



**Convention to Combat  
Desertification**

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Item 7 (a) and (b) of the provisional agenda<sup>1</sup>

**IMPLEMENTATION OF THE CONVENTION**

- (a) REVIEW OF REPORTS ON IMPLEMENTATION OF AFFECTED COUNTRY PARTIES OF REGIONS OTHER THAN AFRICA, INCLUDING ON THE PARTICIPATORY PROCESS, AND ON EXPERIENCE GAINED AND RESULTS ACHIEVED IN THE PREPARATION AND IMPLEMENTATION OF NATIONAL ACTION PROGRAMMES
- (b) REVIEW OF THE REPORT ON PROGRESS MADE IN THE FORMULATION AND IMPLEMENTATION OF SUBREGIONAL AND REGIONAL ACTION PROGRAMMES IN REGIONS OTHER THAN AFRICA

Addendum

**COMPILATION OF SUMMARIES OF REPORTS SUBMITTED BY LATIN AMERICAN AND THE CARIBBEAN COUNTRY PARTIES<sup>2</sup>**

Note by the secretariat

1. By its decision 4/COP.3, the Conference of the Parties (COP) decided to undertake, at its fourth session, the review of reports on the implementation of affected country Parties of regions other than Africa, including reports on the participatory process and on experiences gained and results achieved in the preparation and implementation of national action programmes.

2. Pursuant to decision 11/COP.1, the secretariat was requested to compile the summaries of reports submitted by affected country Parties and submit the compilation to the Conference of the Parties for consideration and for any action the COP may wish to take. Decision 11/COP.1 also provided procedures and formats for reporting to the COP and required, in particular, a summary of the national reports, not to exceed six pages.

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<sup>1</sup> ICCD/COP(4)/1.

<sup>2</sup> Reproduced without formal editing.

3. The present document contains the summaries of national reports submitted by twelve country Parties from the Latin American and the Caribbean Region. These are: Antigua and Barbuda, Argentina, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica and Dominican Republic. The secretariat will also make this compilation of summaries available on its Web site ([www.unccd.int](http://www.unccd.int)) for wider circulation.

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## ANTIGUA AND BARBUDA

### EXECUTIVE SUMMARY

This document is a report produced in compliance with decision 11/COP.1 of the UNCCD with the specific purpose to inform the parties on the progress made towards achieving the objectives of the convention and to enable them to make appropriate recommendations to better pursue these objectives. Nationally this report will act as a guide to the development of the national action plan to combat desertification and land degradation.

Antigua and Barbuda is a twin island nation in the West Indies. When the early settlers arrived in the 17<sup>th</sup> century, they were deterred by a scarcity of water, although Antigua was noted as a heavily forested island. This dense vegetation was, however, almost completely removed by the time sugar cane cultivation became the dominant feature of the economy.

Today, the islands are still trying to cope with the effects of poor soil types and soil erosion caused by poor agricultural practices. The frequency of droughts and the economic shift to tourism have further complicated the issues and accelerated the rate of degradation. Additionally, recent early stages of land degradation as a result of the passage of hurricanes since 1995 have compounded the situation.

Although desertification is not considered imminent in Antigua and Barbuda, land degradation is a reality. The development of the Convention to Combat Desertification, and Antigua and Barbuda's ratification in 1997, will define a more sustainable path for future development in the country. It is in this spirit that the National Report was compiled.

Section 2 outlines the main factors affecting land degradation in Antigua and Barbuda. These factors relate to natural rainfall patterns and poor land management practices such as soil and sand mining; residential and industrial activities in watersheds; land preparation practices for farming and construction; naturally occurring land and mud slides; degradation of forested areas and other impacts from recent hurricanes.

The national strategies and priorities established within the framework of sustainable development plans, priorities and conventions affecting environment and natural resources are discussed in section 3. The section defines the National Coordinating Mechanism for national environmental action within in which the activities to execute the obligations to the Desertification Convention exists. The process of meeting and reporting as part of this mechanism, serves as a forum to *mainstream* the issues of desertification and land degradation in other conventions and national environmental action planning.

Section 4 details the institutional measures to implement the Convention to Combat Desertification and land degradation. The discussion in this section covers the institutional frameworks that exist to execute action and how they have developed. It outlines the approach being taken, and organizational structure.

This section also includes a table that outlines existing and potential stakeholders involved or that will have to become involved in addressing land degradation and their roles and responsibilities in this area. It also defines the current legal and judicial nature of the existing executing mechanism and details the human, material and financial resources available.

The National Action Plan to combat degradation is laid out in section 5. It takes into consideration public opinions on land and water resource use and

stewardship. The proposal also recognizes the widely held cultural beliefs and abuse of land and watershed resources.

Section 6 addresses the financial mechanism for the implementation of the UNCCD. It also addresses the constraints to implementing environmental activities in Antigua and Barbuda. Section 8 looks at the benchmarks and indicators for land degradation and the urgent need to address the lack of information on the extent of land degradation.

## ARGENTINA

### EXECUTIVE SUMMARY

The Argentine Republic, placed in the extreme south of the American Continent, has a total extension of 3.761.274 km<sup>2</sup>, including Antarctic Territory and South Atlantic Islands, being in the sense of surface the 8<sup>th</sup> largest country in the world. The continental American portion is extended along 3.700 km, between 22' and 55' south latitude, covering 2.758.829 km<sup>2</sup>. This great extension determines an important climatic variety, from subtropical climate in the north to the extreme colds in the south, predominating the temperate ones within the major part of the country.

The continental portion can be divided into three great ecological regions, according to the hidric regime: Humid Region, Subhumid and Semiarid Region, and Arid Region, representing these last two the 79 per cent of the total surface, and they are extended from north to south through the whole occidental and south portions of the country. The humid zones, where the 'llanura pampeana' is founded, concentrate 80 per cent of the agricultural and cattle production of the country and 85 per cent of the industrial activity. It has the major density of population, comprising 70 per cent of the total population. The dry zones, or those which have the longest drought periods, are on the side from a productive and social view, with a scarce participation on agricultural, cattle and industrial activities, excepting the irrigation oasis. Within these zones, the income per capita is lower than the national media and the percentage of people with unsatisfied basic necessities goes beyond 40 per cent.

The Secretariat of Sustainable Development and Environmental Politics (SDSyPA), former Secretariat of Natural Resources and Sustainable Development (SRNyDS), National Focal Point to Combat Desertification and Drought, is actively working on the design of the National Strategy of Sustainable Development, according to the assumed commitment to put into practice the Agenda 21. Within this context, Argentina during the last years has been developing several actions in order to formulate and to apply that strategy. It cannot be considered as effectively defined and consolidated yet, being this linked to an intense analysis process, in the framework of new political, economic and social conditions that reach the whole country.

The Argentine Republic has subscribed in 1994 to the International Convention to Combat Desertification (UNCCD), believing that this new international normative tool will become a valid instrument to prevent, to combat and to revert serious desertification processes that our country is currently suffering from.

In 1996, the UNCCD was ratified by the National Parliament, through Law 24.701, which has not been ruled by the Executive power yet.

Within the framework of the national sustainable development strategy, the National Action Program to Combat Desertification (NAP) is being developed, initiated by the former Secretariat of Natural Resources and Sustainable Development. This coordinates a wide discussion with all public national and provincial institutions and organizations, non-governmental organizations and

producers' associations linked to the problem, with the goal to contribute to sustainable development in arid, semiarid and sub-humid zones of Argentina.

The NAP has been formulated with technical and financial support of FAO and UNEP. It has also been important the technical and financial support made by UNSO/PNUD and the Secretariat of the Convention respect to activities of sensitivity, development and concretion of the NAP's draft document. The activities of NAP's formulation finished at the end of 1997 with the presentation of the Basis Document, which includes six strategic areas:

- Provincial, Inter-provincial and Regional Action Programs;
- National Information Network to Combat Desertification and Drought Mitigation;
- Education, Training and Public Consciousness;
- Strengthening of Institutional and Frame;
- Strengthening of Financial-economic Frame;
- Insertion of the NAP into Regional and International fields.

At the national level, in 1996 the Provisional Executive Committee was established, aiming to facilitate the convocation and to grant its development. This Committee gathers representatives from relevant national and regional institutions at political, scientific, educational, sanitary, security levels among others; and representatives from civil organized society such as NGOs and producers' associations. It organized three national meetings and afterwards it has been using the structure of the Environmental Federal Council (COFEMA), composed by representatives from the affected provinces, eventually using resources from the SDSyPA for the activities' development of the Committee.

Since law 24.701 is not ruled yet, the Executive Provisional Committee has no legal capacity nor budget for its functioning, even though the actions for implementing the UNCCD did not stopped.

The National Focal Point, the Secretariat of Sustainable Development and Environmental Politics (SDSyPA), kept on generating strategies to include the discussion about desertification at all levels. Is in that way how NGOs began developing activities through RIOD (International Desertification NGOs Network), as well as provinces through COFEMA, the Secretariat of Science and Technology (SECyT), which included 'desertification' as a priority subject, and INTA and German Cooperation (GTZ).

In April 1999 when The Planning Workshop of the Agreement (former Secretary of Natural Resources and Sustainable Development- INTA-GTZ took place) several members of the NAP's Provisional Executive Committee were participated, in order to jointly determine short-term goals and actions. One of the established priorities was the strengthening of the NAP's Provisional Committee.

In July 1999 the revision of the Basis Document was finished. This opportunity allowed to deepen gender perspective in the strategies of the NAP. To that end workshops of training and diffusion on the subject were coordinated, with the technical and financial support of UNSO/PNUD. These meetings resulted in a Basis Document adjustment, which establishes gender strategies in each of the action areas proposed by the NAP.

The development of the activities that participated on the NAP activities was based on a series of pre-existent projects which at a major or minor emphasis worked on desertification in different provincial territories. Even though the majority of the programs and/or projects did not indicate concretely a goal of desertification control, they did try to identify causes and to propose actions which generated diagnosis and control processes.

The activities of developing and researching centres, together with actions of governmental and non-governmental institutions, have enabled to reach a high

level of knowledge of dry zones and to develop technical tools to combat desertification.

It could be proved that from 1994 to the present, several plans, programmes and projects linked to combating desertification and related, in general, with dry zones sustainable development have increased, at national and provincial levels.

It also exists a positive mobilization of some sectors of the national community towards a consolidation of NAP principles. In Argentina this is sustained by the presence of international forums, the goals reached by national programmes, publicly manifested by the Secretariat of the UNCCD in his visit to our country in 1998. Anyway, it is necessary to tighten and deepen the interaction between involved institutions, mainly in the framework of reaffirmation and revitalization of communication and inter-change links, reached on NAPs elaboration.

The priority of the NAP formulation is the insertion of Argentina in Regional (PAR) and Subregional (PAS) orders, with the object of complementing and strengthening involved country's NAPs. In the NAP is established the inclusion of joint programmes convened for sustainable management of natural resources, scientific cooperation and institutions' strengthening.

Within this context, we can point out that Argentina, together with Bolivia and Paraguay, is carrying on the Sustainable Development Subregional Programme of the Gran Chaco Americano. Besides, it is also in process of concretion the Puna Americana Programme, together with Chile, Bolivia, Peru and Ecuador.

It has also been formulated a project between Argentina and Chile, which includes gender perspective, and it aims to women producers of both countries, for training and technology transference.

For NAPs elaboration, a work methodology has been implemented, and it is based on a participatory focus 'bottom-up methodology'. In this new process, an important number of persons tightly linked to management and use of natural resources have participated at regional workshops, which permitted to obtain technical information to elaborate the Basis Document.

Agricultural producers, peasants, NGOs, and indigenous communities participated and actively worked with professionals, technicians, scientists, teachers, politicians and representatives from different intermediate entities.

Activities with producers and settlers defined a methodology based on population problems and its relationship with the desertification concept. At the same time, meetings at the provincial level were organized, with representatives from different public and private institutions. The scheme was established, in a similar way, at community and/or municipal levels.

During 1996 and 1997, 40 meetings and local workshops were organized in order to define programmes that conformed to the NAP's Basis Document. In these activities, more than 2000 representatives from governmental and non-governmental institutions, universities, research centres, producers associations, civil society and members from legislative cameras participated. The central activity of those workshops was to reach consensus between different regional actors in order to grant the Programme's sustainability. When these meetings finalized, the National Provisional Committee meeting was organized in order to analyse the information and experiences gathered at local workshops. During that meeting main tendencies that should be included in the National Action Programme to Combat Desertification were discussed. This mechanism of participation and consulting permitted to obtain documentation used afterwards for the elaboration of the Basis Document, towards the end of 1997.

It has to be pointed out that even though a wide convocation and participation of the society existed during the writing of the Basis Document, members of the population and decision makers still have not been involved and are not conscious about the problem.

The National Focal Point has organized and financed sensitization campaigns on desertification. These campaigns were always assisted by governmental and non-governmental organizations of the regions where they took place.

Even though a communication activity about the actions related to UNCCD has been developed, and this permitted to elaborate the Basis Document, which was distributed to be consulted by everyone involved in the subject; the mechanisms of impact evaluation which allow to identify the evolution of the UNCCD and NAP postulates have not been generated yet.

NGOs have completed an important task linked to the diffusion of the problem, training of producers and technology transference, several times accompanied by the National Focal Point.

Within arid and semi-arid regions, many provinces and institutions of researching and technological transference have started developing programmes and projects included in NAP's strategies and added to the Basic Document.

Even though a detailed researching has not been made yet, during 1998-1999, the Direction of Soil Conservation, depending on SDSyPA, has received the contribution of more than 60 ideas, and projects presented by provinces, researching institutions and NGOs, which allowed to elaborate the National Project to Combat Desertification in Argentina, presented to the Inter-American Development Bank (IDB). More than 450 small projects from different regions, 91 of them were chosen to be applied through GTZ financing, within the framework of the SDSyPA-INTA-GTZ agreement. Technical contribution and information from different national organisms' areas and researching institutes such as provinces in order to elaborate the basic document of the Programme to Control Soil Degradation and to Combat Desertification in Argentina.

The Programme to Combat Desertification in Argentina does not have a budget of its own yet, but it is a mechanism to optimize financing resources from the most varied sources.

The National Focal Point, annually assigns about US\$500,000 from its own financing resources for spending and investing in the management and promotion of the NAP.

At provincial governmental level of the dry region, the financing- economic assignment for its natural resources and environment management is unequal, being established a range between 0.02 per cent to 0.5 per cent of the annual provincial budget. If we consider that the added budget (1996-1997) for 17 provinces of the dry region reaches US\$10 billion, a total average assignment could be estimated in US\$28 million annually.

Respect to scientific and technology levels, several national sources compound an important economic-financing basis. Together with Arid Zones' Institutes Network (IADIZA), National Council of Scientific and Technical Researching (CONICET); Regional Centres of the Water's National Institute (INA); National and Provincial Universities and the Programme of Science and Technique it overpasses US\$8 million annually.

Since INTA was created, it has been working on technological development to control resources deterioration within arid zones. During the last years, INTA total budget reached US\$120 million annually, from which US\$34 million was assigned to salaries and operative spending of 25 Agricultural Experimental Stations and extension agencies of the dry region linked to them.

The Secretary of Agriculture, Cattle Fishing and Feeding (SAGPYA) developed the Social-Agricultural and Cattle Programme (PSA) from 1994 to 1999, which assisted technically and financially to the small-holder - agricultural producers of the whole country - for a global amount of US\$ 54 million. From this amount, US\$26 million belonged to technical and financing assistance from dry zones' provinces.

Briefly, we can point out that mobilization of internal financing resources for the management, researching and development of dry zones' natural resources in Argentina is not exiguous, but important and sustained, and has to be admitted that the major part of these resources are assigned to salaries of technical and professional staff, which develops different tasks at governmental and academic centres and institutes of the region.

This situation allows to consider that a basis of technical and institutional capacities exists, scattered within the whole dry region, over which incremental financing resources, assigned by national programmes and projects, and by cooperation or international credits' ones, should have a very high cost-effectiveness relationship. Activities of international cooperation in Argentina, related to combating desertification, has been really significant.

Technical and financing support from FAO, UNEP, UNSO IPNUD, the Government of Spain, permitted the elaboration and consolidation of NAP's Basis Document; the beginning of the Subregional Gran Chaco and Puna Programmes; and the deepening of gender subject.

German government cooperation, through GTZ, has been permanent and one of the most developed, even before the UNCCD was created. Within the last ten years, significant projects related to combating desertification have been developed, and as a counterpart more than US\$20 million were invested on them.

This support was also present at workshops' development (land tenure, traditional technologies, education, among others) and in small investing projects to combat desertification within different dry regions of the country.

In this process of international cooperation an efficient inter-institutional coordination mechanism has been achieved, through an Agreement Act between the former Secretariat of Natural resources and Sustainable Development, GTZ and INTA, started in 1999 with the aim to support the National Action Programme.

Since 1998 international financing organisms have assumed a more engaged role in cooperation to combat desertification. Argentina has initiated dialogue with IDB for a credit to develop a project to combat desertification which link all dry regions of the country. This will be developed through the execution of different components which include training, investing in infrastructure and networks, equipment and organization of natural resources' users in dry zones.

Up to the present some study and researching components on desertification have been executed in Patagonia (SAGPYA/BIRF) with an investing of US\$1 million; in the meantime other ones are being analysed at the national level (SDSYPA/BID) for US\$750,000.

The Secretary of Sustainable Development and Environmental Politics, with the support of the International Reverting and Foment Bank (IRFB), lead a project on native forests and protected areas, with the object to improve their management and conservation at national and provincial levels. Activities of Forest Inventory, Integral Studies and Applied Researching Projects within forest regions associated with dry zones involve a global investing of US\$4 million with 40 per cent making up the national component and 60 per cent from the bank.



At another level of investing, SAGPYA initiated, within the framework of the Programme of Provincial Agricultural Services (PROSAP), projects of rehabilitation of great irrigation systems in dry zones affected by salinity and coat outcrop.

The Programme financed by BIDIBIRF invested more than US\$16 million over a total assigned of US\$65 million in studies and projects for hydric labors.

## BARBADOS

### EXECUTIVE SUMMARY

On 14 May 1997, Barbados signed the United Nations Convention to Combat Desertification and Drought. The Convention came into force for Barbados on 14 August 1997.

This Convention is very important to Barbados for two reasons:

1. The island experiences extreme cases of soil erosion in the Scotland District area;
2. The island is considered to be a water scarce country by the United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO).

All measures which Barbados currently has in place to combat desertification and drought were all developed prior to Barbados' involvement with the UNCCD. Barbados is now in the process of preparing its National Action Plan in accordance with UNCCD principles.

### ES 1. Strategies Established Within the Framework of Sustainable Development Plans and/or Policies

The Government of Barbados has put in place policies and programmes aimed at achieving sustainable development in accordance with the principles of Agenda 21.

In Barbados the issue of desertification is addressed through policies on land resources. A synopsis of relevant plans and policies pertaining to this area are given below.

#### Draft National Physical Development Plan (1998)

This document is intended to provide a vision for the future growth and development of the nation by setting out policies to guide relationships among land uses, community facilities and physical infrastructure.

#### Area Development Plan

The ADP is a project undertaken by the Town & Country Development Planning Office which examines agriculture and non-agricultural land classes, as well as the future land-use policies affecting agricultural land.

#### The National Park Development Plan 1998 (Final Draft)

This plan seeks to promote land management within the designated park boundaries in such a way that the biodiversity of the various ecological systems are preserved and enhanced for the benefit and enjoyment of the Barbadian society. The Scotland District, an area which experiences severe land degradation, is encompassed in this plan.

#### The Environment and Natural Resources Management Plan (1998)

This plan seeks to address the issue of sound use and development of all natural resources in the island in a manner that is harmonious with the natural ecosystems.

#### The Medium-Term Macro-Economic Strategy (1996-1999)

Development policies enunciated in this document establish the Government of Barbados' intentions and expectations for each sector of the economy over the medium- and long-term.

#### Integrated Coastal Zone Management Plan (1998)

This plan addresses issues regarding land use and resource use in the agricultural sector. Run-off containing substances originating from the misuse of pesticides from agricultural production contaminate water supplies and affect marine life.

#### Barbados Tourism Development Plan (1998)

The Tourism Development Programme sets out the framework for development of an integrated rural land-use policy bringing greater tourism access and sustainable development to rural areas, such as the Scotland District.

#### National Tourism Policy

The National Tourism Policy addresses the issues of land degradation and water conservation as these resources are vital to the prosperity of the industry. The broad policy objective of this sector incorporates sustainable development principles through conservation of natural resources.

#### National Water Conservation Plan

The National Water Conservation Plan is currently undergoing its implementation phase. The measures adopted have been developed to attempt to maximize voluntary reductions before moving to penalizing measures, pressure reductions and system shutdown.

#### Desalination

There has been a steady increase in water consumption levels which can be attributed to growth in the economy and increased living standards. Facing the prospect of insufficient water to satisfy the Barbadian population, the Board of Directors of the Barbados Water Authority contracted a consultant in August 1995 to examine the feasibility of establishing a desalination facility in Barbados.

In August 1997, PPC examined a submission on a 'Framework for the Development and Management of the Water Resources of Barbados' and accepted among other things, the recommendation that desalination was a viable option for augmentation of the BWA's potable water supply.

The principal constraints hindering Barbados from achieving a sustainable water supply for the next 20 years were identified as:

1. A lack of consistent and appropriate data upon which management decisions can be made; and
2. A lack of technically qualified personnel capable of interpreting that data and implementing the appropriate responses

#### The Emergency Drought Plan

This Plan identifies parameters, such as rainfall measurements, ground water measurements, salinity and weather data, that would be used to monitor and forecast and give the impact of drought. The Emergency Drought Plan seeks to define the conditions under which a drought-induced water supply emergency exists and to specify the actions that are to be taken in response.

#### Legislation Review

The pieces of legislation of direct relevance to desertification include the Cultivation of Trees Act (1951), the Trees Preservation Act (1981) and the Soil Conservation (Scotland District) Act (1959). Previous studies on environmental legislation have all concluded that a more cohesive link needs to be made between the legislation as matters relating to similar issues are addressed over a number of statute areas.

#### ES 2. Institutional measures taken to Implement the Convention

To facilitate implementation of the UNCCD, Barbados appointed a National Focal Point and established a National Coordination Body. The Ministry of the Environment, Energy and Natural Resources was appointed as the National Focal Point and a Committee comprising members from various agencies closely associated with the issues of desertification and drought was convened by the Ministry and forms the National Coordination Body.

#### National Coordinating Body

The NCB acts as an advisory body and has the mandate to provide potential solutions to the problem of land degradation in the Scotland District first and foremost and to articulate and facilitate concrete actions utilizing low technology and strong community based solutions, thus empowering users towards management.

Financial resources allocated to desertification in the Ministry of the Environment are made available from the biodiversity budget. In 2000, the allocated amount is 1/10 of the allocation for biodiversity under which the programme for desertification falls. The Ministry's budget for biodiversity ranges from BDS\$12,000 to BDS\$18,000 or US\$6,000 to US\$ 9,000 annually. These funds are used for policy-related issues and public awareness. Infrastructural work falls under the Ministry of Agriculture. In the 1997-1998 budget, actual expenditure for structures was BDS\$702,145 (US\$351,072), and in 1998-1999 it was BDS\$840,601 (US\$420,300).

A work programme is currently being prepared to facilitate a more coordinated approach to the work of the NCB. The NCB currently does not have any databases of its own.

No specific national strategy or policy exists for strengthening national institutions and administrative capacity to ensure compliance with environmental laws and standards. However, under the EMLUP Study, recommendations were made to improve the environmental institutions, however, due to lack of funds or human resources these recommendations cannot be implemented.

#### ES 3. Consultation Process to Formulate the National Action Plan

Consultation with relevant stakeholders are held in order to facilitate the participatory approach to dealing with desertification and drought problems in Barbados. Further consultations are planned to assist in the preparation of the National Action Plan. One such consultation has already taken place in the form of a National Workshop. The UNCCD secretariat funded this workshop. The National Workshop identified three areas that were seen as requiring Action Plans and it is in these areas that the National Action Plan will focus. They are:

### 1. Agriculture

The relevant agencies represented at the workshop had the vision that agriculture remain a vital part of the development of the Scotland District, thus contributing towards the reduction in loss of topsoil and the prevention of land degradation. Economic activity through agriculture should be promoted so as to benefit the locals in the area.

### 2. Settlement

The management of settlement and associated activities as they relate to land degradation within the Scotland District needs to be addressed. The specific objectives of which would be to improve management of existing settlements, combating degradation associated with settlements and rationalizing and planning for present and future settlements.

### 3. Resource Use and Conservation

Conservation and appropriate use of water, arable land, sand, clay, oil, flora and fauna and people is the vision for this area. The aim is to utilize an integrated information approach based on the available body of knowledge in conjunction with consultation with stakeholders, for use in an integrated management system.

### ES 4. Participatory Approach to Combating Desertification and Drought

In Barbados, much emphasis is being placed on public awareness and communication by the various sectors involved in the issues of desertification and drought.

In 1997, the National Conservation Commission agreed that a more coordinated approach should be taken regarding the planting and maintenance of trees. In an effort to increase forestation on the island, a committee was established to formulate plans on how best to involve and encourage the local people in the island-wide planting of trees. The objectives of the Committee were:

1. To establish a national day for tree planting
2. To sensitize the general public about the importance of trees
3. To encourage community groups and schools to assist in the preservation of the environment
4. To establish an education programme for schools
5. Reforestation

### Water Conservation Programmes

The BWA is involved in public education programmes as they see it as an important part of any conservation programme. These programmes should be ongoing but really only take effect during the drought.

### Coastal Conservation Programme

The community surrounding Barclay's Park in St. Andrew were the main participants in this effort. The project was implemented between April 1998 and March 1999. The demonstration project focused on practical solutions to the threat of dune instability.

The purpose of the project was to establish a framework for a working partnership among business enterprise, the community, NGOs and Government for sustainable use and protection of dune systems in the island, and to put this partnership to work on practical activities.

### Soil Conservation Programmes

The Soil Conservation Unit is based in the Scotland District and is the main government department responsible for this area. The SCU is involved in education of farmers with respect to encouraging sustainable farming practices. These practices include teaching them to keep the soil covered, incorporation of organic matter to assist in percolation, encouraging reduction in the use of fertilizers and incorporation of the principles of Integrated Pest Management into their practices.

### ES 5. Financial Resources Allocated to Combatting Desertification and Drought

Currently any monies needed are obtained from the biodiversity budget. Some monies were allocated in 1999-2000 for public awareness activities and low cost community projects. Any other projects undertaken were funded by monies obtained from the Convention secretariat. For the financial year 2000-2001, funds are allocated for public awareness from the biodiversity budget, however, it is foreseen that these will not be adequate to fully allow for the development of a comprehensive plan for implementation. Biodiversity has a total budget of BDS\$18,000 (US\$9,000) which has to be split among ten sub areas of which UNCCD is one. No money has been allocated to formulate the NAP, as this will be undertaken by the committee.

In addition to needing funding, Barbados is also lacking in some areas and requires more technical expertise. In general, personnel currently employed have experience in their various subject areas but require training in specific technical areas.

### ES 6. Benchmarks and indicators utilized to measure progress

At the United Nations Summit on Environment and Development held in Rio de Janeiro in 1992, it was resolved that a core set of indicators be developed in order to measure and assess progress towards achieving sustainable development. This list of indicators comprises indicators applicable to the issue of land degradation in Barbados. These are:

1. annual rates of erosion
2. downstream siltation
3. degree of flooding,
4. extent of activities threatening erosion,
5. extent of soil conservation measures employed
6. rainfall levels.

### ES 7. Conclusion

A few areas can be identified as hindering Barbados' efforts to encourage effective environmental management and in so doing fully adopt the UNCCD:

1. Lack of funding and technical expertise.
2. Lack of inter-sectoral cooperation. The efforts of environmental agencies are dispersed, there needs to be a more coordinated approach to issues pertaining to the environment. Information transfer among organizations and institutions also needs to be enhanced. A more cohesive programme needs to be encouraged among the environmental sector.
3. Insufficient incorporation of environmental considerations into development proposals by the private sector.
4. Education of the general public is not widely seen as a priority issue. It should be realised that environmental education needs to be promoted at all levels.

5. Development strategies have not given enough consideration to the limited and exhaustible nature of environmental resources.
6. The constant low priority given to environmental issues primarily due to the fact that those projects geared to bring in large economic incentives are usually those with possible negative environmental effects.

With the necessary aid, specifically monetary assistance to provide for increased human resources and project implementation, training of current staff and provision of equipment, Barbados would be well underway to implement projects geared towards mitigating the effects of desertification and implementing measures to assist in periods of drought.

## **BELIZE**

### **EXECUTIVE SUMMARY**

Due to its location within the tropical region of the western hemisphere, no one in Belize considered the issue of desertification to be relevant to Belize. In fact, the almost unanimous reaction, when first made acquainted with the term, is 'Certainly not in Belize!' However, in interpreting desertification to mean degradation of land and development of drought situations, there is general agreement that there are examples and instances of both problems in this country.

In order to determine the status of desertification in Belize, land degradation and drought situations were analysed within certain non-exclusive development sectors. There were major groupings as follows: Agriculture/Industrial; Economic and Social (including Cultural). Such an approach provides opportunities to analyse the situation at local and regional levels while incorporating multidisciplinary input. The results have not been presented in any order of priority or critical impact/risk. No exercise designed specifically to determine the locality, extent, and severity of land degradation patterns has been conducted for Belize. No human or financial resources were made available to carry out such surveys, primarily because there was no awareness about this issue in Belize. The survey could not be carried out because there were no financial resources allocated for such an exercise. The National Meteorological Service and the Department of Agriculture have both noted instances of water shortages, but again no statistical records have been maintained for analysis. The NMS has maintained rainfall data for about 30 years for some parts of the country, so some data do exist to initiate the development of baseline data. No framework had been established to institutionalize the monitoring and recording of the occurrences of drought. A methodological approach utilizing collaboration and coordination between government, civil society, and community-based organizations needs to be established to observe, record and analyse all relevant information.

This process should evolve into the formulation of the National Action Plan to Combat Desertification.

Once the range and extent of land degradation and drought cases are evaluated, priorities can be placed on developing policies and action plans aimed at mitigating the impacts of desertification and droughts.

Land Degradation in Belize has resulted from a number of developmental activities within certain sectors. The most significant changes appear to be in the Agricultural/Industrial sector. The significance of changes in land quality is due to the area affected, or due to the actual and potential environmental damage which results or can result from the activity. Within the agricultural sector, the signs of land degradation is evident in the large scale operations and in the small farming and milpa systems. Belize's economic development depends mainly on agricultural products. Sugar, citrus, and bananas

are the three major crops that are cultivated. All of these are at risk of damage or unsustainability due to degradation of the land or drought. No survey has yet been conducted in order to determine the actual acreages of land that has been affected by the practices employed to obtain marketable products. Degradation in the agricultural sector can result from the repeated cultivation of one crop which depletes the nutrients, or from intensifying the use of the land beyond its productive capacity. The first is the case with large scale cultivation of crops like citrus and sugar-cane. The latter case occurs in the milpa or slash-and-burn farming systems.

There are some cases where forestry activities have also resulted in land degradation, but again this has not been quantified and recorded, and similarly is not monitored on a continuous basis. Timber harvesting activities are known to result in soil compaction and erosion, both of which equate with land degradation. Although not considered a forestry activity, but can be a consequence of such, prescribed and wildfires contribute to land degradation. Nutrients are released too rapidly during combustion of the vegetation and are lost to the atmosphere or easily leached out of the soil before being recycled into the emergent vegetation.

Mining in Belize is primarily surface removal of gravel and other material used in the construction industry or for road construction. The methodology applied is either to first scrape off the topsoil, then dig out the gravels and sands for use in house, buildings, streets and road construction and landfills. There are no efforts to rehabilitate the extraction sites or pits by replacement of the topsoil or planting trees to replenish the nutrients that have been lost. The end result is land degradation.

Droughts and water shortages are increasingly common occurrences in Belize. The cases are not epidemic as yet, but increasing demands for potable water supplies will cause concurrent increases in these situations. The growing populations and continuing agricultural expansion place higher demands on surface and underground water supplies.

Although Belize signed the Convention to Combat Desertification almost three years ago, the public is mostly unaware of the phenomenon. Development of the country has been guided by the five-year plans that the various governments have proposed upon entering office. The lack of cohesiveness among the various policies has resulted in a similar situation with most of the laws and regulations utilized for the management of the natural resources. During the last ten years, Belize has benefited from a number of bi-laterally and internationally funded projects. All have produced huge quantities of information suitable for development planning. Less than 50 per cent of such information is put to use. Similarly most of the recommendations offered are ignored.

Fortunately, improving technology in the media and communications is making the public increasingly aware of the issues affecting their future and even survival. Members of the public are organizing themselves into non-government and community-based organizations, and making their wishes known by participation in the development and implementation of projects. These groups are able to influence policy and decision-making at every level. There is increasing demand for government agencies to improve performance and to make more efficient use of the available resources. Government's activities prior to and after the launch of UNCCD is not much different. Considerable amounts of technical and financial assistance has been pumped into various sectors, but change is slow and difficult to achieve. The human resources base is also limited, so the same group of technicians and professionals tend to become involved repeatedly. This same group will again be called upon to help to develop the National Action Plan required for Belize to meet its obligations under the Convention. This process will have to continue after the submission of the Belize status report. Many recommendations have been offered to address a wide range of issues, but the main

constraint is finance. Belize is a consumer and developing country, so does not generate great amounts of surplus revenue which could be channelled into the human development sector. It is only within the last two years that this sector has been given some priority. The alleviation or elimination of poverty is now of high priority for government's attention. Poverty has been determined to be the main cause of a number of the problems facing the population, including land degradation and drought. Improvements in this sector will symbiotically create improvements in other sectors. Once the basic needs are addressed, attention could be given to improving policies, laws, regulations, to reduce the duplication, and sometimes contradictory issues arising because of the interpretation of the laws.

## BOLIVIA

### EXECUTIVE SUMMARY

One of the most serious environmental problems faced by our planet and its population is the deterioration of the land resources in dry zones, endangering the processes of sustainable agricultural production. This problem is not a menace for the future, but a devastating reality.

Bolivia does not escape this reality, especially when desertification affects 41 per cent of its territory where millions of tons of arable soil get lost every year causing great losses in land productivity, and a severe diminution of food that endangers the national food security and increases the levels of malnutrition and poverty.

The Bolivian Government worried about this problem has assumed with responsibility, the duty of consolidating the National Dry Zones Development Programme (PRONALDES) in the framework of its environmental policies and General Economic and Social Development Plan (PGDES).

A real sample about this, is the inclusion of different considerations about desertification on the main national strategies, policies, plans and programmes, at national, regional and municipal levels. Among these, it is important to point out the Agro Technological Transformation Strategy, the Socio Economic Development Plans and Land Use Plans in those regions affected by this phenomenon. Also, it is important to note specific programmes, such as the Irrigation National Programme, the Emergency Programme against 'El Niño' phenomenon and others.

The policies and strategies mentioned above were promoted from an institutional basis that has changed continuously in relation to modifications in the governmental structure and interventions of the civil society in favor of more participation.

The consolidation of this institutional basis in charge of planning and operation of the National Programme to Fight against the Desertification and Drought (PRONALDES) has two main phases. The first one, characterized by a dynamic institutional framework, conformed by a National Commission at national level, that has consolidated the legal status of the Programme; a Focal Point localized at the Ministry of Sustainable Development and Environment/ Secretariat of Natural Resources and Environment, that promoted the participative planning activities; and Regional Committees that invested their human and economic resources to promote the participation of civil society at regional, municipal and community level.

This institutional framework was in force till June 1998, when the pre-investment funds given by USAID/PL 480 concluded, and the Focal Point initiated a process of renovation of PRONALDES, with a new denomination, 'National Dry Zones Development Programme (PRONALDES II)', changing the policies



against desertification towards improvements on living and environmental conditions of those people settled in areas affected by this problem.

In the second phase, this institutional framework disappears due to changes in the Governmental structure, and it is initiated a process of institutional capacity-building, to make it more dynamic, participative and adequate to the new goals of PRONALDES II.

In this sense improvements on the previous structure are promoted by giving more participation to the civil society in all the institutional instances and by operating a new strategy to run the PRONALDES II.

About improvements on the existing structure, there is an emphasis on consolidating the Focal Point, as a instance shared by the public and private sectors capable of promoting changes on the governmental policies and coordinating activities among the National Commission and the Regional Committees.

Actually, the Focal Point is represented by the Ministry of Sustainable Development and Planning, that confers the responsibility to the General Direction of Land and Basin Classification, that includes four specialized professionals, basic equipment (computers and furniture), bibliographic material and a small database.

Among those measures adopted to strengthen the capacity-building of the Focal Point, it is important to mention training of the personnel; introduction of the programme in the political agenda of the Ministry and the positive influence of the International Cooperation towards the institutional stability.

An institutional stability needed to promote real changes in the actual situation, however, the stability on the programme was unstable due to permanent changes on the governmental structure, that leads to the discontinuity of activities among different periods. The implementation process is divided into three main periods. The first one (1994-1997), was very dynamic, characterized by wide participation of several actors in workshops, meetings and other participative activities, which finally were reflected in a document, PRONALDES, 26 projects at pre-feasibility level, and a national presence in the international agenda (COP 1 and COP 2).

The second period (1997-1998), was characterized by the ending of all processes started on the previous period, disappearance of the CNO, and small advances on the PRONALDES consolidation.

The third period (1998-2000), was characterized by active participation by the Focal Point in the international agenda promoted by the UNCCD; fund-raising for those projects and programmes made in the first period, and lobbying at national level to compromise the political support to the programme.

In these three periods, which have characterized the historic process of PRONALDES, the international counterparts were diverse and participated discontinuously. During the first period there existed an effective participation of several cooperation agencies (PNUMA, FAO, Embassy of Netherlands, USAID/PL 480, UNCCD).

In the second period, the Focal Point started negotiations with the Paris Club, specifically with the Governments of Denmark and the United Kingdom, without positive results; finally, in the third period, the participation of the German Technical Cooperation Agency (GTZ) and the renewed confidence given by UNCCD and UNDP/UNSO were highlights.

It is clear that the process of implementation of the UNCCD in Bolivia was dynamic, although a little bit in disorder, but each one of those periods

mentioned previously has contributed with several activities that are noted below:

- A National Action Programme (PRONALDES) legally recognized at national or international level;
- One document PRONALDES, written and published at national level, conformed by 63 investment projects and 39 for pre-investment;
- 26 projects at pre-feasibility level;
- Methodologies for identification and selection of prioritized areas for intervention against Desertification;
- Rules of functioning at CNO (National Commission and Regional Committees)
- Preliminary Erosion y Desertificación maps;
- A strategy for PRONALDES II implementation;
- Different materials for publicity.

On the other hand, during this period links were established with different ministries, especially with the Ministry of Agriculture, Animal Husbandry and Rural Development (MAGDR). In the meantime, the internal Directions of the Ministry of Sustainable Development and Planning such as: Biodiversity, Environmental Quality, Spatial Planning, Sustainable Forest Development, Strategic Planning and Popular Participation exchanged information and executed joint activities around biodiversity protection, monitoring environmental contamination, forestry management and social control over natural resources in zones affected by drought and desertification.

At regional level, there exists an exchange of information with the Regional Directions of Natural Resources and Environment. At municipal level, there are some approaches to touch this subject, but without formality and order.

The relations with the civil society are through the Interinstitutional Network of Organizations working against Desertification (RIOD), with whom were organized several joint activities to debate the PRONALDES and nowadays, they are operating some of those projects included in the Programme. Some remarkable examples are KURMI and SEMTA in the Altiplano and Ceibo in the valleys.

At subregional level, there are tight relations with the Subregional Action Programmes (SAP) in the Chaco and Puna, with whom the Focal Point maintains permanent contacts and meetings in order to operate joint activities.

The National contribution from the National General Treasure to PRONALDES from 1994 to the present is approximately US\$419,414. These resources were brought regularly for the functioning of the National Focal Point, considering that only a part of it was effectively used for the purposes of the Programme.

The PRONALDES financial strategy to operate actions at municipal and community level, was to canalize resources through the existing mechanisms (Development Funds), before thinking about creating new mechanisms.

In this sense, all the efforts around fund raising were devoted to strengthening the national capacity to attract more resources to the Campesino Development Fund (FDC) and National Environmental Fund (FONAMA), considering that these Funds were the real ones who funded projects and programmes related to goals of the PRONALDES.

The resources invested in the affected region by this phenomenon in the period 1994 - 2000 are approximately US\$12'458.000 by the FDC and US\$1'456.000 by FONAMA. It is important to note the contribution of other programmes working in the region, such as PASA, PRODIZAVAT, PERTT, PROVEDAT, PRONAR, with an approximate contribution of \$US8'000.000.

About the information system for monitoring the advances of PRONALDES, there is only a project about this, nevertheless there are some systems available

in the Ministry that might help to find the required information, such as the system on Global Changes, Hydrological and Meteorological information system, and SINSAT.

The implementation of the UNCCD in Bolivia was very dynamic; it has a period of planning very active and participative, accompanied by a favorable institutional framework that attract the attention of the international cooperation; however, the operation of PRONALDES II has stumbled by changes in the programme political priority and changes on the governmental structure at the beginning of this governmental period. Fortunately these changes have been consolidated and the Focal Point has started the operation with renewed forces.

## **BRAZIL**

### **EXECUTIVE SUMMARY**

The Water Resources Secretariat of the Ministry of the Environment, in charge of conducting the National Policy on Desertification and Drought Control in the country, presents in this document a view of the desertification process occurring in the country, previous occurrences in the world and the current situation of the phenomenon in Brazil. Approximately 10 per cent of the semi-arid region, or 98,595 km<sup>2</sup>, have been very seriously affected; 81,870<sup>2</sup> km<sup>2</sup>, seriously affected; and 393,897 km<sup>2</sup>, moderately degraded. Economic losses associated with desertification are estimated at US\$300 million per year, and the cost of reclaiming affected areas would require US\$2 billion over a 20-year period.

This document sets forth the guidelines, objectives and strategies to combat desertification, emphasizing the modern view of integration and participation of public and private entities and non-governmental organizations, as well as the communities involved, with emphasis on the information process, education and training programmes and the importance of decentralizing actions. The strategy adopted encourages investments on human resources and seeks to develop the sense of ownership required to ensure the sustainability of actions.

It is also a matter of Policies and Institutional Structuring and of the instruments that will enable the actions, highlighting the legal, institutional, economic/financial, and technical aspects. Great importance is attached to ecological/economic zoning of the territory, a necessary input in planning sustainable regional development.

In addition, this document covers various aspects of the desertification process, in terms of its actual dimension and degradation potential, the importance of environmental protection of the semi-arid, and the experience of the Water Resources Secretariat with hydrographic basins, which requires interactive and participatory procedures, as well decentralized actions, as recommended in this document.

Lastly, the preparation of the future National Plan to Combat Desertification (PNCD) is discussed, together with the most relevant themes to be considered in its design, including the strategic components, financial resources and indicators to evaluate outcomes.

## **CHILE**

### **EXECUTIVE SUMMARY**

This report is the result of the obligations assumed by the Chilean Government in relation to the subscription to the Convention to Combat Desertification, which was confirmed by the National Congress and the Executive Office in November 1997. It is our obligation to present this report for its consideration at the Fourth Session of the Conference of the Parties (COP 4).

The report was written based on the suggestions included in the guidelines provided by the Convention's secretariat. They fundamentally aim at aspects such as strategy, participation, institutionalization, support to international cooperation, specific measures adopted, financial contributions, and follow-up and evaluation of the application of the Convention and its National Action Programme (NAP) in Chile.

These guidelines were distributed to all national public and private institutions involved in the endeavours of the Convention in Chile. Among them, there are public organizations mainly attached to the Ministry of Agriculture, research institutions, and NGOs. In short, the questionnaire was given to 23 informant institutions considered relevant in the implementation process of the National Programme.

This report is not just a large compilation of information supplied and actions performed by these institutions; it summarizes relevant facts about the institutional work informed and provides a critical analysis of the state-of-the-art of Conventions implementation and its NAP.

About the strategic aspect as well as the priorities given to the implementation of NAP, the information provided shows that the Convention does not occupy a relevant place within institutional priorities. Furthermore, most of these organizations continue developing a traditional attitude which corresponds indeed to the Convention's suggestions but does not show an improved strength and articulation due to the application of the NAP.

The most important fact about the institutional aspect is the structural and operational mechanisms has not yet been consolidated and, consequently, it is necessary to have the different actors strengthen their participation and compromise with the Convention. In doing so, we would be aiming at discovering effective mechanisms of participation at the local, regional, and national levels.

With respects to the participation of the different actors involved, it is necessary to point out that important efforts are being made, but these are not enough to get a stronger thrust in implementing the NAP. The scarcity of the institutions' own resources to develop specific activities in the implementation of the Convention in the country and the low priority generally given to it by all actors work against a stronger, wider participation.

The measures adopted in the application of the NAP and UNCCD are diverse. Some of them have their origin prior to the Convention, but in general they reflect a traditional, historical way of operating within the institutions. The measures themselves are quite similar to those related to the way of behaving in the field of desertification in areas such as poverty and degradation of natural resources. These actions imply a budget that, in the last five years, exceeds US\$100 million. Moreover, the governmental budget for the next six years is in the order of US\$2.5 billion.

What neatly springs up from the report is the fact that the Convention and its NAP must find a specific stage of action which would mainly consist in favouring the processes of institutional articulation, the efficient and effective flow of information, and the development of corporate image in relation to this topic, so as to form a platform not only of action but also of support for the attainment of financial resources.

## COLOMBIA

### EXECUTIVE SUMMARY

The Republic of Colombia is located in the northwest corner of South America and has a northern coastline on the Atlantic Ocean and western one on

the Pacific Ocean. Its continental area includes 1,141,782 km<sup>2</sup> and is entirely situated within the Inter-tropical Confluence Zone. It receives the NE and SE Trade Winds and has a population of 38,000,000 inhabitants, most of whom live in the Andean region (mountains and savannas). Colombia is divided into 34 departments, which are in turn subdivided into 1,082 municipalities.

Colombia's location within the Inter-tropical Confluence Zone, where the Pacific phenomenon popularly known as "El Niño" originates, leads to specific effects as El Niño manifests itself directly on the Colombian Pacific coast. These effects consist of higher sea surface temperatures and a higher than average sea level. This phenomenon alters the weather over the entire Colombian territory, affecting the entire natural environment in general and the water cycle in particular.

The intensity of an El Niño phenomenon depends on the magnitude of the anomalies and the area affected by same. Although it produces an impact, the intensity of "El Niño" is different from the magnitude of its effect on the weather and from its impact on human activities. The climate effect depends on the time of the year in which "El Niño" happens and the socio-economic impact has more to do with the vulnerability of the different regions of the country and the different sectors of national activity.

The past has seen "El Niño" phenomena of varying intensities. For example, the 1982-1983 event is considered to have been quite severe, while those of 1957-1958, 1965-1966, 1972-1973 and 1991-1992 were severe, and those of 1976-1978 and 1986-1987 were moderate. However, the effects on the weather and the socio-economic impact of these phenomena were not related to their intensity.

The phenomenon of "El Niño" of 1997-1998 had a direct effect on the Colombian Pacific coast, affected the climate over the entire Colombian territory and the vegetation-soil system in terms of attenuating water shortages, affected the vegetation system and succession stages and soils, and the water cycle and water supply.

The impact of the NE and SE Trade Winds coming from the northern and southern hemispheres is greatest between the months of May and September. The clash of these air flows above the Andean masses is responsible for the dual-mode and Andean-perimeter rainfall systems of the country, which tend to manifest a single-mode character.

Colombia is characterized by a variety of climates produced by different temperatures, principally due to altitude gradient and rainfall system. Annual rainfall ranges from 150-200 mm found in Caribbean regions such as the Guajira Peninsula, to over 10,000 mm in several areas of the Pacific coast region. Humidity ranges vary from sub-humid to hyper arid and from humid to super humid.

Topographical conditions (mountain chains with alternating valleys) and human settlement patterns in the mountainous regions, with the resulting pressure over the land and its natural resources, and continued deforestation as well as the advance of the agricultural frontier, with inappropriate soil and land use, have led to a soil degeneration process which is currently in progress. This soil degeneration process may be seen in the different types of erosion which accelerate the desertification process that currently characterizes several regions of the country.

These areas, along with others where climate has been a significant contributing factor to desertification processes, constitute a series of land areas in dry, semi-arid and arid sub-humid regions.

Sadly, approximately 34.7 per cent of Colombia's territory is affected by slight, moderate, severe and/or very severe erosion. It is important to note as well that the degradation process takes place in different ecosystems, a fact

which should call attention to the respective national and international agencies.

For over 30 years the nation has enacted legislation on renewable natural resources and pollution prevention and control. This legislation has been reviewed and adjusted based on the social and economic needs of the nation. Important legislation includes Decree Law 2811 of 1994, the Natural Resources and Environment Code, the Political Constitution of 1991, Law 99 of 1993 which restructured the ecological and environmental sector and created the Ministry of the Environment, and the restructuring and creation of the Autonomous Regional Corporations (Corporaciones Autónomas Regionales, CARs). This environmental legislative framework constitutes the basis for all types of measures adopted and for the definition of priorities, plans, programmes and projects in combating desertification and drought, in alignment with national environmental policy.

Colombian environmental policies include the National Biodiversity Policy, Forests Policy, Policy Guidelines for Comprehensive Water Management, Strategies for a National System of Protected Natural Areas, Colombian Wildlife Environmental Management Policy, programmes and/or strategies on the management of renewable natural resources and research on same, and the policies of the Ministry of Agriculture and Rural Development, which include Technology Transfer and Research on Tropical Agriculture.

There is also the Alternative Development Plan (PLANTE), Technological Development Policy, the National System on Agroindustrial Science and Technology, Integrated Organization and Sustainable Development of Coastal Areas, Policy Guidelines on the Environmental Organization of the Territory, Clean Production Policy, Policy Guidelines on Pesticide Use and Management, Strategic Plan for the Restructuring and Creation of Forests in Colombia (Plan Verde), Plan Verde Implementation Programme 'Forests for Peace. Incentives are being considered for reforestation and forest preservation by way of the Forest Incentive Certificate (CIF - Certificado de Incentivo Forestal) and the Incentive for Rural Capitalization (ICR - Incentivo a la Capitalización Rural).

The entities in charge of the environmental sector, such as the Ministry of the Environment and its affiliated agencies such as IDEAM (Institute of Hydrology, Meteorology and Environmental Studies - Instituto de Hidrología Meteorología y de Estudios Ambientales); Alexander von Humboldt Institute for Research on Biological Resources (Instituto Alexander von Humboldt de Investigación en Recursos Biológicos); Regional Autonomous Corporations; Agustín Codazzi Geographical Research Institute; the entities in charge of research in the agricultural and animal husbandry sectors (CORPOICA and ICA); the entities in charge of land resources management, such as INAT (National Land Preparation Institute/Instituto Nacional de Adecuación de Tierras); and other government entities and, on occasion, private entities, have contributed with knowledge through their studies on dryland ecosystems and on the causes and consequences of desertification and drought processes, and have placed these studies at the disposal of communities. Likewise, in terms of the preparation of specific plans, programmes and projects, community participation processes were undertaken to identify the causes and analyze the consequences of the process, thus transforming communities into actors involved in the management and resolution of the effects they are experiencing.

However, the struggle against desertification and drought requires ample coverage in Colombia, starting with an intense awareness-raising plan at all levels geared at changing attitudes in favor of preventing and controlling desertification processes. This will facilitate inter-institutional coordination and preparation and the initiation of programmes and projects, as well as the efficient monitoring of their execution. Multilateral as well as bilateral international, technical and financial cooperation is also required, including the Global mechanism.

Implementation of the United Nations Convention to Combat Desertification and Drought (UNCCD) is of the highest importance. The First Seminar - Preparatory Workshop for the National Report of the UNCCD was held 10-11 February 2000, with the participation and support of the Regional Autonomous Corporations, including the participation of dryland areas in their jurisdictions, such as CDMB Corporation for the Defense of the Bucaramanga Pateau (Corporación de Defensa de la Meseta de Bucaramanga), CORPAMAG - Magdalena Regional Autonomous Corporation (Corporación Autónoma Regional del Magdalena), CVC - Valle del Cauca Regional Autonomous Corporation (Corporación Autónoma del Valle del Cauca), CORPOGUAJIRA - Guajira Regional Autonomous Corporation (Corporación Autónoma Regional de la Guajira), CAM - Upper Magdalena Regional Autonomous Corporation (Corporación Autónoma Regional del Alto Magdalena), CORTOLIMA - Tolima Regional Autonomous Corporation (Corporación Autónoma Regional del Tolima), CRA - Atlántico Regional Autonomous Corporation (Corporación Regional del Atlántico), CORANTIOQUIA - Antioquia Regional Autonomous Corporation (Corporación Autónoma Regional de Antioquia), CAR - Cundinamarca Regional Autonomous Corporation (Corporación Autónoma Regional de Cundinamarca); the Ministry of Agriculture and Rural Development and its related institutions (CORPOICA, ICA, INAT), IDEAM - the Hidrology, Meteorology and Environmental Studies Institute (Instituto de Hidrología, Meteorología y Estudios Ambientales), the IGAC 'Agustín Codazzi Geographical Institute (Instituto Geográfico Agustín Codazzi), NGOs by way of ECOFONDO, PACOFOR Project, a representative of the Tolima Indigenous Communities and different interested offices of the Ministry of the Environment. Financing is required for the activities programmed, which include the following for the current year: the awareness-raising sessions of PAN - National Action Programme (Programmea de Acción Nacional), the creation of OCN - the National Coordination Body (Órgano de Coordinación Nacional) and preparation of the PAN.

Colombia's situation, with a considerable portion of its surface consisting of dry, semi-arid and arid sub-humid regions; with accelerated soil and ecosystem degeneration processes; with abundant, adequate legislation on natural resources and the environment; with long-term erosion control and erosion prevention projects; and currently re-directing its actions according to the criteria of the Convention, will require national and international financial support to implement the PAN, including its infrastructure, equipment and human resources, etc.

According to the above, during the preparation of the PAN, priority proposals are to be defined for submitted submission during the forthcoming Conference of the Parties (COP).

## **COSTA RICA**

### **EXECUTIVE SUMMARY**

Costa Rica has one of the highest densities of biodiversity on Earth. Around 24 per cent of its territory is in protected areas (public or privately owned). Nevertheless, the country presently undergoes serious soil degradation problems.

The process of soil degradation in Costa Rica should be regarded integrally. Geographical, climatic, social, and cultural factors must be taken into account, as well as the impact of current agricultural development schemes and the international globalization process, which determines international exchange policies and the country's consumption patterns.

This first national report on the status of soil degradation has identified the following leading factors of degradation in Costa Rica:

- Increasing cultivation of marginal soils;
- Spontaneous appearance of small settlements in mountainous areas;

- National land ownership patterns leading to use of fragile areas;
- Badly planned, designed and operated irrigation systems;
- Insufficient enforcement of laws promoting soil and forest conservation;
- Deforestation and poor management of forest resources;
- Poor management of natural resources in watersheds;
- Extreme natural events;
- Economical policies leading to unsustainable management of natural resources.

In 1989, 20 per cent of the national territory was estimated to be severely eroded. Since then, the most critical areas have been identified. According to official accounts, 47 percent of the soils nationwide are highly prone to degradation, only 28.2 per cent are subject to appropriate use, 45.2 per cent are underused and 26.6 per cent are overused.

Some aspects of existing forest policies represent a significant effort to minimize the increased rates of degraded land surface and to promote recovery of degraded areas.

Furthermore, the Law for Soil Use, Management and Conservation was enacted in 1998. This law is intended to help protect, preserve and improve soils by means of their integrated and sustainable management along with that of other natural resources; this is to be achieved through integrated environmental promotion and planning.

The law provides the country with the regulatory and institutional framework for the design and implementation of nationwide actions to avert soil degradation, including institutional organizations and data gathering for land-use planning.

Efforts in the legal field have been followed by numerous other public actions: the identification of the most strongly affected areas, specific projects involving integrated management of some important watersheds in the country, soil studies, conservationist agriculture projects, and the prevention of emergency risk situations.

Regulations involving forest use and conservation have been accompanied by concrete actions tending to prevent and/or revert degradation processes, such as the payment for environmental services rendered by forested and reforested areas. This payment is an incentive given in exchange for the direct influence that forests and forest plantations have on protection and improvement of the local environment.

In addition, academic sectors have contributed with research and knowledge in areas such as soil and forest restoration, wetland conservation, demographic growth and unplanned urbanization. Furthermore, certain non-governmental organizations play an active role in environmental education and in analysing existing legislation.

However, only a few of these activities have been designed with an integrated view of the soil degradation problem. Most have been carried out in an uncoordinated manner and without long-term planning.

Current plans have a diminished functionality due to the lack of a nationwide coordinating agency and of a national action programme against soil degradation, as well as a financial strategy.

Another limitation is the absence of environmental education actions oriented to prevention. In addition, gender contents are usually not considered in the existing soil degradation prevention plans.



Even though participation of local communities has been important in the execution of environmental protection actions, they have been excluded from the decision-making process. Communication and awareness-raising strategies regarding this specific subject are lacking. The work of the NGOs has also been fragmentary and lacking of a global perspective.

After this first exploration of the subject, the Advisory Commission on Soil Degradation (Comisión Asesora sobre Degradación de Tierras, CADETI) shall commit itself to the development of a National Action Programme to combat soil degradation. It is expected that the necessary financial support will be provided for a wide consultation with representatives from all social groups, as well as from relevant public and private institutions. This discussion shall include the results of the First National gathering for Awareness Raising on Soil Degradation and Desertification (Primera Jornada Nacional de Sensibilización sobre Degradación y Desertificación de Tierras), carried out in January 1999, as well as the results of the workshop organized to analyse this first national report (May, 2000).

## CUBA

### EXECUTIVE SUMMARY

The Republic of Cuba is an archipelago, which lies on the westernmost point of the island arc of the Antilles, in the midst of the North American and South American continents. It covers 110,992 km<sup>2</sup>, and consists of the Island of Cuba, the Isle of Youth (Isla de la Juventud) and other 1600 islets and keys, accounting for 0.08 per cent of the Earth's lands. The Cuban island ranks fifteenth among the largest islands of the world.

Cuba has a tropical humid climate featured by marine influence and semi-continental traits. Average temperature ranges from 21°C to 27°C. The mean rate of annual rainfall ranges from 800 to 1400 mm, depending on the location on the island and time of the year. Evaporation amounts to up to 2300 mm a year.

According to the political and administrative division, Cuba is divided into 14 provinces and 169 municipalities, including the special municipality of Isla de la Juventud. The population of the island is 11,093,152 million, with a population growth rate of 0,9 per cent and a life expectancy at birth of 75,3 years. Out of this population, 22.0 per cent are under the age of 15, and 13.14 per cent correspond to 60 year-old people and over. Median age of the population is 34 years. Sex ratio is 100.3 men to 100 women. Nearly 20 per cent of the population live in the capital city, Havana.

The Cuban economy is essentially agricultural, relying mostly on sugar and related industries, and also includes fishing, mining and tourism, the latter being the most dynamic sector throughout the last decade.

Land surface devoted to the agricultural practice accounts for 62.7 per cent of the total solid ground; 55.4 per cent of this corresponding to cultivation of sugar cane, coffee, cocoa, citrus, fruits, kenaf, tobacco, pasture, forests, vegetables, grains, roots and tubers.

Four of the five environmental problems identified in the Cuban National Environmental Strategy, namely soil degradation, deforestation, terrestrial and marine water pollution and the loss of biological diversity, are either directly or indirectly induced by agricultural and livestock, sugar and forestry activity. At the same time, they are related to the goals set by the United Nations Convention to Combat Desertification and Drought signed by Cuba in 1995 and ratified in March 1997.

Desertification affects 14 per cent (1,580,996 ha.) of the country's territory. Soil degradation resulting from land mismanagement and land misuse

by man in the course of time is the main cause for the emergence of marked signs of desertification. Sub-humid environment sub-areas with fragile ecosystems potentially degrading in aridity cover 866,743 ha., and dry sub-areas account for 714,253 hectares.

The fact that 76.8 per cent of Cuban soils account for the lowest crop yields does not allow deriving more than 30 per cent of the production potential from the cultivable species planted there. This situation .2 indicates that one of the direct effects of desertification is the reduction of soil capacity to produce food and thereby meet the most pressing needs of the population.

In the last few decades there has been an aggravation of the situation due to drought which, by itself and along with other anthropic processes, leads to severe and harmful consequences on an increasing number of socio-economic activities.

An assessment of climatic aridity rates has showed the existence of semi-arid plots of land towards the southern point of Guantánamo and Santiago de Cuba provinces, whereas sub-humid areas cover a sizeable portion of the eastern provinces, the coastline of Camagüey and other sites of the country, which are prone to severe desertification processes.

Strategies and priorities set out in the framework of programmes and policies for sustainable development

From the 1960s, the country became involved in raising the living conditions of the population, and the rational use of natural resources intended to ensure the economic and social development of territories. Therefore, scientific research was organized, the Pedologic and Agro-chemical Service established and territorial management processes were implemented, giving priority to soil conservation and rehabilitation.

In this stage, the following milestones stand out:

- 1960. Implementation of Reforestation programmes undertaken during 40 years, which has enabled to increase the forest cover from 14 up to 21 per cent of the country's total area.
- 1964. Establishment of the National Center for Soils and Fertilizers of the Institute for Soils of the Academy of Sciences of Cuba.
- 1980-85. Choosing the coastline strip of Maisí-Guantánamo towards the easternmost sector of the country as the most drought-affected area for environmental, economic and social rehabilitation.
- 1960-90. Conceiving and taking actions to improve soils devoted to agricultural practices, to tackle ineffective drainage and soil conservation for most significantly affected areas of the country.

The above strategies, programmes and decisions made, all led to conducting intensive work to combat already identified effects of soil desertification and drought control.

Successive changes in the country's environmental policy have contributed to improve the capabilities to approach the environmental problems already identified; the following being the most important moments:

- the amendment to the 1992 Constitution, the moment when our Organic Law is enhanced with the inclusion of the concept of sustainable development;

- the establishment in 1994 of the Ministry of Science, Technology and Environment (CITMA) and the arrangement, since then, of its institutional system at national and territorial level;
- the development of the National Programme on Environment and Development (Cuban adoption of Agenda 21) and implementation of a National Environmental Strategy and based on this, the development of territorial and sectorial strategies;
- the enforcement of Law 81, Law of the Environment by the National Assembly, on 11 July 1997, of its body of contraventions and other laws and supplementary decrees which make up the environmental legislation system in force;
- the Strategy for international multilateral collaboration for 1999-2000.

#### Institutional measures formulated to implement the Convention

Prior to 1994, there was the National Commission for Environmental Protection and the Rational Use of the Natural Resources (COMARNA) in Cuba. It was responsible for full implementation and control of the environmental activity in the country. From the Summit of Rio, which was the framework for the commitment of a wide range of environmental sectors, the Cuban government decided to develop an organizational structure to address the environmental issues, which main components make up the Ministry of Science, Technology and Environment (CITMA). CITMA is comprised in turn of the Environmental Policy Division, the Environmental Agency and its eleven Centres engaged in Management, environmental awareness and scientific research in this field. There are also 14 Provincial Environmental Units, and the remaining bodies of the Central Administration of the State, non-governmental organizations and scientific and social associations, which have undertaken the protection of the natural resources.

CITMA acts as the National Focal Point to the United Nations Convention to Combat Desertification and Drought as well as other international treaties. It is also the coordinator of the National Group to Combat Desertification and Drought, established in July 1995, consisting of 36 representatives from 24 institutions and agencies of the Central Administration of the State, Scientific and Teaching Centres and non-governmental organizations.

As the National Coordinating Body, this Group fulfilled a methodological preparation stage, consisting of meetings, workshops and seminars with good representation and participation of national and local entities. In addition to coordinating the development of the National Action Plan (NAP), this Group was responsible for the arrangement of activities in the context of the National Awareness and Development Campaign, every year, as well as activities on the celebration of 17 June, the World Day to Combat Desertification and Drought.

Work carried out by this Group has been coordinated with other National Groups such as the National Watershed Council (CNCH), with which a new approach to the country's environmental work was begun; the watershed being regarded as a basic unit for environmental management. At the same time, this approach becomes a way to bring together all actions to combating desertification, preserving biological diversity, understanding climate change, and other actions taken by state agencies in the natural context of watersheds.

#### Back-up participatory process for working out and implementing the action programme

Drawing up the National Programme to Combat Desertification and Drought was one of the Cuban commitments upon ratification of the International Convention to Combat Desertification and Drought in 1997. Therefore, the Government is responsible for its implementation, financial support and

fulfilment of foreseen actions. In order to fulfil such commitments, the Government puts forward the operational structures and mechanisms set out in the country as well as its capacity to mobilize all the sectors of the population.

Document preparation relied on the participation of all governmental, scientific, citizen and non-governmental institutions that matter. This ample participation was possible due to the following:

- the multisectoral and multidisciplinary nature of the National Group to Combat Desertification and Drought;
- national workshops attended by the scientific community, local government representatives, administrative leaders from territorial government bodies, farmers and grassroots producers involved in identifying the elements which make up the National Strategy;
- a national campaign for public awareness, education and dissemination of information through the press, radio and television, contests among children and youth in schools located in areas affected by desertification and drought;
- seminars for farmers; joint analysis of areas by technicians and scientists;
- shooting of documentary films and other informational and educational materials and finding alternatives to take information to most far-off communities, for example, developing appropriate transportation means furnished with video equipment; and participatory discussion of said films;
- workshops held to work out the different stages of NAP with the participation of representatives from the National Group to Combat Desertification and Drought, the Specialist Group of the National Watershed Council and other representatives from guest institutions.

Thorough analysis of facts (diagnosis stage) within the NAP was carried out in its entirety by national consultants, based on ample and valuable information available in the country as a result of more than 40 years of scientific research on natural resources as well as the practical experience, the traditional and local knowledge base of rural people and settlers, particularly in affected areas. Information collected and drafted, along with the Country Study on Biological Diversity are documents of an inestimable scientific, technical and practical value, for they are daily work tools for implementing the Plan's actions.

The formulation stage of the National Strategy and further actions for its implementation (Action Plan) was certainly the most painstaking task of the process, due to the inevitable need to match this Strategy with principles and priorities set out in the Convention to Combat Desertification and Drought, and the Regional Annex for Latin American and the Caribbean; the environmental law in terms of protection of natural resources and other related issues, in force in the national territory; in Regional and Subregional Action Programmes passed and in force such as the Caribbean Environmental Programme, the Barbados Action Plan for Sustainable Development of Small Island Developing States, the Regional Action Plan on Desertification and Drought, among others.

Women's participation in this process is particularly apparent in all activities and decision-making levels. Women's involvement and the issue of gender in all National Plans and Programmes has been a permanent concern of the Cuban Government, for example, the implementation of a system of encouragement and facilities for women's education and training, as well as their involvement in labour and policy. Proof-positive of this are the rates of women's

participation in the technical and professional labour force of the country, which accounts for 66.1 per cent. It means that women are granted full exercise of equal rights.

Backup consultation process for NAPs design and implementation, and partnership agreement with Party developed countries and other entities concerned.

The consultation process intended to work out the NAP was conducted simultaneously with activities for NAPs implementation in affected areas. The process lasted almost two years during which time 14 provincial workshops were held and attended by more than 500 farmers, producers and representatives from provincial Governments and local institutions. Each territory worked out its plan of action to combat desertification and drought, which was approved by territorial governments and non-governmental entities, with the participation and support of the existing scientific community in each territory. The different progress stages of the plan were shown to the national scientific community, and to national and international specialists. This was likewise submitted to high governmental authorities for consideration. Lastly, the document was subject to revision; criteria thereupon being forwarded, and finally approved in writing by Agencies of the Central Administration of the State, specifically by Entities responsible for NAPs implementation.

Major cooperation agreements include those with the International Fund for Agricultural Development (IFAD), the Food and Agricultural Organization (FAO) which, based on the support of the Convention Secretariat and the Cuban Government, served to fund the Project TEMP/INT/913/mul, known as 'National Action Programme to combat desertification and drought: A plan for the utilization and integrated management of natural resources of Cuenca del Cauto (Cauto Watershed)' which amounted to US\$159,000.

In cooperation with the German Government through the GTZ Agency, a project is being worked out on 'the support to the implementation of the National Action Plan to Combat Desertification and Drought', to start this year. This will be both national and local in nature; the former, in terms of implementation of the Strategy in the country, and the latter, in terms of the target area to the south of Cauto River Watershed.

Significant support to conduct national and international activities have been given by FAO, IFAD, the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). On the other hand, the NAP is involved in actions included in the Regional Action Plan (RAP) to Combat Desertification and Drought, particularly in the context of the Network of Institutions, which make up this RAP.

Steps taken or planned in the context of NAP, including measures to improve the economic environment, preserve natural resources, expand the institutional organization and knowledge on desertification and follow-up and assessment of drought effects.

The National Action Plan is comprised of seven subject areas, which cover major problems identified during the stage of diagnosis, and included in the National Strategy to combat Desertification and Drought as basic lines of work.

These subject areas cover socio-economic development of affected areas; development and tailoring of legal instruments, policies and strategies; citizen education and involvement; scientific research and technological innovation; institutional strengthening; and international cooperation.

The highest priority of the Action Plan is the socio-economic development of affected areas as the best expression of local work. For such purpose, 81 activities of concrete implementation have been listed; plus 17 organizational

activities out of which, 13 will be implemented at national level, while 68 will be implemented at local level. Each step is part of the local plans to combat desertification, taken also in the context of the National Action Plan.

Due to governmental responsibility vested in the Plan of Action, 98 per cent of tasks foreseen are borne out directly or indirectly by Agencies of the Administration of the State, both at central and local level, while joining forces with other national entities and organizations.

Ways and means for implementation of actions of the National Programme to Combat desertification and Drought focus on two basic lines of work, which take shape as 16 development Plans and Programmes as well as Strategies for implementation of other international agreements to which the NAP is linked, mainly those which address Biological Diversity and the United Nations Framework Convention on Climate Change.

NAP's implementation is foreseen to take place on a short-, mid- and long-term basis, from 1 to 10 years, due to the fact that recovery of affected ecosystems is directly in proportion to the degree of damage and the availability of resources. In addition to their being regarded a biological entity, they call for long-term rehabilitation. Actions are consistent with development areas listed in the Strategy, which in turn includes those concrete actions foreseen at national and territorial level to fulfil the objectives, namely:

- Steps taken to prevent natural and anthropic disasters, such as drought, forest fire, soil degradation processes, deforestation;
- Steps taken for soil recovery and rehabilitation, water quality preservation and sustainable use of natural resources;
- Steps taken to improve the quality of life of the population in affected areas, such as increasing and improving the quality of basic health and educational services, drinking water provision and sewer system and household energy;
- Allotment of financial resources in the national budgets to support implementation as well as financial and technical backup provided according to needs, their identification and priorities.

The Plan of National Economy is the most tangible expression of the realization of the National Budget and the Cuban Economy Planning. Based on this, funds are annually provided to each State entity and agency to carry out actions, which include those to combat desertification and drought. In this sense, administration bodies enhance their plans with investments devoted to the environment and the protection of natural resources.

Accomplishment of this plan of the economy is local in nature and it is performed by Administration Entities whose power reaches the nation, provinces and territorial enterprises. Local governments at provincial and municipal level, as well as within Popular Administration Councils also participate, thereby ensuring direct access by local communities to budget allocation.

At present, the Environmental Fund is being developed, to be administered by the CITMA Environmental Agency. It is expected that this Fund may devote a section to combat desertification and drought, as envisaged in the National Programme to Combat Desertification and Drought.

#### Review of benchmarks and indicators used to measure progress and assessment

During NAP design, several benchmarks and indicators were outlined to be used in Cuba from the technical standpoint for progress assessment of steps

taken. They are closely linked to environmental impact indicators introduced to measure and assess the country's environmental status.

With regard especially to land degradation, a research project is being conducted which, based on a 24-indicator survey of dry environment areas, will choose those indicators which best suit the Cuban conditions. These references should be authenticated in the space-time framework, and class boundaries determined according to intensity. The purpose of this study was to assess the measurable indicators of the global goals to combat desertification and abate drought effects as well as to contribute to sustainable development of affected areas, based on the island nature prevalent in the Cuban archipelago. In the meantime, some measurable indicators have been chosen which may serve as basic tools to assess increased productivity of soils, the results of actions taken to prevent degradation; for rehabilitation of soils affected; to preserve natural resources and utilize them on a sustainable basis, all of which will benefit the improvement of the living conditions of communities.

## DOMINICA

### 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 15 April 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 multidisciplinary, multisectoral 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 multifaceted 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 per cent) 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 revitalization 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 Environment 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 programme that focuses on, but is not limited to, schools, farmers, land developers/managers, other natural resource users and policy makers.

#### **DOMINICAN REPUBLIC**

##### **EXECUTIVE SUMMARY**

The Dominican Republic is located in the middle subregion of insular America, in the great Caribbean Antilles and located between the latitudes of 17° 00 and 20° 00 North and the lengths of 68° 71" and 72° 00 West. It occupies the Eastern portion of La Española Island, and shares it with the Republic of Haiti, occupying the two third parts, with a territorial extension of 48,670.82 km<sup>2</sup> (University Geographic Institute 1992) and a population of 8.6 million inhabitants approximately. The economy of the country has been sustained in the present century, the use and intensive consumption of natural resources, as it were the forest exploitation of the 1960s, the development of an agriculture not well technified and dependent of agrochemicals, polluting agents, the development of a policy of export based on agricultural products, until the end of the 1980s and in the last years, with the development of tourism, the promotion of agro-industry and free zones.

Because of their physiographic complexity, local climatic variations appear, with annual average temperatures between 28° C in the dry low zones and down to 18° C approximately in the mountainous zones (1.300 msnm), also the rain regime is complex, with 2,300 mm of annual average, in the rainiest zones (northeast of the country) and lowering to 450mm in the La Hoya de Enriquillo (southwestern country).

The country counts on little agricultural ground availability, only 20.3 per cent of the territory; the rest includes 24 per cent for pasture and permanent cultures; 52.7 per cent of forest and 2.5 per cent for the protection of the wildlife (United Nations National Report Conference, 1991). In spite of this, great amounts of forests have been destroyed for the agricultural activities as sugar cane and rice cultivation, the development of cattle ranches, among others.



It has been estimated that 16.7 per cent (8,055 km<sup>2</sup>) of the territory of the Dominican Republic correspond to barren and semi-arid zones (Morillo A, 1997). They are in the Southwestern region, extending from the La Hoya of the El Lago Enriquillo to Puerto Viejo, Azua, generally to less than 300 msnm. Other areas are in the northwest of the El Cibao, extending from Santiago to the border with Haiti and a small portion in the Eastern region of the country. In these zones there are the highest percentage of poor homes of the country.

#### STRATEGIES AND PRIORITIES ESTABLISHED WITHIN THE CONTEXT OF THE PLANS AND/OR POLICIES OF SUSTAINABLE DEVELOPMENT

The country advances in significant form on the implementation of the Convention, with the development of a group of strategies, national plans and programmes that contribute and affect the fight against desertification and drought. The plans, strategies and programmes that are developed at the present time are the following:

##### PLAN NACIONAL QUISQUEYA VERDE

Its objective is to improve the conditions of life of the population in the rural zones, through the promotion, handling and use of the natural resources, the generation of employment, the protection of the environment and the coordination between government institutions and the organizations of the civil society that work in favor of the sustainable development.

This Plan has a national coverage, although it prioritizes those areas that need greater attention. It has great participation by the civil society and it is executed with Government funds, contemplated in the national budget.

##### PROJECT FOR ENVIRONMENTAL POLITICS

This project was formulated with the objective of establishing the bases for an improved environmental handling in the Dominican Republic, through a process of learning and participation, defining reforms of environmental policies and elaborating a National Programme of Environmental Management.

This project is in its initial phase and it is financed with a loan of the World Bank. It will contribute with key investigations to design a National Programme of Environmental Management, which will be able to serve as a base for the processing of the National Plan of Action to Fight against Desertification and Drought.

##### PROGRAMME A 21 NACIONAL

It is an initiative of the Dominican Government for the support of the National Commission to follow-up the commitments with the United Nations Conference on Environment and Development and to generate a participative process between the public and private sector to allow to articulate the social, economic and environmental dimensions for sustainable development.

The programme's objective is the development of the institutional and technical capacities of the country, to stop the process of degradation of the environment and biodiversity by means of a process that guarantees the bases of the sustainability integrating the economic, social, scientific - technological and environmental dimensions in the planning and management of the national sustainable development, with the participation of different actors from the society. The same one has a horizon of three years, financed by the United Nations Development Programme (UNDP) and the Dominican Government.

##### NATIONAL PROGRAMME ON CLIMATE CHANGE

This programme is an initiative of the Dominican Government, founded by the Climate Change secretariat with GEF funds. The main programme objective is to prepare the National Communication to the United Nations Framework Convention on Climate Change, which will include greenhouse gas inventory, a country study in vulnerability and adaptation to climate change and a mitigation study. This programme is just starting and is coordinated by ONAPLAN as Focal Point of the Convention.

#### NATIONAL STRATEGY AND PLAN OF ACTION FOR THE CONSERVATION OF BIODIVERSITY

The strategy has the objective to assist the Dominican Republic in the preparation of its national strategy and the plan of action of conservation of biodiversity, in fulfillment to articles 6 and 8 of the Convention on biological diversity. It will identify key strategies and high-priority actions for the conservation and administration of biodiversity, in the context of sustainable development.

The Strategy and the Plan of National Action, constitute basic tools to undertake actions of Fight against Desertification and Drought since it will allow to make a better use of the biodiversity of the country. It is in its initial phase and it is executed with a donation from GEF.

#### SMALL SUBSIDIES PROGRAMME OF THE WORLD FUND FOR THE ENVIRONMENT (PPS/FMAM)

The objective of the project is to assure the global environmental benefits through climatic interventions in the areas of biodiversity, climatic changes and international waters with proposals based on the community, that generate local benefits.

In the next two years, the Small Subsidies Programme will support the implementation of about 25 new projects, which will be concentrated in the provinces of the border zone, which will approach the promotion of new sustainable methods of production, and ecotourism, using the resources of local biodiversity, the protection of terrestrial water-bearing sources and the use of solar paddles and hydrogenerators; like alternative of clean energy. Within possibilities, the projects to be supported must present a strategy of how they are going to work the subject of desertification, in the execution place. In this beginning phase four focal areas have been prioritized: conservation of the biodiversity, climatic change, international waters and desertification and drought.

#### NATIONAL PLAN OF SOCIAL DEVELOPMENT

It is the basic instrument to give answer to the commitments assumed in the Summit of Social Development, and constitutes a reaffirmation of the Dominican Government to improve the health, employment, education, the basic cleaning, the access to potable water, the nutritional security and the possibility of having a house for all Dominicans.

The objective of the Plan is the eradication of poverty, the generation of productive employment and the promotion of solidarity. The horizon anticipated for its execution is the period 1996-2005. In order to give answers to the objectives of the Plan, the Programme Comunidad Digna and the National Plan of Feeding and Nutrition are being implemented.

#### NATIONAL PLAN FOR REDUCTION OF POVERTY (PROGRAMME A COMUNIDAD DIGNA)

The Programme Comunidad Digna, constitutes a assembly of cultural and social strategies of intervention, in which economic, social, political, gender, cultural and environmental factors are taken into account, as strategies that combine the generation of income and the access to public services. These

strategies express the interest in orienting the social expenditure, through programmes focused in the territories where poverty predominates.

The Plan is being implemented and the financial resources come mainly from the following sources: funds assigned in the national budget to the Programme of Promotion of Social Development and funds managed by different public social institutions. The high-priority geographic areas of the programme are affected by desertification and drought.

#### NATIONAL PLAN OF FEEDING AND NUTRITION PLAN (NACIONAL DE ALIMENTACION Y NUTRICION (PLANAN))

It is conceived like a assembly of actions articulated to the economic and social development policies, implemented by the Dominican Government. Its main objective is to increase the levels of nutritional security in all the homes of the Dominican nation, stimulating the production of basic foods and increasing the buying and consuming capacity of the social groups.

The Plan is being executed at the moment with funds of the national budget and external resources by means of cooperation of international organisms, such as the World Food Programme.

#### NATIONAL STRATEGY OF ENVIRONMENTAL EDUCATION

This was developed in 1992 with the objective to put in practice the Law 295-85, (that does obligatory to introduce in the educative plans the conservation of the natural resources and the atmosphere) and for the formulation of a Plan of National Action on Environmental Education. The strategy contains a tending assembly of actions to contribute with the formation of conscious and defender citizens of its environment.

The fundamental aspects that they are taken into account in the strategy, to reach the predicted intentions are: the policy of management, institutional aspects, the investigation and the qualification. Within the beginning of the strategy, the Project of Environmental Education in the Basic Education is executed at the present moments, which is financed by the GTZ and the Dominican Government. This project has a great importance for the country, since educating introduces the Environmental education as a transverse axis in the programmes.

#### INSTITUTIONAL MEASURES TO IMPLEMENT THE CONVENTION

At the present moment valuable efforts in the country are being made to create the Secretariat of State of the Environment, which will have the responsibility of the handling of the natural resources and the environment and will unify the existing institutional dispersion in the country.

Like a passage of advance to reduce the institutional dispersion, three institutions have been created at the present time that concentrate functions and unify others that were dispersed. The created institutions are: The National Institute of Environmental Protection (INPRA), with the functions to send the certification of declaration of Environmental Impact and to establish mechanisms of control, monitoring, supervision and pursuit of the contamination of the air and the water; including the coastal zones; before, during and after the execution of any public or private project, among others.

The National Institute of Forest Resources (INAREF), which unifies the Main Forest directorate and the Forest Technical National Commission, which had (both) competitions in the handling of the forests. The Main Forest directorate, that was a dependency of the Secretariat of State of the Armed Forces, with the creation of the INAREF, turns out to be a decentralized institution, which in future could be directed by a civilian.

In addition the Coordinating Commission of Natural Resources and Environment (COSERENAMA), with the purpose of establishing the bases for the creation of the Secretary of State of Natural Resources and Environment. This Commission developed and put under the Legislative chambers, a Project of General Law of Environment and Natural Resources, which introduces several principles of the convention as they are: the creation of a national fund for the environment, which will be used, to develop and to finance programmes and projects of protection, conservation, restoration, education and sustainable use of the environment and natural resources. This project of law prohibits in addition any activity that produces salinization, latinization aridification and desertification and any other activity that produces Earth degradation.

#### PARTICIPATIVE PROCESS IN SUPPORT TO THE PREPARATION AND IMPLEMENTATION OF THE PROGRAMMES OF NACIONAL ACTION

In the country a National Committee of fight against the Desertificación and Drought exists, which was created during the celebration of the First National Day of Awareness of the Convention, in September of 1996. This Committee is integrated by 28 institutions, of which 14 are governmental and 14 non-governmental ones. In this one the state institutions participate, the NGOs, universities, business company, professional associations, producer associations, women organizations and the national press.

At the present moment, a National Campaign of Awareness and Diffusion of the Convention is developed in the country, with ample participation of the different actors from the affected zones. This national campaign is being developed by a technical equipment of the National Committee of Desertification and Drought and within the same one in the prioritizing affected zones have been made five workshops (Santo Domingo, Mao Valverde, Barahona and La Romana) in different points from the country.

The groups selected for the accomplishment of the workshops have been the Provincial Councils of Development, for consider these as the participative institutions that exist in the provinces, since they are integrated by the provincial, municipal authorities and by representatives of the social and congressional forces of the provinces and with a multisectorial structure, that allows to make a coordinated and effective work for the application of the Convention.

#### PROCESS OF CONSULTATION IN SUPPORT TO THE PREPARATION AND IMPLEMENTATION OF THE PROGRAMMES OF NATIONAL ACTION AND THE AGREEMENTS OF ASSOCIATION WITH DEVELOPED COUNTRIES PARTIES AND OTHER ORGANIZATIONS

The Dominican Republic has not yet processed its National Plan of Action of Fight Against Desertification and Drought, which had not received the corresponding financing for these aims. In spite of this the country has received financing from the Secretary of the Convention, to accomplish the First National Day of Awareness and being able to submit the First National Report of Implementation of the Convention.

On the other hand the country has received financing from UNSO-PNUD, for the implementation of the National Campaign of Sensibilización and Diffusion of the Convention, which is implemented at the present moments. The Dominican Government has submitted to the secretariat two proposals, the one with the Basic Lineaments for the elaboration of the National Plan of Action, in which he asked for to the Secretary financial support and technical cooperation of some countries and a other proposal, for the accomplishment of a Bi-national Diagnosis of the Border Zone. To date this financial request has not been received.

#### OVERHAUL OF REFERENCE POINTS AND INDICATORS USED TO MEASURE THE PROGRESS AND EVALUATION OF THE SAME

Although the country is immersed at the moment in a dynamic process of structural changes and legal and institutional reforms of the environmental sector, it has been recognized as urgent tasks the necessity to develop national environmental indicators, and the institutional and technical definition of the capacities and coordinations that must be created to generate this information and to make a system possible of monitoring. The identification of a conceptual base and a method adapted for the selection of indicators, and of an appropriate process for the possible development of a system of monitored and pursuit is at the moment under consideration.

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