



**The Commonwealth of Dominica's
First National Report
on the Implementation of the
United Nations Convention to Combat Desertification
(UNCCD)**

Environmental Coordinating Unit
Ministry of Agriculture, Planning and Environment
Roseau
April 2000

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
1. INTRODUCTION AND BACKGROUND	5
2. INDICATORS OF LAND DEGRADATION	10
3. PAST AND PRESENT STRATEGIES AND PLANS	12
4. MECHANISMS FOR COORDINATION	15
5. FINANCING UNCCD IMPLEMENTATION.....	18
6. ISSUES TO BE ADDRESSED IN A NATIONAL ACTION PLAN.....	19
APPENDICES	
1. LIST OF STAKEHOLDERS	22
2. PARTICIPANT'S LIST	23
3. EXISTING LEGAL FRAMEWORK	24
4. FINANCIAL RESOURCES EXPENDED	25
5. PROPOSED ACTIVITIES	26
6. RESPONSIBILITIES OF THE SUSTAINABLE DEVELOPMENT COUNCIL	27
FIGURES	
1. LOCATION OF DOMINICA	28
2. PHYSICAL FEATURES OF DOMINICA	29
3. RAINFALL MAP OF DOMINICA	30
4. VEGETATION MAP OF DOMINICA	31
5. SOIL LOSS IN DOMINICA	32
ACKNOWLEDGEMENTS	33

Executive Summary

In 1997, Dominica became a party to the 1996 United Nations Convention to Combat Desertification (UNCCD) - an international convention aimed at combating land degradation. This First National Report on the Implementation of the Convention was prepared by the Environmental Coordinating Unit (ECU) of the Ministry of Agriculture, Planning and the Environment. The Report will be submitted to the Convention's Secretariat by April 15, 2000 as obligated by decision 13.5 of the V Regional Meeting for Latin America and the Caribbean.

In preparing the Report, preliminary research, interviews and field visits to selected sites island wide were conducted. These activities were implemented within the framework of a multi-disciplinary, multi-sectoral and participatory approach that embraced a great number of stakeholders including *inter alia*: relevant Government Ministries; non-governmental organizations (NGOs); community-based organizations (CBOs); farmers; the private sector; the media; regional and international organizations and academic institutions. The results indicate that land degradation in Dominica is a serious issue that needs to be proactively, systematically and comprehensively addressed. In keeping with the Convention's definition, desertification, or land degradation, here refers to any use of the land resource that results in a decrease in its biological or economic productivity.

As such, the issues surrounding land degradation are complex and multi-faceted and are at the core of concerns for sustainable development. This is particularly true for Dominica given its fragile natural environment and unique physiographic features. In this situation, attempts to exploit the limited natural resource base have created a diverse array of clearly visible land degradation problems, for example, rapid expansion of the non indigenous Citronella (lemon grass) along the west coast due to the loss of forest cover.

Notwithstanding this, Dominica has a long and rich history in its effort to address these inherent land degradation problems, protect its land resource base and find sustainable solutions to the complex land degradation problems. This is evidenced by strict legislative and regulatory policies dating back to 1898 with the enactment of the Botanical Gardens Act, to the more recent establishment of a third National Park (Morne Diablotin) in 2000. Additionally, Dominica is widely reported as maintaining the greatest level of forest cover (66%) of all of the islands in the Caribbean.

Concerning the future, it is clear that the problems of land degradation and their solutions transcend the institutional and financial capacity of traditional institutions, agencies and stakeholders. In this regard, the report recommends: a) an assessment of existing legislative and institutional measures to determine their effectiveness in successfully combating land degradation in Dominica, and b) mechanisms for effective coordination of the implementation of the UNCCD through revitalisation of a Sustainable Development Council to advise the Government on strategic environmental management and sustainable development issues. Simultaneously, activities must occur to strengthen the Environmental Coordinating Unit to enable it to serve as the Secretariat of the Council.

In support of these initiatives and recommendations, this Report notes the inextricable linkage between the timely availability of technical and financial resources at the local, regional and international level. The successful implementation of the Convention in general and in particular the formulation and implementation of Dominica's National Action Plan are contingent upon available resources. In this regard the Global Environmental Facility (GEF), the Global Mechanism and the Government of the Commonwealth of Dominica (GOCD) have been identified as major partners. Thus, a close working relationship will have to be fostered between

these partners and many other concerned parties if Dominica is to adequately and comprehensively address the issues described in this Report and contained in the proposed National Action Plan. The Plan will identify several priority areas for consideration. These include the development of: a) supporting land-use data; b) climatological data and c) GIS mapping capabilities. All of which will support the creation of a comprehensive National Land-Use Database to facilitate zoning and land-use planning. These activities will be juxtaposed upon an essential mass public education program that focuses on, but is not limited to schools, farmers, land developers / managers, other natural resource users and policy makers.

1.0 INTRODUCTION AND BACKGROUND

Dominica is located in the Lesser Antilles in the Caribbean Sea, to the South of Guadeloupe, and to the North of Martinique (Figure 1). The island measures 47 kilometers north-south and 22 kilometers east-west, with a total land area of 751 square km. The topography is characterized by very rugged and steep terrain extending above 1500 meters in elevation over much of the country. The cone of Morne Diablotin (1730 m) dominates the northern half of the island whilst in the south a chain of mountains including Morne Trois Pitons (1424 m), extends to the coast (see Figure 2). The more gently sloping (flatter) areas are restricted primarily to the river valleys, the coastal areas of the North-East, and the Bell's Wet Area in the centre of the island.

Dominica's relatively small economy is open and primarily agriculturally based with an average per capita income of EC\$6318 in 1998. Agriculture is the mainstay of the economy contributing 19% to GDP, 30% of employment, 37.5% of exports, whilst providing about 60% of the food needs of the population on average. Accordingly, it is estimated that 60% of the 70,000 population live in rural areas and are largely agrarian in nature.

The rich and diverse natural resource base and mostly unspoiled landscape have led to Dominica being known as the "Nature Island of the Caribbean". However, these resources are coming under increasing pressures from the islands economic development efforts based primarily on agriculture (bananas), agro-processing, manufacturing and more recently tourism. Thus, it is this particular combination of a challenging physical environment and the overarching dependence of the population on the land for their socio – economic well being which more than anything else has guided the course of Dominica's history, its economic development and patterns of land degradation.

1.1 CLIMATOLOGICAL AND BIOPHYSICAL REVIEW

1.1.1 CLIMATE

Dominica's climate is classified as "humid tropical marine", which is characterized by little seasonal or diurnal variation with strong and steady trade winds. Wind speeds are generally moderate, averaging 6.4 km per hour at sea level and approximately 14.4 km per hour at 1450 feet above sea level (at the Brantridge Meteorological Station).

The steep topography contributes to the island being probably the wettest in the Caribbean and blessed with a reported 365 rivers. However, there is a distinct "dry" season (between February and June) and the "wet" season (between July and December). Typically, rainfall increases from the leeward side where it approximates 1 200 mm annually, eastward toward the central parts of the island where it reaches over 10 000 mm annually (Figure 3).

1.1.2 VEGETATION AND SOIL TYPES

The island's terrain and climate have given rise to a wide diversity of soils and vegetation types (Figure 4) that vary with the elevation and exposure to strong and steady trade winds. Swamps forest, dominated by *Pterocarpus officinalis* and various mangrove genera, is found in the north-west areas, whilst Littoral woodland, dominated by *Coccoloba uvifera*, *Erithalis fruticosa* and *Chrysobalanus icaco* occur on the windward coast. Dry scrubland with the endemic *Sabinea carinalis* (the national flower) is found on slightly higher ground on the leeward coast as are extensive and ever expanding isolated tracts of Citronella. Deciduous forest with *Coccoloba venosa* and *Ryhticocus* is found in the high rainfall interior and large areas of rain forest with a wide variety of dominant species including *Sloanea*, *Talauma*, *Ormosia* and *Drussia* occurs in the central highlands up to 1000ft. Montane rainforest with dominant *Podocarpus cariaceus* is found in the south and at elevations higher than 3,500ft, Elfin woodland with dominants including *Prestolea montana*, and *Geonoma dussiana*. The island is still covered with undisturbed forest (60-75%) representing the most extensive areas of forest in the Lesser Antilles.

Such as wide array of vegetation is supported by an equally diverse complement of soil

types. Essentially, Dominica's soils are classified into eight major groups: Hydrogenic soils, Protosols, Young Soils, Allophanoid Clay Soils, Kandoid Clay Soils, Smectoid Clay Soils, Unstable Soils and "Other Clay" Soils. Each of the above eight soil types contributes to the vegetation types, and relative susceptibility of land resources to land degradation in Dominica. The soils in Dominica are, generally, readily erodible since they tend to be unconsolidated and friable (Figure 5 shows soil loss in Dominica in 1960). To date, there has been considerably more loss of soil especially in areas marked 0 and 1 in the map.

1.1.3 BIODIVERSITY

The variety of vegetation types supports an extraordinarily high species biodiversity for a small island. Over 1600 flowering plants have been recorded on the island and it is estimated that 60 woody plants and tree species can be found per hectare. The 166 bird species include 50 resident species and two endemic parrots – the Imperial (Sisserou) the national bird and the Red-Necked. About 20 species of freshwater and land crabs, 12 native species of terrestrial mammals and 4 species of marine turtles have been identified on the island. In addition to this rich terrestrial biodiversity, Dominica also has outstanding marine biodiversity including that associated with extensive coral reefs that have been placed in the top five diving destinations in the world. Hump-back, sperm and pilot whales and striped and bottle-nosed dolphins can also be found.

The forests are slowly degrading from a silvicultural perspective due to the combination of regeneration of high value species and unsustainable logging practices. However, the most immediate and primary threats to the forests are increasing pressure on the resource for agricultural expansion and the production of charcoal, posts and firewood. In addition, wildlife habitat reduction is directly associated with the clearing of forestland for alternate land-uses.

1.2 VULNERABILITY

The 1994 United Nations Global Conference on the Sustainable Development of Small Island Developing States held in Barbados reiterated the notion that Small Island Developing States (SIDS), like Dominica, are economically, socially, culturally and environmentally vulnerable. The vulnerability of the land resources, human settlements and infrastructure to the consequences of climate change has been ever more apparent recently. Terrestrial and marine biodiversity are coming under increasing pressures from the island's economic development.

Dominica is prone to extremely damaging natural disasters, primarily as a result of hurricanes, storm surges, landslides, droughts and floods, earthquakes and volcanic eruptions. The catastrophic events (loss of life, property damage, agriculture losses, damage to infrastructure and utilities, etc.) associated with recent hurricanes (e.g. David, 1979; Luis and Marilyn, 1995; and Lenny, 1999) are unfortunate examples of the extent of the island's vulnerabilities. Natural disasters are of special concern to Dominica because of its relatively small size, dependence on agriculture and tourism (which are particularly vulnerable to natural and environmental disasters), the narrow resource base and the lasting impact on the people, environment and the economy. To understand fully the extent of Dominica's vulnerability, and the adaptation options available, vulnerability and adaptation assessments exercises will be conducted (in the context of the CPACC project and the National Climate Change Enabling Activity Project) in key sectors like water, agriculture, human health, forests, fisheries, tourism, transportation and coastal zone management.

1.3 THE PARTICIPATORY PROCESS AND RELEVANT STAKEHOLDERS

In the preparation of the UNCCD First National Report, great emphasis was placed upon the participatory process. Consequently, a participatory framework has been employed from the outset of the formulation of the UNCCD report. A broad and comprehensive list of stakeholders (Appendix 1) participated and pledged their support to the process at the National Workshop on Land Degradation, convened by the GOCD in collaboration with the UNCCD on July 7th – 9th 1999. In an attempt to broaden and to continue the consultative process, participants were invited to offer their input and commentary on the issues relating to land degradation. The responses were then included in the discussion paper presented at the March 15th 2000 National Consultation.

Ideas, suggestions, revisions and other feedback gathered at the National Consultation, from all participants present, formed the basis of the First National Report to the UNCCD (Appendix 2). By employing such a consultative process, a more comprehensive Report which better reflects the national situation was generated. However, due to financial, human resources and time constraints, the broadest and most comprehensive consultative and participatory process could not be adopted until further support is provided.

2.0 INDICATORS OF LAND DEGRADATION

Geologically, Dominica is a very mountainous island, much of which was formed as little as 20 000 – 40 000 years ago. The island is characterized by a very youthful and fragile landscape, protected by forest which makes it very susceptible to the effects of land degradation.

Traditional, pre-Columbian forms of land use had very little impact on Dominica's physical environment. However, the introduction of plantations and large-scale land clearings led to increased levels of soil erosion, especially along the west coast. In the post World War II period, the banana industry developed. This led to the introduction of heavy machinery for building infrastructure (e.g. roads), together with increased housing needs related to the expanding economy brought significant pressures to bear on the fragile land resource base. Continued economic growth and development led to changes in the traditional land use patterns of the island. Thus, the major problems associated with land degradation became increasingly apparent after 1945.

Agriculture has had a strong and continuing influence on land degradation in Dominica. With an expanding agricultural sector there has been an increased eutrophication of fragile ecosystems (e.g. rivers, mangroves, sea grass, wetlands).

Expansion in the other economic sectors has also negatively impacted on the quality and integrity of the land resource base. This is evidenced by the following:

- Extensive availability of services (water, electricity, phone, sanitation).
- Expansion in various sectors (manufacturing, housing, tourism, agriculture, infrastructure).
- Exponential increase in the number of vehicles and fuel usage.
- Increased quantities of solid and liquid waste affecting the ecological and aesthetic quality of the land resources.

- Introduction of drainage, herbicides, heavy earth-moving equipment, explosive etc.

At the same time emerging issues such as climate change caused by increased concentration of greenhouse gases have significantly increased the frequency and intensity of storms and hurricanes in the region. This has led to increased beach and soil erosion caused by the high intensity rainfall and intense wave action that accompany these storms.

2.1 MAJOR INDICATORS OF LAND DEGRADATION IN DOMINICA

The following are perceived as major indicators of land degradation in Dominica:

- Rapid expansion of the non-indigenous Citronella (lemon grass) - due to the degradation of natural vegetation
- Incidences of drought that have affected crop production, particularly the 1994 drought that severely decreased banana crop production
- Mining and quarrying industry - primarily along the west coast
- Number of landslides along poorly aligned roads (e.g. - Layou landslide)
- Encroachment and development on unstable and unsuitable shorelines as displayed by the destruction caused by Hurricane Lenny
- Clearing of steep slopes without proper soil conservation measures
- Conversion of agricultural land to housing developments (e.g. Roseau Valley, Canefield Belfast, Wallhouse, Castle Comfort, Morne Daniel, Grand Savanne, etc)
- Decline in the flows of Dominica's rivers - notable examples are the Castle Comfort, Roseau, Layou and Geneva Rivers
- "Slash and burn" practice to clear land for banana farming (e.g. Carib Territory)
- Reduction in crop yields, increased need for fertilizers and excessive use of herbicides and other pesticides
- Coral reef degradation
- River siltation
- Difficulty in establishing crop stock

3.0 PAST AND PRESENT STRATEGIES AIMED AT COMBATING LAND DEGRADATION

Early records indicate formal attempts at land preservation and sustainable management of biodiversity date back to the Botanical Gardens Act of 1898. By the 1950s the first Forest Ordinance was enacted which authorised the establishment of Forest Reserves on Crown Lands and protected forests on private land for purposes of soil and water conservation.

Forest cover and lush vegetation are seen as critical elements to minimizing land degradation, while at the same time, preserving soil fertility. In this regard, some pieces of legislation especially concerning Forest Reserves, and National Parks, have been passed in an attempt to regulate land degradation within the overall framework of sustainable development, (Appendix 3).

Traditionally, some very positive practices to reduce land degradation have been employed by Dominican farmers, including indigenous peoples, such as;

- practicing subsistence farming
- diversifying
- intercropping
- mixed cropping
- seasonal production in the wet or dry season.

From 1980 to 1995, the GOCD in an attempt to support the legislative framework and create an enabling environment for halting the process of land degradation, expended in excess of EC \$30 million (approximately US \$11.2 million). The main objective of this expenditure was to undertake several projects and programmes aimed at combating land degradation (Appendix 4).

In this regard the signing of the Convention by the Commonwealth of Dominica in 1996, itself represented a further major step in the fight against land degradation. The specific activities for mitigating the effects of land degradation under the Convention are outlined in Appendix 5.

3.1 FOREST RESERVE AND NATIONAL PARK DEVELOPMENT

Approximately 20% of Dominica's forestlands are legally protected either as Forest Reserves or National Parks. There are two declared Government Forest Reserves, covering over 7% per cent of Dominica's land area. These are the Central Forest Reserve (1 013 acres) established in 1951 and the Northern Forest Reserve (21,770 acres established in 1977, reduced to 13 528 acres in 2000 with the creation of Morne Diablotin National Park). The establishment of the Forest Reserves was facilitated through enabling legislation, contained within the Forestry Act, which made provisions for the conservation and control of forested areas. In particular the Forest Reserves or "Protected Forests" provide:

- Protection against storms, winds, rolling stones, floods and landslides.
- Minimization of soil erosion, landslides or the formation of ravines and torrents as well as the deposition of mud stones and sands upon agricultural lands.
- Prevention of wastage of timber resources and for securing the proper management of timber lands.
- Maintenance of water supplies in springs, rivers, canals and reservoirs.
- Protection of roads, bridges, airstrips and other lines of communication.
- Protection of health.

The National Parks and Protected Areas Act of 1975 with the primary objectives of watershed protection, soil erosion control and preservation of the island's biodiversity,

provided the legal basis for the establishment of Dominica's three National Parks. The three Parks are namely; Morne Trois Pitons National Park (16 980 acres) in 1975, Cabrits National Park (13 313 acres) in 1986 and the Morne Diablotin National Park (8 242 acres) established in 2000, collectively cover over 14% of Dominica's land area.

4.0 MECHANISMS FOR COORDINATION

A number of efforts must be made in areas of institutional strengthening, including: a) reorganisation of the extension unit, b) upgrading the capacity of institutions and departments with jurisdiction for land use, c) enhancing coordination and democratisation of decision making through development of community leadership skills and d) greater involvement by the wider private sector. All of the above areas represent initiatives aimed at enhanced coordination in the process of halting land degradation.

4.1 THE INSTITUTIONAL MEASURES

The Ministry of Agriculture, Planning and Environment (MOAPE) is the primary institution responsible for environmental management and sustainable development matters in Dominica. The recent aggregation of Planning with the Ministry of Agriculture and Environment represents a positive measure for increasing the institutional capacity of the Ministry to implement the objectives of the UNCCD Convention given the Ministry's profound influence and jurisdiction over agriculture and forestry as well as important influence over the administration and management of terrestrial and coastal zones. Table 1 provides a matrix of the institutional responsibilities of the main divisions of the Ministry of Agriculture, Planning and Environment having responsibility for land degradation under the Convention.

Table 1 Responsibility Matrix

Division or Unit	Areas of Responsibility
Forestry, Wildlife and Parks Division	Protection and management of forests and wildlife, watershed management, development and management of parks
Fisheries Division	Promotion and management of fisheries, fisheries research, protection and management of marine reserves.
Agriculture Division	Promotion and management of sustainable agriculture, agricultural research.
Lands and Surveys Division	Surveying, mapping, administration, and sale of government lands, regulation of mining.
Pesticides Control Board	Registration, licensing and labelling pesticides.
Planning Unit	Development control and physical planning, administration of sand removal and quarrying permits, environmental impact assessments.
Environmental Coordinating Unit	Design of macro-plans and policies for environmental management, coordination of environmental activities, facilitate the implementation of multilateral environmental agreements, environmental education.

In order to achieve effective coordination, decentralization of the planning and development process, and to stimulate a holistic approach to environmental management among the various institutions with environmental management responsibilities as well as other key stakeholders, the Sustainable Development Council will be re-established. In the institutionalisation of the Council, legislative and administrative issues have to be carefully considered. The Council should be made up of a broad-based committee of representatives from Government institutions and other interested parties in civil society. It will serve in an advisory capacity to the GOCD on issues of sustainable development and environmental management including land degradation. See Appendix 6 for the responsibilities of the proposed Sustainable Development Council.

The Environmental Coordinating Unit of the Ministry of Agriculture, Planning and Environment will be reconfigured to serve as the Secretariat for the Council. There is a need for increased institutional capacity building (e.g. training of staff) for the Unit and other key relevant institutions (government and civil society groups) in Dominica to ensure the effective implementation of the Convention. It is envisaged that the unit will receive support from the following entities; Government of Dominica (GOCD), Organization of the Eastern Caribbean States Natural Resources Management Unit (OECS/NRMU), Caribbean Centre for Development Administration (CARICAD), Organisation of the American States (OAS) Inter-American Strategy for the Promotion of Public Participation in Sustainable Development Project (ISP) and other interested parties.

5.0 FINANCING UNCCD IMPLEMENTATION

The GOCD will seek to mobilize resources from local, regional and international funding agencies as well as from supporting governments to undertake projects and programmes geared at implementing the Convention. Funding mechanisms including the Global Environmental Fund and the Global Mechanism of the Convention represent major potential sources of funding.

A financing plan has been developed under the European Union Special Assistance Framework to fund conservation activities (EC \$1,950,000) in Dominica over a ten year period which is scheduled to begin in 2000. The activities scheduled for the first two years include model farms (bananas) employing soil conservation methods (EC \$150,000), drainage (EC \$1,500,000) and legislation for the establishment of Land Bank and proper Land Use (EC\$300,000).

6.0 ISSUES TO BE ADDRESSED IN THE NATIONAL ACTION PLAN (NAP)

Given Dominica's reliance upon land resources for continued economic well being, and the thousands of small, resource poor farmers, the main plans and issues to be contained in a NAP must seek to conserve and preserve the land while simultaneously encouraging sustainable use. In this regard, legislation will be revised and strengthened, resources will be mobilised and the political will, so necessary for implementation, solicited.

6.1 INSTITUTIONAL AND LEGISLATIVE PLANS AND ISSUES

The National Workshop (June 1999) and the National Consultation (March 2000) generated a wide range of recommendations. These have been categorized into three broad areas, namely; Institutional, Legislative and Financial and form the basis of activities and issues to be addressed in the context of a National Action Plan.

6.1.1 INSTITUTIONAL

Institutional constraints concerning land degradation are reflected in current concerns about the effectiveness of current land degradation policy formulation and implementation mechanisms as well as the capacity of existing institutions to implement the policies. The following are some specific recommendations:

- The institutionalization of the Sustainable Development Council and the broadening of the planning process.
- The development of a policy framework for educating the general public on environmental and sustainable development issues especially land degradation.
- An analysis of the capacities and needs of village councils, NGOs and other community based groups will be conducted.
- Empowerment of the farming community to practice proper conservation techniques (e.g. building stone barriers).

- An analysis of pertinent agencies (e.g. Physical Planning Division) will be conducted with the intention of increasing their institutional capacities to deal with issues relating to land degradation.
- An impact assessment of terrestrial activities on the marine environment will be conducted with the view of finding mitigation and adaptation measures.
- Establishment of research capacities specific to land degradation with special attention to watershed management and land use issues.
- Building of the capacity of marginalized groups (poor, women, youth, indigenous peoples and other disadvantaged groups) in their fight against land degradation.
- Implementing the Caribbean: Planning for Adaptation to Global Climate Change (CPACC) regional project and the National Climate Change Enabling Activity Project under the United Nations Framework Convention on Climate Change (UNFCCC).

6.1.2 LEGISLATIVE

Dominica presently suffers from a paucity of environmentally related legislation in its statutes (see appendix 4). Furthermore there is the perennial problem of enforcement of such legislation and accompanying regulations. In this connection, an assessment of all existing legislative and institutional measures geared towards successfully combating land degradation in Dominica will be urgently reviewed. The review will reveal areas of deficiency, areas to be strengthened and areas to be updated for greater impact of legislation in combating the scourge of land degradation. The following represent some of the specific areas recommended for action:

- Environmental Impact Assessments (EIA's) should be made mandatory by law for all major development projects.
- Develop a comprehensive Land-Use Plan, complete with sectoral zoning plans and backed by both legislation and political will.
- Enact legislation for the establishment of a Land Bank and proper land use mechanism.
- Enact legislation to promote the adoption of soil conservation measures.
- Develop benchmarks and indicators for land degradation.
- Regulate the quarrying and sand-mining industry.

- Pass enabling legislation to facilitate and support the efforts of the marginalized groups in their fight against land degradation.

6.1.3 FINANCIAL

Notwithstanding Government's current and projected budgetary constraints, the following issues need to be addressed:

- Institutionalising a fiscal incentive programme for farmers and other landowners to enable them to more readily meet the cost of implementing recommended soil conservation measures.
- Conducting training workshops in proper financial and management skills for targeted farmers and other land users.
- Assisting farmers in resource mobilization activities (writing of project proposals etc) - a list of funding agencies (local, regional and international) will need to be generated.

APPENDIX 1

LIST OF STAKEHOLDERS

1. Forestry and Wildlife Division
2. Physical Planning Division
3. Agriculture Division
4. Fisheries Division
5. Ministry of Education
6. Lands and Surveys Division
7. Ministry of Finance
8. Ministry of Housing
9. Environmental Health Unit
10. Ministry of Health
11. Ministry of Trade
12. Meteorological Office
13. Ministry of Community Development & Gender Affairs
14. Ministry of Legal Affairs
15. Ministry of Communications and Works
16. Ministry of Agriculture, Planning and the Environment
17. Agricultural Prime Unit
18. Agricultural Officers
19. National Association of Non-Governmental Association (NANGO)
20. Small Projects Assistance Team (SPAT)
21. Dominica Conservation Association (DCA)
22. National Development Corporation (NDC)
23. Caribbean Research and Development Institute (CARDI)
24. Inter-American Institute for Cooperation in Agriculture (IICA)
25. Export Development and Agricultural Diversification Coordinating Unit (EDDU)
26. Dominica Banana Marketing Corp. (DBMC)
27. Selected Farmers
28. Representatives of Farming Districts
29. Representatives of Farmers Groups
30. Agricultural Officers
31. Dominican Association of Industry and Commerce (DAIC)
32. Environmental Services Project Waitikubuli (ESPWA)
33. Youth Environmental Services Corps (YES Corps)
34. Local Government
35. Dominica Electricity Company (DOMLEC)
36. Dominica Water and Sewage Company (DOWASCO)
37. Women's Groups
38. Indigenous People's Representative (Carib Reserve Chief)
39. Academic Institutions
40. Dominican Water Sports Association
41. Government Statistical Division
42. Regional / International Organizations
43. Media Houses
44. Newspapers

APPENDIX 2

PARTICIPANTS LIST (NATIONAL CONSULTATION)

Name	Institution
1. Hon. Atherton Martin	Minister of Agriculture, Planning & Environment
2. Mr. Eliud Williams	Permanent Sec. Agriculture & Environment
3. Mr. Gerard Hill	Environmental Coordinating Unit
4. Mr. Philbert Brown	UNCCD Consultant
5. Mr. Kyle Fargey	Canadian Environmental Management Officer
6. Mr. Lloyd Pascal	Ministry of Agriculture
7. Mr. Ken Linton	Ministry of Housing
8. Mr. Ronald Charles	Forestry Division
9. Mr. Webster Shillingford	Ministry of Communications & Works
10. Mr. Alfred Leevy	Ministry of Community Dev & Women's Affairs
11. Mr. Nelson Laville	Clifton Dupigny Community College
12. Mr. Mathias Alexander	Clifton Dupigny Community College
13. Ms. Amonia Paul	Local Government
14. Mr. Jeffrey Brisbane	Farmer/Business Owner
15. Mr. Vivian Eugene	Lands and Surveys
16. Ms. Doreen Francis	National Association of NGOs
17. Mr. John Foye	Small Projects Assistance Team
18. Mr. Urban Martin	Inter- American Institute for Cooperation on Agriculture
19. Mr. Raphael Francis	Physical Planning Division
20. Mrs. Jiselle Allport	Fisheries Division
21. Mrs. Myld Riviere Plenderlief	Women's Bureau
22. Mr. Anthony Scotland	Environmental Health Dept.
23. Mrs. Rosemund Warrington	Ministry of Health
24. Mr. Gregory Robin	Caribbean Agric. Research Devt Insititute
25. Mr. Michael Lu	Chinese Technical Mission
26. Mr. Bernard Mark John	Agriculture Division
27. Mr. Nathaniel Issac	Meteorological Services
28. Mr. Stephen Nicholas	Statistical Office
29. Mr. Mark Riddle	Dominica Electricity Company
30. Mr. Edward Registe	National Youth Council
31. Mr. Terry Raymond	Youth Environment Service Corp.
32. Mr. Nelson Smith	Boetica Farmers Group
33. Mr. Walter Williams	Geological Technician
34. Mr. Vanoulst Jno. Charles	Windward Islands Banana Development and Export Company
35. Mr. Jeffrey Fadelle	Farmer
36. Mr. Joachim Pacquette	Farmer
37. Mr. Felix Augustine Jr.	Government Information Service
38. Mr. Anthony Richards	Government Information Service
39. Mr. Franklyn Peter	Government Information Service
40. Mr. Charles James	The Sun Newspaper
41. Mr. Carlisle Jno. Baptiste	Tropical Star Newspaper
42. Mr. Alexander Birmingham	MARPIN TV
43. Mr. Ian James	The Independent Newspaper

APPENDIX 3

EXISTING LEGAL FRAMEWORK THAT ADDRESSES THE ISSUE OF LAND DEGRADATION

- *The Botanical Gardens Act, 1898*
- *The Mangrove Ordinance, 1902*
- *The Botanical Gardens Rule, 1932*
- *Fisheries Rules, 1939*
- *The Forests, Soil and Water Conservation Ordinance, 1946*
- *Crown Land (Forest Produce) Rules, 1949*
- *Establishment of Forestry Division, 1949*
- *Forestry Act, 1958*
- *Crown Lands Ordinance, 1969*
- *National Parks and Protected Areas Act, 1975*
- *Forestry and Wildlife Act, 1976*
- *Forest Rules, 1977*
- *Environmental Health Act*
- *Litter Act, 1990*
- *Water Supply Act, 1990*
- *Pesticide Control Act*
- *Beach Control Act*
- *Stewart Hall Catchment Rules*
- *Mines and Mineral Act, 1996*
- *Solid Waste Management Corporation, 1996*

APPENDIX 4

FINANCIAL RESOURCES EXPENDED ON LAND DEGRADATION RELATED ACTIVITIES AND PROGRAMMES IN DOMINICA DURING 1980-1995

<u>TITLE</u>	<u>TOTAL COST (EC \$)</u>
<i>Silviculture and Plant Maintenance</i>	642,500
<i>Botanical Gardens Rehabilitation</i>	597,000
<i>Plant Nursery (Botanical Gardens)</i>	26,405
<i>Soil Conservation Project</i>	500,000
<i>Forest Roads</i>	1,363,000
<i>Reforestation</i>	1,597,260
<i>Wildlife and Watershed Management</i>	248,270
<i>National Parks Improvement</i>	942,000
<i>Forest Inventory</i>	337,500
<i>Natural Resource Management</i>	1,666,440
<i>Water Resource Management</i>	565,360
<i>Forest Management</i>	1,264,556
<i>Hydro Project (Environmental Component)</i>	162,000
<i>Improved Rural Land Use</i>	600,000
<i>Environmental Management</i>	450,000
<i>Botanical Gardens Improvement</i>	160,000
<i>Establishment of National Parks</i>	275,000
<i>National Parks Development</i>	5,553,388
<i>ENCORE</i>	8,340,000
<i>Soufriere / Scotts Head Marine Park</i>	2,000,000
<i>Environmental Management (ROC)</i>	7,790
TOTAL	28,738,469

APPENDIX 5

PROPOSED ACTIVITIES FOR MITIGATING LAND DEGRADATION

- National Zoning Plan to improve land-use planning.
- Adoption and implementation of the Land Bank proposal.
- Irrigation planning to protect farmers from periods of drought.
- Environmental audit of industries, factories, companies etc.
- Restrict activities surrounding the National Parks and Forest Reserves.
- Measures to conserve important rivers and water catchments areas.
- Environmental Impact Assessments (EIAs) for any major development projects.
- Adoption of the OECS Model Physical Planning Act.
- Public education programme with special emphasis on educating farmers, developers and other natural resource users and managers, founded upon the information contained in the national land data-base.
- Restrictions of development on steep slopes and in other fragile areas.
- Land rehabilitation program, which includes measures such as reforestation.
- Nation-wide meteorological monitoring system (rainfall measurements, temperature, humidity, wind speed, etc.).
- Nation-wide land research project and creation of national land data-base (soil typing, GIS mapping, watershed analysis, etc.).
- Institutional functions of Government agencies e.g. Establishment of a Land-Use Planning Unit as part of the Ministry of Agriculture, Planning and Environment.
- Water conservation measures to prevent the excessive waste of the island's valuable water resources.

APPENDIX 6

THE RESPONSIBILITIES OF THE PROPOSED SUSTAINABLE DEVELOPMENT COUNCIL INCLUDE THE FOLLOWING:

- To create the opportunity for the widest possible participation by all relevant stakeholders (to include public, private sectors, NGOs and CBOs) in the decision making process.
- To ensure inter-agency collaboration and coordination on all environmental management policies and programmes.
- To advise Government on the implications of regional and international treaties, conventions and commitments.
- To design an overall macro-plan for environmental management.
- To make recommendations for a National Environmental Policy.
- To make recommendations for the rationalization of all governmental entities performing environmental functions.
- To promote and facilitate educational and public awareness programmes on the environment.
- To develop and establish national environmental standards and criteria.
- To propose appropriate actions for the prevention and control of land degradation, pollution and general conservation of the environment.

FIGURE 1

GENERAL MAP OF THE CARIBBEAN , SHOWING THE LOCATION OF DOMINICA

FIGURE 2

PHYSICAL FEATURES OF THE ISLAND OF DOMINICA

FIGURE 3

RAINFALL MAP OF DOMINICA

FIGURE 4

NATURAL VEGETATION IN DOMINICA

FIGURE 5
SOIL LOSS IN DOMINICA

ACKNOWLEDGEMENTS

The Environmental Coordinating Unit of the Ministry of Agriculture, Planning and Environment recognises the contribution of the following institutions and individuals in the compilation of this First National Report. The firm commitment of the Government of Dominica as epitomised by the Honourable Minister for Agriculture, Planning and the Environment, Mr. Atherton Martin, and the Permanent Secretary, Mr. Eliud T. Williams provided the enabling environment for the speedy compilation of the Report. In addition, several individuals namely: Mr. Gerard Hill of the Environmental Coordinating Unit; Mr. Philbert Brown – UNCCD Consultant; Mr. Kyle Fargey – Canadian Environmental Management officer, Mr. David Lang – Environmental Services Project Waitikubuli (ESPWA) and Mr. Mark John – Agronomist / Environmentalist, Division of Agriculture, made notable contributions to the creation of Dominica’s First National Report to the UNCCD.