</p> <ul style="list-style-type: none"> ▪ Prevent the introduction of, control or eradicate those alien species. ▪ Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations. ▪ Adopt measures for the ex-situ conservation of components of biological diversity. ▪ Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats. ▪ Regulate and manage collection of biological resources from natural habitats. ▪ Integrate consideration of the conservation and sustainable use of biological resources into national decision-making. ▪ Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use 	<p>measures and strategies to regulate, manage and control risks associated with the use, handling and transboundary movement of living modified organisms.</p> <ul style="list-style-type: none"> ▪ Take appropriate measures to prevent unintentional transboundary movements of living modified organisms. ▪ Take appropriate measures to notify affected or potentially affected States, the Biosafety Clearing-House and, where appropriate, relevant international organizations, when it knows of an occurrence under its jurisdiction resulting in a release that leads, or may lead, to an unintentional transboundary movement of a living modified organism. ▪ Take necessary measures to require that living modified organisms that are subject to intentional transboundary movement are handled, packaged and transported under conditions of safety, taking into consideration relevant international rules and
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	<p>formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change.</p> <ul style="list-style-type: none"> ▪ Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies. ▪ Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies. 	<p>under this Convention and, if they are Parties to them, under other relevant international agreements, particularly the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity, in order to derive maximum benefit from activities under each agreement while avoiding duplication of effort.</p> <ul style="list-style-type: none"> ▪ Encourage the conduct of joint programmes, particularly in the fields of research, training, systematic observation and information collection and exchange. ▪ Prepare, make public and implement national action programmes, utilizing and building, to the extent possible, on existing relevant successful plans and programmes, and subregional and regional action programmes, as the central element of the strategy to combat desertification and mitigate the effects of drought – in this regard the purpose of national action programmes is to identify the factors 	<p>requirements.</p> <ul style="list-style-type: none"> ▪ Develop and implement remedial action in degraded areas where biological diversity has been reduced. ▪ Encourage cooperation between its governmental authorities and private sector in developing methods for sustainable use of biological resources. ▪ Establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity. ▪ Promote and encourage research which contributes to the conservation and sustainable use of biological diversity. ▪ Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity. ▪ Introduce appropriate procedures requiring environmental impact assessment of proposed projects that are likely to have significant adverse effects on biological diversity. 	<p>standards.</p> <ul style="list-style-type: none"> ▪ Designate one or more competent national authorities, which shall be responsible for performing the administrative functions required by the Protocol. ▪ Permit the notifier to identify information submitted under the procedures of the Protocol or required by the Party of import as part of the advance informed agreement procedure of the Protocol that is to be treated as confidential. ▪ Promote and facilitate public awareness, education and participation concerning the safe transfer, handling and use of living modified organisms in relation to the conservation and sustainable use of biological diversity. ▪ Adopt appropriate domestic measures aimed at preventing and, if appropriate, penalizing transboundary movements of living modified organisms.
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	<ul style="list-style-type: none"> ▪ Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations. ▪ Communicate to the Conference of the Parties information related to implementation. ▪ Development and implementation of educational and public awareness programmes on climate change and its effects. ▪ Facilitate public access to information on climate change and its effects, and public participation in addressing climate change and its effects and developing adequate responses. ▪ Promote training of scientific, technical and managerial personnel. 	<p>contributing to desertification and practical measures necessary to combat desertification and mitigate the effects of drought (National action programmes include, as appropriate, <u>inter alia</u>, measures in some or all of the following priority fields as they relate to combating desertification and mitigating the effects of drought in affected areas and to their populations: promotion of alternative livelihoods and improvement of national economic environments with a view to strengthening programmes aimed at the eradication of poverty and at ensuring food security; demographic dynamics; sustainable management of natural resources; sustainable agricultural practices; development and efficient use of various energy sources; institutional and legal frameworks; strengthening of capabilities for assessment and systematic observation, including hydrological and meteorological services, and capacity building, education</p>	<ul style="list-style-type: none"> ▪ Promote national arrangements for emergency responses to activities or events, whether caused naturally or otherwise, which present a grave and imminent danger to biological diversity. ▪ Create conditions to facilitate access to genetic resources for environmentally sound uses - Access to genetic resources shall be subject to prior informed consent. ▪ Take legislative, administrative or policy measures, as appropriate, with the aim that the private sector facilitates access to, joint development and transfer of biotechnology. ▪ Take legislative, administrative or policy measures, as appropriate, to provide for the effective participation in biotechnological research activities. 	
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		<p>and public awareness).</p> <ul style="list-style-type: none"> ▪ Integrate and coordinate the collection, analysis and exchange of relevant short term and long term data and information to ensure systematic observation of land degradation in affected areas and to understand better and assess the processes and effects of drought and desertification. ▪ Promote technical and scientific cooperation in the fields of combating desertification and mitigating the effects of drought through appropriate national, subregional, regional and international institutions. ▪ Protect, integrate, enhance and validate traditional and local knowledge, know-how and practices, ensuring, subject to their respective national legislation and/or policies, that the owners of that knowledge will directly benefit on an equitable basis and on mutually agreed terms from any commercial utilization of it or from any technological development derived from that knowledge. ▪ Develop and strengthen 		
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		<p>national, subregional and regional research capabilities.</p> <ul style="list-style-type: none"> ▪ Enhance the availability of water resources in affected areas. ▪ Promote, finance and/or facilitate the financing of the transfer, acquisition, adaptation and development of environmentally sound, economically viable and socially acceptable technologies relevant to combating desertification and/or mitigating the effects of drought, with a view to contributing to the achievement of sustainable development in affected areas. ▪ Undertake and support public awareness and educational programmes to promote understanding of the causes and effects of desertification and drought. 		
<p>Establishment of Institutional Framework for Implementation of Convention Requirements</p>	<p>National Climate Change Committee + Series of Consultative Workshops + Public Outreach and Awareness Programs +</p>	<ul style="list-style-type: none"> ▪ A formal broad based National Committee for the implementation of activities related to the UNCCD has not been established. ▪ Focal point (ECU) established. ▪ National Workshop 	<p>National Biodiversity Coordinating Committee + Series of Consultative Workshops + Public Outreach and Awareness Programs +</p>	<p>National Biosafety Coordinating Committee + Series of Consultative Workshops + Public Outreach and Awareness Programs +</p>

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	Inventories and Issues Paper Training	for NAP.	Stocktaking	Training
Country Assessment or Inventory	Greenhouse Gas Inventory + Vulnerability Assessment – Vulnerable sectors identified in the INC assessment were forestry and terrestrial resources, coastal ecosystems, freshwater resources, human settlements, agriculture, fisheries, tourism and, human health + no data collection and monitoring of critical variables like sea levels and emissions of greenhouse gases, including carbon dioxide and methane.	Country assessment completed (under NCSA Project).	Inventory on status of biodiversity, (marine and terrestrial), agro-biodiversity, biosafety legal and institutional frameworks, and biodiversity prospecting.	<ul style="list-style-type: none"> ▪ Stocktaking on state of biotechnology in Dominica, and review of relevant institutions and legislation. ▪ Evaluation of regional capacity for biotechnology risk assessment.
Preparation and Submission of National Reports to Conference Secretariat	Initial National Communication (INC): i) Recommends research in such areas as forest species coverage, using for instance, remote sensing coupled with GIS methods; ii) Highlights absence of clear and explicit policies on data collection, analysis, reporting and use within the public sector in particular and the country in general; iii) Highlights lack of, or absence of, experts and expertise in the areas of data collection and management; iv) Recommends energy conservation policies and	First and Second National Reports submitted to Secretariat. First National UNCCD Report, identifies the following major indicators of land degradation in Dominica: <ul style="list-style-type: none"> ▪ Rapid expansion of the non-indigenous Citronella (lemon grass) and loss of soil fertility - due to the degradation of natural vegetation associated with numerous bush fires during the dry season. ▪ Incidences of drought that affected crop production, particularly the 1994 drought that severely decreased banana crop 	First National Report on status of biodiversity, agro-biodiversity, biosafety and biodiversity prospecting + NBSAP. Completed Second National Report. Finalizing Third National Report.	Report on establishment of National Biosafety Framework

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	<p>activities which are likely to offer some of the most financially viable short-term measures for achieving mitigation while also contributing to socio-economic development for Dominica.</p>	<p>production. Parts of the island are very dry considering the amount of rainfall received (e.g. Petite Soufriere).</p> <ul style="list-style-type: none"> ▪ Dry Land Forest along the west coast - habitat has been decimated mainly through deforestation. ▪ Decline in the flows of many of Dominica's rivers - examples are the Castle Comfort River or Roseau River. ▪ Flooding of low lying lands during the rainy season due to lack of adequate drainage, number of landslides along road cuts (e.g. Layou landslide), clearing of steep slopes without proper soil conservation measures and river siltation. ▪ Encroachment and development on unstable and unsuitable shorelines as displayed by the destruction of Hurricane Lenny. ▪ Conversion of agricultural land to housing developments (e.g. Roseau Valley or Grand Savanne). ▪ Mining and Quarrying Industries primarily along the west coast. 		
Preparation of National	National Climate Change	Central to meeting the	Dominica National	National Biosafety

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<p>Policy or Strategy</p>	<p>Adaptation Policy and Action Plan which proposes:</p> <ul style="list-style-type: none"> ▪ Development and implementation of a coordinated public education and awareness campaign; ▪ Develop a holistic and integrated legal and institutional framework for the sustainable management of coastal resources; ▪ Develop and implement an integrated multi-sectoral national water resources management framework with supporting legislation; ▪ Improved monitoring and research of conventional crop and livestock production systems, and promote protection of agro-biodiversity, develop national food security program, and promote agricultural diversification; ▪ Review and strengthen existing institutional and legislative frameworks for physical planning; ▪ Strengthen disaster management capabilities; ▪ Review, strengthen, and enforce legislation and 	<p>provisions of the Convention is the development and implementation of a National Action Programme to prevent land degradation. This National Action Programme is currently under development .</p>	<p>Biodiversity Strategy and Action Plan (NBSAP) which proposes:</p> <ul style="list-style-type: none"> ▪ Inventory of Biodiversity Resources; ▪ Public Information, Awareness, and Education Program; ▪ Development of Legislative Framework; ▪ Integrated Land (Resource)Use Planning and Management; ▪ Capacity Building and institutional strengthening for environmental Management; ▪ Implement System of Environmental Standards & Guidelines (Tourism and manufacturing) ▪ Develop comprehensive Water Resource Management Plan ▪ Develop program that captures and shares traditional knowledge and encourage practice of self reliance; ▪ Develop a data-base and information system on terrestrial and marine bio-diversity; ▪ Conservation of Agro-Biodiversity; ▪ Community participation 	<p>Framework, which includes:</p> <ul style="list-style-type: none"> ▪ Legal framework, ▪ Administrative system; ▪ Public participation system; ▪ Biosafety clearinghouse; ▪ Risk assessment process.
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	<p>regulations governing forest management;</p> <ul style="list-style-type: none"> ▪ Reforestation of critical watersheds, deforested, and severely degraded lands; ▪ Implement Biodiversity Strategy and Action Plan and initiate the development of a regional approach to critical habitat management; ▪ Develop integrated plan for management of the country's fisheries resources, and strengthen fisheries legislation; ▪ Strengthen environment health services. 		<p>in Terrestrial and Marine Conservation;</p> <ul style="list-style-type: none"> ▪ Develop institutional capacity for regulating bio-technology; ▪ Program for the conservation of traditional knowledge, culture and values; ▪ Development Plan for Indigenous Carib Peoples; ▪ Plan for implementing Biodiversity and Climate Change Adaptation Program; ▪ Fiscal incentive program to encourage commercial ventures to make sustainable use of biodiversity. 	
Phase II Enabling Activity	Work on Second National Communication about to commence	NAP to be followed by medium size project for implementation.	NBSAP Follow-on - Second and Third National Reports. Capacity need assessment in traditional knowledge, accessing benefits, in situ conservation, agro-biodiversity.	Biosafety Framework Follow-on – implementation of Biosafety Framework.

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<p>Status of Implementation</p>	<p>Since the INC was approved by Cabinet in 2001 and the Adaptation Policy was approved by Cabinet in 2003 very little of the recommended actions have been implemented.</p>	<ul style="list-style-type: none"> ▪ March 2000 National Consultation on Desertification and Land Degradation. ▪ July 2005 National Consultation to develop NAP. 	<ul style="list-style-type: none"> ▪ Since the NBSAP was approved by Cabinet in 2002 most of the anticipated actions could not be addressed due to resource (human, technical, financial) constraints. ▪ Some progress on issue of Biosafety as a result of support from GEF. ▪ Draft legislation on Trade in Endangered Species developed. 	<ul style="list-style-type: none"> ▪ Some progress on issue of Biosafety as a result of support from GEF. ▪ Biosafety framework completed in 2004. Draft Biosafety and Biotechnology Management legislation prepared and awaiting submission to Cabinet. ▪ Initial training and public awareness programs completed.
<p>Capacity Issues Relating to Implementation</p>	<p>The main reasons for non-implementation are: i) Government's inability to provide the fiscal incentives to the private sector; ii) Absence of legislation and governments inability to enact the necessary legislation to mandate compliance; and iii) Lack of inter-agency coordination in addition to undefined or poorly defined institutional framework and arrangements; iv) Lack of financial resources of government and private sector to invest. Other reasons for inaction include, lack of awareness,</p>	<ul style="list-style-type: none"> ▪ All institutions lack the human, financial, institutional and legal capacity to adequately deal with the problems at the national level. ▪ Important imperative is the establishment of a National Institutional Framework for effective coordination among institutions with environmental management responsibilities as well as other key stakeholders. ▪ Legislative framework needs to be reviewed to provide an adequate regulatory system to facilitate implementation of activities at the national level. 	<ul style="list-style-type: none"> ▪ Need for improved collaboration between different implementing agencies. ▪ Inappropriate laws, lack of policy direction and lack of synergy between agency mandates. ▪ Lack of capacity to mount comprehensive public education and awareness programme with existing staff. ▪ Limited manpower and resources are available to undertake research and monitoring activities. ▪ Appropriate housing for many government Departments is a must as well as basic hardware /software to improve efficiency. ▪ Need to improve 	<ul style="list-style-type: none"> ▪ Need for improved collaboration between different implementing agencies. ▪ Inappropriate laws, lack of policy direction and lack of synergy between agency mandates. ▪ Lack of capacity to mount comprehensive public education and awareness programme with existing staff. ▪ Limited manpower and resources are available to undertake risk assessment and management activities. ▪ Limited manpower, trained personnel required to develop a competent team that can effectively implement Protocol requirements.

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	<p>and financing for conversion of existing technologies. Main impediment to success lies with the public sector. First step to solving the problems is government's ability to enact the appropriate legislation.</p>	<ul style="list-style-type: none"> ▪ Little inherent capacity or resources for conducting research into desertification issues. ▪ Recommend institutionalization of the Sustainable Development Council and the broadening of planning process. ▪ Environmental Impact Assessments (EIA's) should be mandatory by law for all major development projects. ▪ Absence of a national land use policy and plan. ▪ Need to develop legal and policy framework for sustainable use of land. ▪ Sensitization and education of policy makers, technicians the farming community and the general public is critical. 	<p>capacity to harness indigenous plant germ material. Develop plant germ bank, and undertake inventory of agricultural biodiversity.</p> <ul style="list-style-type: none"> ▪ Limited manpower, trained personnel required to develop a competent team that can effectively implement Convention requirements. 	<ul style="list-style-type: none"> ▪ Need to establish regional risk assessment capacity for effective implementation of the Protocol.
<p>Issues Relating to Convention Requirements</p>	<ul style="list-style-type: none"> i) These processes are driven by international agendas rather than national needs; and ii) Unavailability of adequate resources (human, institutional and financial) necessary for implementation of measures. 	<ul style="list-style-type: none"> ▪ Dominica can only support a limited number of professionals due to spatial, financial and institutional constraints. ▪ Priority is the development of a National Action Plan (NAP) for land degradation and the establishment of a broad based national 	<ul style="list-style-type: none"> ▪ There exists a multitude of agencies and organisations that have some role in the implementation of requirements under the Convention. Many of these authorities and legal instruments were instituted before the 	<ul style="list-style-type: none"> ▪ Biosafety is a relatively new issue and is not within the mandate of many of the organisations that need to work together for effective implementation of the Protocol. ▪ There exists general lack of awareness concerning

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	<p>Many question the rational for conducting more of these assessments and national reports without an accompanying financial mechanism for implementation of the recommendation more specifically those, which relate to adaptation measures. For the very vulnerable small island Caribbean States with relatively insignificant contributions to Global Green House Gas emissions, but which are constantly ravaged by climate change related events, it would be more beneficial if funds were also made available for adaptation to compliment that provided for mitigation. This is particularly since Dominica is a net sink for Carbon Dioxide amounting for net removals of 295.14 Gg of carbon dioxide in 1994.</p>	<p>committee to provide oversight for implementation of NAP.</p> <ul style="list-style-type: none"> ▪ Increase public awareness and information. ▪ New legislation required. ▪ Land use plan required. ▪ Institutionalising of a pollution pay principle that companies must be made to bear the financial cost of their actions. ▪ Major constraints to hastening the pace of combating the land degradation problem remain the absence of suitable institutional and legislative frameworks at the national level; lack of human and institutional capacity and inadequate funding for national level activities. 	<p>CBD came into force and as such, the new roles and functions that are mandated by recent international agreements present varied challenges.</p> <ul style="list-style-type: none"> ▪ Measures and mechanisms to address and accommodate the more recent developments in these agreements have to be developed and or adapted. ▪ In many instances, new legislation or subsequent regulations must be drafted, or amended to be able to give the respective agencies the latitude and means to implement the convention's mandates. ▪ One comprehensive piece of legislation applicable to CBD, Bio-safety and complete environmental protection, or an integrated environmental piece of legislation should be considered. ▪ There exists general lack of awareness concerning the Convention and the benefits that can accrue 	<p>the Protocol, and the risks associated with biotechnology.</p> <ul style="list-style-type: none"> ▪ Limited capacity to develop and implement risk management protocols and standards that emanate from the Protocol along with the requisite legal instruments to give effect to, and legitimise them. ▪ Policy on biotechnology management needs to be developed by government.
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			<p>from effective implementation.</p> <ul style="list-style-type: none"> ▪ Environmental Coordinating Unit (ECU) which has been the hub around which all environmental activities pertinent to relative international conventions revolve and evolve, must have its status augmented. It must be given the status of an Environment Management Department. ▪ To give public awareness that boost a revival or revitalization of an entity such as the Rural Communications Unit (RCU) should take effect. ▪ Biodiversity Strategy and Action Plan Country Study (2002); <i>“There is need for adequate institutional, political and technical capacity and the necessary legal framework to effectively conserve and manage the country’s terrestrial and marine biodiversity”.</i> 	
Proposed Capacity Development Activity	Development of necessary legislative framework for	<ul style="list-style-type: none"> ▪ Dominica will seek to mobilize resources from 	<ul style="list-style-type: none"> ▪ Development of necessary legislative 	Development of necessary national and regional risk

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	<p>effective implementation will be addressed under the GEF funded US\$1.9 million project entitled “Implementation of Pilot Adaptation Measures in coastal areas in Dominica, St. Lucia and St. Vincent and the Grenadines”.</p>	<p>local, regional and international funding agencies and other governments to undertake projects and programmes geared at implementing the Convention.</p> <ul style="list-style-type: none"> ▪ Financing plan developed under the European Union special Assistance Framework for conservation activities in Dominica over a ten-year period starting 2002. ▪ Proposed project for the development of an EU funded land use policy. ▪ Current implementation of a national irrigation scheme. ▪ Deployment of automated weather stations that will provide island-wide coverage within the various agro ecological zones and will greatly simplify the process of collecting, measuring and collating a range of agro meteorology data. ▪ Follow-on project – NAP implementation medium sized project on Sustainable Land 	<p>framework for effective implementation of CBD requirements will be addressed under the GEF funded US\$1.9 million project entitled “Implementation of Pilot Adaptation Measures in coastal areas in Dominica, St. Lucia and St. Vincent and the Grenadines”.</p> <ul style="list-style-type: none"> ▪ Proposal to develop central laboratory facility that will collectively serve all sectors, institutions, departments. ▪ Proposed project to establish organic farming in Dominica. 	<p>assessment and management capacity and public awareness and training programs under GEF follow-on activity (approx. US\$800,000).</p>
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		Management (approx. US\$500,000). <ul style="list-style-type: none">▪ Proposed project to establish organic farming in Dominica.		
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ANNEX 3

List of Participants at National Consultative Workshops

**NCSA NATIONAL WORKSHOPS
July 28th and 29th 2005**

AND

18th January 2006

LIST OF PARTICIPANTS

1. Eric Hypolite – Forestry Division
2. David Williams – Forestry Division
3. Andrew Magloire – Chief Fisheries Officer
4. Oliver Grell – Director, Division of Agriculture
5. Arun Madessitti – Soufriere/Scotts Head Marine Reserve
6. Charles Corbette – Carib Affairs
7. Algernon Philbert – Oceanographic Institute of Dominica
8. Adolphus Christian – Rosalie Sea Turtle Initiative
9. Kervin Stephenson - IICA
10. Nancy Osler – Papillotte Wilderness and Retreat Centre
11. Albert Bellot - Climate Change Consultant
12. Marie-Jose Edwards – Tourism Consultant
13. Doreen Francis – Chairperson/NANGO
14. Nathaniel Isaac – Met Office
15. Cecil Shillingford – Office of Disaster Management
16. Alvin Bernard – Ministry of Finance
17. Sasha Steiner – Institute for Tropical Marine Ecology
18. Edgar Hunter – Dominica State College
19. Patrick Pemberton – Director of Manufacturing/Dominica Coconut Products
20. Samuel Carriette – National Poverty Assessment Coordinator/Min of Finance
21. Nigel Lawrence – Biodiversity/Biosafety Consultant
22. Winston Magloire – Division of Agriculture
23. Jennifer Julien-Laudat – Dominica Hotel and Tourism Association
24. Terry Raymond – Youth Environment Service Corps
25. Winston Magloire – Division of Agriculture
26. Dr. Alexandra Burton-James – UNESCO
27. Jahisiah Benoit
28. Mrs. Juliette Tonge – Physical Planning Division
29. Dr. Steve John – Dominica Bureau of Standards

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