

# **Third National Report of Antigua and Barbuda to the UNCCD**

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# Summary

## 1. Focal Point Information

Focal Point	Ms. Diann Black-Layne, Chief Environment Officer
Address	Environment Division Ministry of Works, Transportation & the Environment #1 Prime Minister's Office Drive Factory Road St. John's ANTIGUA AND BARBUDA  Telephone: (268) 462-4625/6265/ 562-2568 Facsimile: (268) 462-4625 Email: <a href="mailto:mail@environmentdivision.info">mail@environmentdivision.info</a> / <a href="mailto:dcblack11@yahoo.com">dcblack11@yahoo.com</a> Website: <a href="http://www.environmentdivision.info">www.environmentdivision.info</a>
Country specific websites relating to desertification	

## 2. Status of NAP

Date of Validation	May 2006
NAP Reviews	May 17 <sup>th</sup> 2006, May 10, 2005
NAP has been integrated into the poverty reduction strategy	Poverty reduction strategy is not complete
NAP has been integrated into the national development Strategy	At present there is no updated national development strategy; however a National Environmental management Strategy (NEMS) has been elaborated. The NEMS was created before the NAP, However, the NEMS was prepared bearing in mind the concerns of all the Rio and other sustainable development conventions.
The NAP implementation has started with or without conclusion of partnership agreements	The NAP implementation has not started
Expected NAP validation	
Final draft of NAP exists	Yes
Formulation of draft NAP is under way	Completed
Basic Guidelines for NAP have been	No

established	
Process has only been initiated	Completed
Process has not been started	Completed

### 3. *Member of SRAP/RAP*

Name of subregional and / or regional cooperation framework		Involvement specifically in topics such as water harvesting techniques, soil erosion etc.
1	OECS Environmental Management strategy	The OECS EMS was the precursor to the National Environmental Management Strategy. Also the EMS was design from considerations raised in the Barbados Plan of Action
2	Integrated Watersheds and Coastal Area Management Project	Jointly managed by the UNDP, UNEP and the Caribbean Environmental Health Institute. This project focuses on many of those issues which cause the degradation of watersheds and coastal areas. These issues include erosion, poor land management, coastal degradation and drought.

### 4. *Composition of NCB*

Name of institution	Government	NGO	Male/ female
1 Ministry of Foreign Affairs	√		1/0
2 Environment Division	√		1/5
3 Fisheries Division	√		½
4 Forestry Division	√		2/0
5 Central Board of Health	√		1/0
6 Plant Protection Unit	√		0/1
7 Office of Meteorological Services	√		2/0
8 Ozone Unit	√		1/1
9 National Office	√		2/0

	of Disaster services			
10	Ministry of Legal Affairs	√		1/0
11	Food and Chemistry Lab	√		2/0
12	Central Marketing Corporation	√		1/0
13	Economic Policy and Planning Unit	√		0/1
14	Development Control Authority	√		1/0
15	National Solid Waste Management Authority	√		1/1
16	Gilbert Agricultural Rural Development Centre (GARD)		√	0/2
17	Environmental Awareness Group		√	2/1
18	National museum/ Historical society		√	0/1
19	Barbuda Council		√	0/1
20	Ministry of Information	√		0/1

**5. Total number of NGOs accredited to the process**

Has a NGO national coordinating Committee on desertification been established	No
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**6. Total number of acts and laws/regulations passed relating to desertification.**

Title of Law		Date of adoption
1	Physical planning act 2003	2 October 2003
2	Land development regulations	
3		

**7. The Consultative Process**

Number of partnership agreements that have been concluded / or are being initiated within the framework of the UNCCD

Official title of partnership		Donor(s), international organization(s), and or agencies of UN system involved	Date of (expected) conclusion
1	LDC and SIDS Targeted Portfolio Approach for Capacity Development and Mainstreaming of Sustainable Land Management	GEF, UNDP, CARICOM	
2			

List of consultative meetings on UNCCD implementation

Name of consultative meeting	Date/year	Donor countries Involved	International organizations or agencies of the UN system involved
1			
2			

Name the country which has taken role of Chef de file

**8. Name up to 10 projects currently under implementation which are directly or indirectly related to the UNCCD**

Name of	Project	Project	Timeframe	Partners	Overall
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project	implemented with in framework of NAP, SRAP/RAP	implemented within the frame work of		involved	budget
Sustainable Island Resources Management Mechanism	No			UNDP	
Integrated Watersheds Coastal Area Management	No			UNDP/ UNEP & CEHI	
Sustainable Land Management	Yes	SRAP			

## **Strategies and priorities established under a framework for sustainable development**

The First and Second National Reports to the UNCCD not only outlined the existing systems of land management at the times of their individual elaboration, they also provided an account of the system of land management (or lack there of) which was predicated as early as the 19<sup>th</sup> century. In this regards the two previous reports provided descriptions of:

The draft National Physical Development Plan

The Sustainable Development Plan

The national Agricultural Sector Plan 2001-2005

Integrated Management of Watersheds and Coastal Areas in Small Island Developing states of the Caribbean: National Report.

The National Environmental Management Strategy

Since the First and Second national Reports, only one significant strategy has been developed, namely the National Action Plan of Antigua and Barbuda to the UNCCD. The NAP besides providing a detailed description of the weather, climate, geology, water resources and land uses in Antigua and Barbuda also contributed two important pieces of knowledge that are to be used in combating land degradation and drought in Antigua and Barbuda. These were the National Land Degradation Profile and the actual National Action Plan. The former primarily sought to quantify the manifestations and causes of degradation in Antigua and Barbuda. Additionally, it gave insight into some of the most degraded sites in Antigua and Barbuda and outlined the existing infrastructure for combating land degradation and drought in Antigua and Barbuda. The National Action Plan intends to address such actions as public awareness, drought management, land use management and institutional capacity building. Specific issues of capacity building are recognized particularly for the Forestry Division which presently both understaffed and suffering from attrition.

Although the NAP is the only completed strategy/plan addressing UNCCD issues in Antigua and Barbuda, there are a number of strategies presently being developed through extensive and intensive consultation that may prove important to the implementation of the UNCCD in Antigua and Barbuda; The National Youth Policy and Strategy documents, the National Poverty Self Assessment and the Sustainable Island Resources Management Mechanism. Each of these strategies seeks to address some of the underlying issues which have been found to contribute to desertification throughout the world.

Still in its early stages of development, the national youth policy and strategy has already identified that one issue which the youth in Antigua and Barbuda have identified as being of critical importance is that of employment. This has been discussed as many youth are concerned that the present employment stock may not meet their individual development needs. If such fears are realized, there is the potential to reap negative impacts of



unsustainable land use practices as new entrants into the workforce choose inappropriate manifestations of vocation.

Like the National Youth Policy and Strategy, the National Poverty Self Assessment, which is presently being conducted, seeks to address social concerns. However, the NPSA will attempt to define our most vulnerable groups in Antigua and Barbuda and determine how poverty manifests itself. Part of this study will be determining such issues as availability of water and types of vocation to the economically depressed. It will be of interest to the UNCCD implementation process in Antigua and Barbuda to see what definitive lines can be drawn between poverty and desertification in the country.

The SIRMM, of the three ongoing activities, has the most direct potential benefits to the implementation of the UNCCD in Antigua and Barbuda. As the name indicates, the SIRMM will not only identify and attempt to eradicate unsustainable resource use practices, but it will try to determine if there are practices which are uniquely or more appropriately suited for islands. This therefore means that a successful SIRMM should have replicable benefits for other island states in the UNCCD.

## **Institutional Measures taken to Implement the Convention.**

From since becoming a party to the UNCCD the basic technical structure of agencies that have mandates to address issues related to desertification have remained virtually unchanged. However, what can be noted is the overall improvement of the mechanisms within the management structure. Improved legislative frameworks and more formalized relationships between agencies have made significant contributions to the management of desertification issues. Although there still remains many deficiencies within the system, these developments are definitive signs that with more capacity building, the situation in Antigua and Barbuda has the potential to become a model of desertification management.

Physical Planning Act 2003.

The Physical Planning Act 2003, is the newest legislative instrument that defines the management structure to govern development in Antigua and Barbuda. Unlike the previous Land Development and Control Act, which was passed in 1977, this new statute specifically identifies the importance of environmental issues in the decision to approve development. Providing the first detailed reference and outline of the Environmental Impact Assessment process of any legislation in Antigua and Barbuda, this legislation stresses the importance of suitability (on environmental, social and economic grounds) for the consideration of a development in addition to issues of technical and structural integrity. However, the local institution for which this legislation is primarily related, the

Development Control Authority (DCA), is lacking much of the capacity needed to realize much of the mandates directed under this act.

As a means to address the issues of capacity two important developments have had to take place to support the DCA in the implementation of its mandate. Firstly, the DCA has developed a much closer working relationship with the Environment Division (UNCCD National Focal Point) to provide guidance on the handling of environmental issues as it pertains to developments. Although suffering from its own capacity issues, the Division has been a strong partner in the development process, providing basic environmental guidance and improving stakeholder consultation on development issues. The capacity issues of the Environment Division has set the ground work for the second important development that supports the DCA in the fulfillment of its mandate, this is the increase of private sector Environmental Consultancy services. The growing importance of environmental studies and impact assessments has allowed local experts to see and establish careers in environmental consultancy. This has predicated two benefits, the generation of more environmental research and information and the raising of awareness of the private sector and the general public in environmental issues. However, this system is not without its short comings as there are insufficient experts in a number of disciplines.

#### Draft Environmental Management Bill

Since the Second National Report to the UNCCD the draft Environmental Management Bill has undergone a number of changes as a result of extensive consultation with local stakeholders (including NGOs, private sector and government agencies) and various international agencies including UNEP and CITES secretariats. The revised text has now been sent to Ministry of Legal Affairs for final preparations to be sent to parliament for enactment.

#### The St. Georges Declaration

In the Second National Report to the UNCCD the SGD was introduced as one of the key activities that had occurred at the sub-regional level with national commitments and ramifications. As a party to the SGD, Antigua and Barbuda was required to prepare a National Environmental Management Strategy. This process included, amongst others, the development of a specific NGO document outlining how the civil society envisioned the NEMS to manifest nationally as well as expectation of their own role in the relation to the NEMS and other government led initiatives.

Currently, the Organisation of Eastern Caribbean States, is currently review the SGD so as to bring it more in line with such global initiatives as the Millennium Development Goals and the Mauritius Strategy of Implementation. This has resulted in the evolution of the SGD from principle to specific regional and national goals and targets.

Table 1 Description of agencies involved in land management activities.

AGENCY	MINISTRY	LEGISLATION	FUNCTIONS
Development Control Authority	Ministry of Public Works, Communications & Environment	Physical Planning Act (2003)	Development application review and approval; development surveillance
Lands Division	Ministry of Agriculture, Lands & Marine Resources	Crown Lands Act (1917) and Land Settlement Regulations(1952)	Planning and allocation of government lands for residential, agricultural and other land use purposes including land reclamation, the management of water bodies to take the appropriate action for forest conservation; administration of Government of Antigua and Barbuda land leases and rentals. Regulations have been prescribed to assess watershed management. Since a little less than half of the land in Antigua and Barbuda is government-owned, this Division has a key role in determining the conversion of land to non-agricultural use.
St. John's Development Corporation	Prime Minister's Office	St. John's Development Corporation Act (1986)	Upgrading of downtown St. John's through urban renewal and implementation of other development projects. This Act empowers the Corporation to initiate development without reference to national development plans.
National Parks Authority	Ministry of Tourism and International Transport	National Parks Act (1985)	Development and management (including development Control) of national parks
Antigua & Barbuda Port Authority	Ministry of Finance		Development and management of lands at the St. John's Deep water harbour.
Central Housing & Planning Authority (CHAPA)	Ministry of Housing and Social Transformation	Slum Clearance and Housing Act (1948)	At one time CHAPA functioned as Government's primary residential land allocation agency, but some of its functions have been assumed by the Lands Division, Ministry of Agriculture; Implementation of low income housing schemes.

Department of Agriculture	Ministry of Agriculture, Lands and Marine Resources	Antigua and Barbuda Agricultural Development Corporation Act (1978)	Like the St. John's Development Corporation, the Agricultural Development Corporation is authorized under this statute to conduct development activities outside of the requirements of any national development plans. The effect of this power can operate to compromise the successful implementation of Physical Planning Act (2003)
The Cabinet	Prime Minister's Office	Land Acquisition Act (1982)	The Cabinet with the approval of the Legislature has the authority to acquire land for public purposes. The public purpose for which the land is required must be determined by the Cabinet.
Central Board of Health	Ministry of Health	Burial Ground Act (1926)	This Act determines the areas which may be used for the purposes of burial.
Public Works Department	Ministry of Public Works, Communication and Environment	Public Works and Road Act (Cap. 281)	This Act requires the classification of road and establishment of widths corresponding to each class. The Act gives the Governor General a wide discretion to declare and declassify road and empowers the Surveyor to make temporary roads over any land as is convenient.
Forestry Department	Ministry of Agriculture, Lands and Marine Resources	Forestry Act (1941) and Regulations (1941 & 1952)	This Act establishes the power to declare forest reserves on State lands and requires forest reserves to be acquired by the State. The Governor General is empowered to make regulations in respect of specified matters, including the management of protected forests and forest reserves. The Act authorizes the Chief Forest Officer to prepare a national forest plan.
Soil and Water Conservation Unit	Ministry of Agriculture, Lands and Marine Resources		This unit has responsibility for soil conservation activities within the Ministry of Agriculture. It also assists farmers with the development of irrigation systems and improving drainage.
Agriculture Committee	Barbuda Council	Barbuda Local Government Act (1976)	This Act requires the local authority to administer forestry services in Barbuda and subordinate legislation established thereunder regulates the cutting of timber in this locality.
		Bush Fires Act (1901)	This Act establishes an offence regime regarding bush fires.

Water Division	Antigua Public Utilities Authority Statutory Board – Ministry of Public Works, Communication and Environment	Public Utilities Act (1973)  Watercourses and Waterworks Regulations (1954 and 1961)	This Act requires the Authority to supply potable water supplies and empowers the Minister to make regulations for the protection of watercourses and catchment areas.  These regulations prescribe methods for the extraction of water to protect against contamination
Fisheries Division	Ministry of Agriculture, Lands and Marine Resources	Fisheries Act (1983)	Under Part III of the Act, the Minister may declare any area of Antigua and Barbuda waters and as appropriate, any adjacent or surrounding land, to be a marine reserve where special protection is considered necessary.
Environment Division	Ministry of Public Works, Communication and Environment	Environmental Management Act (pending)	An Act to provide for the management of the environment within Antigua and Barbuda. The definition of environment includes the land, water and atmosphere and plant life.

Additionally, there are also NGO agencies which have contributed significantly to issues of land management in Antigua and Barbuda. The Environmental Awareness Group has been instrumental in the development of management procedure in protected areas and have received international acclaim for their work in protecting the small offshore islands. The Gilberts Agricultural and Rural Development (GARD) Centre, which is the UNCCD NGO focal point in Antigua and Barbuda has also conducted work in educating farmers and small agri-based business owners in effective land management and sustainable livelihoods.



## The Barbuda Council

Provided a degree of autonomy from the management of the central government, the Barbuda Council, which directly manages all development activities in Barbuda, an island of 62 square miles and less than 1500 people, has recently established a lands division to improve its own development control as it pertains to physical structures and land use change. Although only legally capable of issuing recommendations of approval for any development proposal, which must still be submitted to the DCA for final approval, the agency can serve as an important managements system for an area that has limited support, monitoring and management from the central government (due to transport issues).

In the past, due to the lack of regular presence of the environment or development agencies in Barbuda, the approval process of development proposals for Barbuda has been less that adequate. Except for a few recognized ecologically sensitive areas, development has been somewhat uncoordinated with no visible pattern of development. Whereas traditionally, locals have constructed homes within the only village, over the last ten years there has been significant dispersion of new developments. As before the Physical Planning Act 2003, the DCA was more focused on the issues of structural integrity, structures in Barbuda were placed without any rationalization. The new agency has identified this as problem which may cause significant difficulties in the future as the quantity and complexity of development rises in the future. However, addressing these problems is well beyond the scope and abilities of the agency, at this time.

## The public sector investment programme

As an additional means of self regulation, the Government of Antigua and Barbuda recently introduced the PSIP. Before the Cabinet or the Ministry of Finance commits any substantial resources to any initiative or project, the submitting agency must, among other things and through consultation, provide, to the Economic Policy and Planning Unit, potential impacts on other government activities, business sector, community and the environment. As a means of verifying these impacts relevant stakeholders are expected to provide statements of potential impact to assist in the consideration of the project.

## **Participatory process in the preparation and implementation process of action programmes**

### ***National Coordinating Mechanisms***

The sheer number of agencies charged with the management of some aspect of the environment poses severe coordination challenges. The issue of coordination is one of the most crucial since there is a need to reduce overlaps and duplication of efforts between government agencies. To achieve this, the Cabinet of Antigua and Barbuda created the National Coordination Mechanism for Environmental Conventions (NCM), which is a committee of persons from government, NGOs and the private sector.

The Cabinet of Antigua and Barbuda established the NCM in 1999 in an effort to formalize the participatory process towards sustainable development. The secretariat of the NCM is housed in the Environment Division, which is the NFP for the majority of MEAs. The Ministry of Foreign Affairs, as PFP, chairs the NCM. The OFPs of the various conventions and the accredited NGO comprise the remainder of the committee. Meeting a minimum of three times a year this group reviews implementation and issues concerning all conventions and recommends future actions for Antigua and Barbuda directly to the policy makers.

The organizational chart below demonstrates the communication links, information exchange and the availability of resources amongst government agencies and civil society. All resources within specific agencies are available for the implementation of activities related to the conventions. For example, as the operational focal point of the CCD, the Ministry of Agriculture has access to technical expertise and other resources available within the NCM. The Environmental Division performs the function of locating and making available the necessary resources required from within the NCM. If resources are not available locally, this is communicated to the Ministry of Foreign Affairs for appropriate action at the international level.

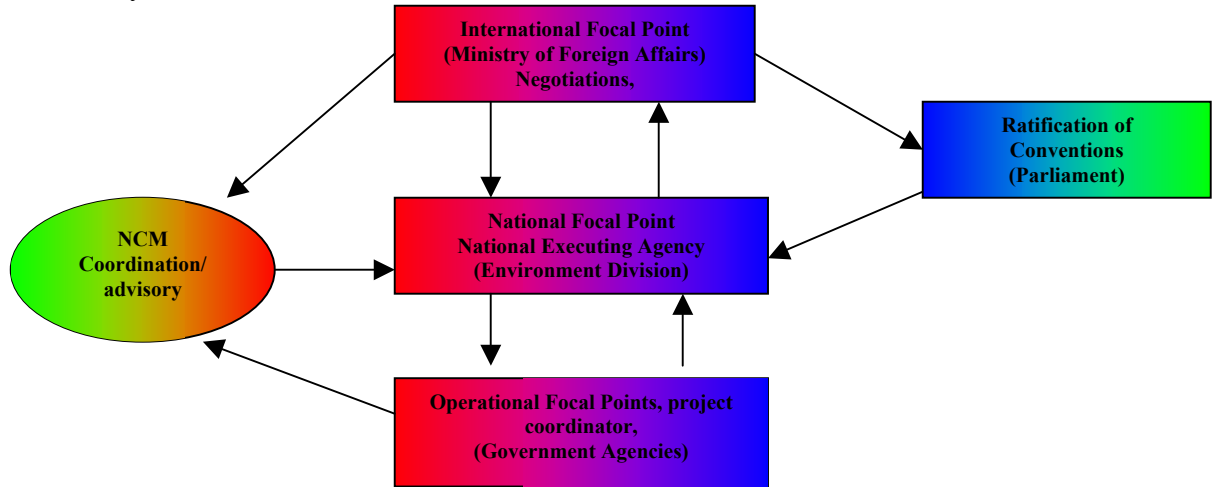
The National Coordinating Mechanism (NCM) has developed into a forum for the coordinated follow-up, at the national level, to all Environmental Conventions ratified by the Government of Antigua and Barbuda. The role of the NCM is to strengthening communication links between the relevant Ministries and Departments of Antigua and Barbuda directly involved with the implementation of the Conventions, and consists of a network of Government Agencies/ Divisions (see list above), National Focal Points, Competent Authorities, and NGO's working to together to facilitate a coordinated and timely response to Antigua and Barbuda's treaty obligations. The Ministry of Foreign Affairs, represented by Dr. John Ashe, chairs the NCM while the Environment Division is the secretariat.

The NCM has had excellent success in meeting its objectives. The members of the NCM have even extended the mandate of the NCM to perform functions such as project implementation oversight. To date this has included all GEF funded enabling activities including that for Biodiversity.



The implementation of MEAs in Antigua and Barbuda is dependant on the collaborative organization of the duties and responsibilities among the various government agencies. There is a three-pronged focal point system for all sustainable development and environment conventions.

***Focal Point System***



**Figure 1: Institutional Arrangements For Implementation of MEAs**

Source: National Coordinating Mechanism Seventh Meeting (2002) Implementation of Multilateral Environmental Agreements NCM 7

This strategy also facilitated information and technical sharing both as an implementation and cost-saving mechanism. Personnel with specialized training could therefore be utilized by other government agencies for the effective implementation of national activities thus reducing the need for additional expenditure.

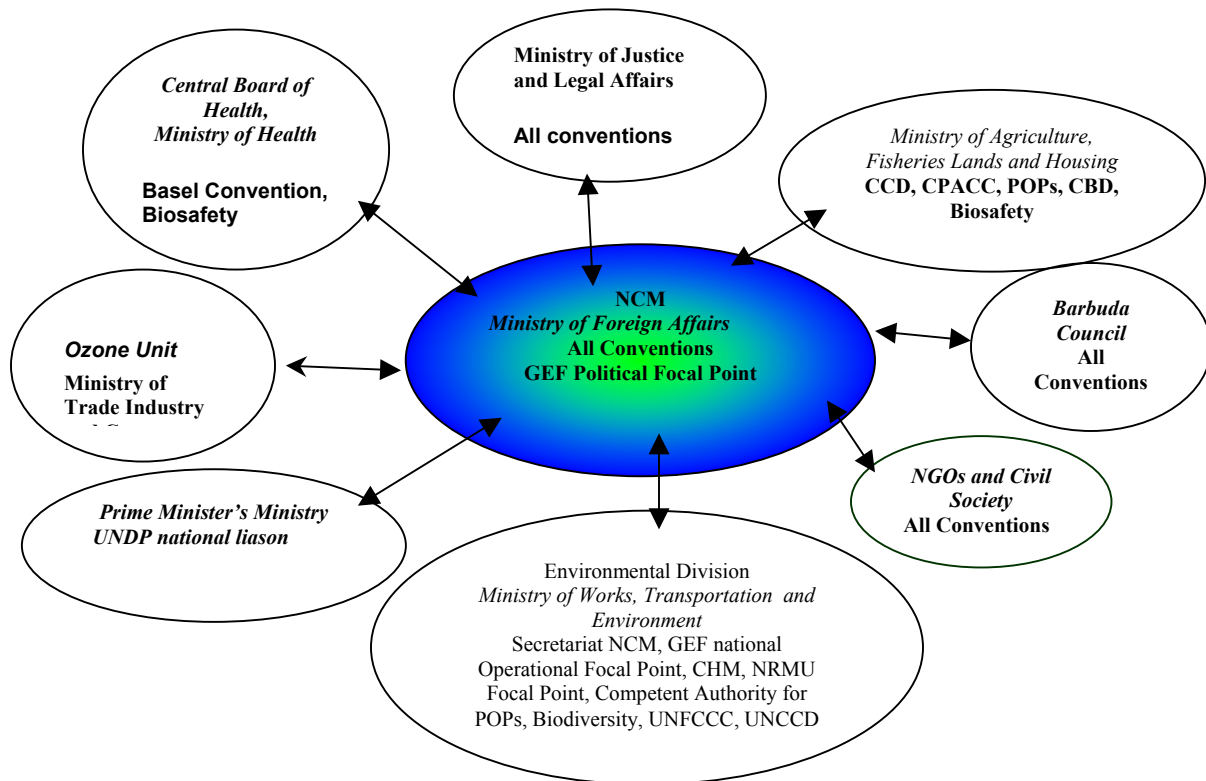
The Political Focal Point (PFP), the Ministry of Foreign Affairs, provides diplomatic expertise and knowledge of global affairs to the implementation process of all conventions. PFP is based in the New York Mission to the United Nations and is called the ambassador for Sustainable Development Matters. The PFP is the chair of the NCM and is required to travels to Antigua three times per year to facilitate this process.

The National Focal Point (NFP) which is in most cases is the Environment Division, is mandated to coordinate the implementation of all MEAs. The importance of this function lies in the ability of the NFP to not only set priorities for the implementation of each convention but also to identify opportunities for synergies within implementation objectives. The Environment Division is also charged with the management of projects being funded by international agencies particularly the GEF.

Finally, the Operational Focal Point (OFP) occasionally referred to as the competent or scientific authority is that agency with the specific duties of day-to-day implementation of an individual convention. The OFP of the UNCCD for example is the Soil and Water Conservation Unit, a sub-agency in the Ministry of Agriculture, Lands and Fisheries.

As seen in figure below, there are two other aspects to the Focal Point System at work in Antigua and Barbuda; the Parliament ratifies and sets all legislation governing implementation; and the National Coordinating Mechanism (NCM) is an official advisory committee, comprising of government agencies and non-governmental Organizations, to facilitate consensus building and awareness.

**NCM structure**



In addition to the participatory process outlined regarding the NCM, two of the strategies identified in the chapter addressing national strategies and policies both recognize and encourage public participation when addressing major issues. The environmental impact assessments as defined in the Physical Planning Act and the PSIP provide clear guidance for the parties to actively obtain comments from technical and general sources.

Environmental Impact Assessments by design, require the proponent of a development to consider the social and economic impacts of the development. In addition, the statute makes provision for the sharing of the results of the EIA in town hall and community meetings. At these events representatives of the Government, Private sector, scientific and technical community are required to make presentations to members of the general public for discussion and consideration. The results of these consultations are then published for further comments by the general public and are then incorporated into the final recommendations regarding the specific development.

## **Consultation with external agencies**

To date there has not been any consultation with external agencies regarding the implementation of the National Action Plan. This is due to the fact that the NAP has only recently been adopted by the Cabinet. However, it is expected that the concerns of the NAP will be addressed initially with the execution of the Sustainable Island Resources Management Mechanism Project (SIRMM). It should be noted however, that the NAP was developed with the support of the Global Mechanism (GM).

The SIRMM is a \$3M project which is being executed by the Government of Antigua and Barbuda with the assistance of the UNDP and the GEF. The SIRMM is based on two principles that relate to the issues of smallness. Firstly, realizing that many of the stakeholders who are actors in the implementation of the UNCCD, are also significant actors in the UNFCCC, UNCBD and other conventions, Small Island Developing States would more effectively implement the UNCCD and other MEAs utilizing a synergistic approach as it would rationalize the use of the limited human resources. Secondly, due to the mere smallness of Antigua and Barbuda, there is a significant and nearly indistinguishable overlap of issues relating to the various conventions. The complexity of island ecosystems does not allow for easy translation into a uniquely Climate Change activity as opposed to an initiative to address biodiversity or desertification.

As a SIDS, Antigua and Barbuda is also participating in the LDC and SIDS Targeted Portfolio Approach for Capacity Development and Mainstreaming of Sustainable Land Management project. Due to the previously discussed SIRMM, Antigua and Barbuda has limited action with regards to this project. As a result, actions relating to this project in Antigua and Barbuda will all be centered on sub-regional level activities, particularly in relation to exchange of information and experiences about combating desertification.

## **Measures taken or planned within the framework of the NAP**

The National Action Plan is based on successful implementation of the following activities:

- Public awareness
- Drought management
- Land use management
- Institutional capacity building

As the plan was adopted by the Cabinet of Antigua and Barbuda in May 2006, this report will only be able to discuss the planned measures identified for each of these activities.

### Public Awareness

Recognising that considerable public awareness has been undertaken with regards to the UNCCD in Antigua and Barbuda, it has been determined that a more comprehensive education strategy be developed and executed to assist the public to integrate combating the negative impacts of desertification and drought in Antigua and Barbuda. One of the key actions that was identified in the NAP to support this process was for the development of curriculum components to be developed for the schools. Other actions will include more specialized information and education programmes to be presented to the general public and specialized target groups.

### Drought Management

Antigua and Barbuda is one of the more drought prone countries in the Caribbean and as a pointed out in the First National Report, there has been a long existing practice and legal requirement for all buildings to have independent water catchment systems regardless of being connected to the national potable water supply grid. Additionally, although Antigua and Barbuda has invested in desalination plants to reduce the impact of droughts on livelihoods, the impact of droughts on the certain sectors and the increased vulnerability to land slippage during tropical storms as a result of drought induced instability, the NAP identifies two important initiatives which need to be developed and employed in Antigua and Barbuda. These are the establishment of a drought alert system and a drought management council.

### Land Use Management

Under this heading, the NAP identifies some key areas that require considerable actions for improvement and development to combat desertification. Firstly would be the upgrading and better coordination of the policies and institutions responsible for land management in Antigua and Barbuda. A key aspect of this would be to develop a land management plan which would guide the development and activity under three categories, Watershed management, Pasture and range management and Coastal management. An important and necessary implication of these categories will be the effective creation zones for approved categories of land usage.

### Institutional Capacity Building

In addition to the recommendation for a development of a Drought Management Council, the issues of capacity building as addressed in the NAP also focuses on the issue of data. One of the most telling details of this analysis was the fact that the wealth and quality of information regarding meteorological data has deteriorated below 1960 levels. Although, this is due economic reasons as with the closure of the sugar cane (and hence estates) there was no longer a pressing need to be painstakingly aware of the weather. The NAP also raised concerns of the inadequacy of existing hydrological data to provide the

necessary policy directives for human activity and development. Geographical Information Systems (GIS) was also recognized as an important tool for making considerable strides in capacity building. Besides the need for the technology to be available to stakeholders, the NAP also recognized that there needs to be the establishment of an integrated communications system which allows all stakeholders access to the same high quality baseline data. Finally, the NAP addresses the need for more effective legislation to be developed to support actions under the framework of the UNCCD.

## Financial allocations to support the implementation of the NAP

As identified in the initial national report, the financial mechanisms operating in Antigua and Barbuda mirror the general mandates of the various ministries and divisions. As a result there is no specified budgetary item line for desertification. However base on the commitments made to the UN CCD a considerable estimate can be extrapolated from budget estimates. Table 2 identifies the ministries and agencies which have budget items which facilitate in the combating desertification process.

<b>Ministry/ Division</b>	<b>Budget Subhead Activity</b>	<b>Budget Estimate 2006 (ECS)</b>
<b><i>Ministry of Agriculture, Land and Fisheries</i></b>		
Agriculture Division	➤ Conservation Management	169,382
	➤ Research and Development	2,534,727
	➤ Forestry Inventory Management	221,333
Fisheries Division	➤ Coastal Biodiversity Management	166,276
	➤ Statistical Data Collection and Analysis	144,836
Lands Division	➤ Lands Administration	467,209
<b><i>Ministry of Tourism, and Civil Aviation</i></b>		
Meteorological Division	➤ Meteorological Services	1,891,795
	➤ Public Awareness and Information	287,610
<b><i>Ministry of Public Works, Transportation and the Environment</i></b>		
Development Control Authority	➤ Building Regulations Enforcement	503,931
	➤ GIS & Planning	169,013
Environment Division	➤ Coastal Zone Management	103,566
	➤ Environmental Legislation & Monitoring	753,436
	➤ Public Awareness	173,886
	➤ Statistical Data Collection and Analysis	90,739
<b>TOTAL</b>		<b>7,175,242</b>

Table 2: 2006 Budget allocation for desertification related activities.

Source: 2006 Antigua and Barbuda Recurrent and Development Estimates (2006) Ministry of Finance

The caution expressed in the initial communication must be reiterated for consideration of the information provided in table 2. These figures are not only operational costs, they are reflective of all aspects involved in the implementation of desertification related activities. It must be noted however that a sizable portion of the total is allocated to salaries.

## **Review of Benchmarks and Indicators**

In the Second National Report to the UNCCD, the discussion of the work in the development of benchmarks and indicators was primarily focused on the development of appropriate indicators for drought. Additionally, there was mention of the research on inland and coastal erosion as well as land slides which were all done under a joint USAID and OAS funded sub-regional project. One important aspect of this project was the introduction of GIS as a monitoring and management tool. Since that time there have been attempts to provide the necessary training and basic infrastructure to integrate GIS into the operation of the various agencies which have responsibilities in addressing issues of desertification and drought.

As pointed out in the NAP, “There is a significant capability for using GIS technology residing in the various agencies that may have responsibilities for managing land degradation. However, the systems are not integrated ... The effective management of land degradation will require a more fully integrated and functional GIS capability within the major agencies with responsibility for land degradation.”

Already a few agencies have fully integrated GIS into their operations, these include the Surveys Department, the Antigua Public Utilities Authority, the Land Registry, and the Inland Revenue. Except for the APUA, the use of the GIS databases that exist are limited mainly for issues of and related to land tenure. The APUA in addition uses their GIS as a planning and monitoring system for the provision and distribution of essential services, specifically water, electricity and telephones.

As stated, in the NAP, GIS is underutilized in Antigua and Barbuda and would be the most effective support system for combating desertification.

## UNCCD Country Profile

### ANTIGUA AND BARBUDA

This UNCCD profile has been provided by:

Name of focal point institution/ministry/office: Environment Division, Ministry of Works, Transportation and the Environment

Date:

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Factory Road  
St. John's  
ANTIGUA AND BARBUDA

Telephone: (268)562-2568

Fax: (268) 462-4625

Email: [mail@environmentdivision.info](mailto:mail@environmentdivision.info)

#### Biophysical indicators relating desertification and drought

##### 1. Climate

1.1 Index of aridity	<u>1.01-0.61</u>
1.2 Normal rainfall	<u>1050mm</u>
1.3 Rainfall standard deviation	4 (approx 1956-2005)

Sub-national areas	Mm
1.Barbuda	750-900mm
2.	
3.	

##### 2. Vegetation and land use

2.1 NDVI (normalized difference vegetation index)	
2.2 Vegetation cover (% of total land area)	<u>68%</u>
2.3 Land use (percentage land use)	

Land use	1990-1999	2000-2003
Arable crop land		7740+ <sup>1</sup>
	Irrigated	
	Rainfed	
Pasture		13482+
Forest and woodland		29924
Other land		

<sup>1</sup> The data listed with '+' means that it is only reporting on Antigua. A complete national dataset is unavailable.

- 2.4 Surface albedo
- 3. Water Resources
  - 3.1 Fresh water availability (million m3) 6.2
  - 3.2 Fresh water resources per capita (m3)
  - 3.3 Agricultural water use (million m3) 0.2
  - 3.4 Industrial water use
- 4. Energy use
  - Consumption
    - 4.1 Energy use per capita (kg oil equivalent)
    - 4.2 Agricultural energy use per hectare (millions of BTU)
  - Production
    - 4.3 Energy from renewables excluding combustible renewables and wastes (% of total supply)
  - Renewables – consumption by sector
    - 4.4 Industry (% of total renewable consumption)
    - 4.5 Residential (% of total renewable consumption)
    - 4.6 Agriculture (% of total renewable consumption)
- 5. Types of degraded land

Type of degradation	1990-1999		2000-2003	
	Million ha	Percent of total area	Million ha	Percent of total area

6. Rehabilitation

Lands under rehabilitation	1990-1999	2000-2003
Rehabilitation of degraded crop land (km2)		
Rehabilitation of degraded range land (km2)		
Rehabilitation of degraded forest (km2)		



## Socio-economic indicators related to drought

### 7. People and the economy

7.1.	Population	78,571
	7.1.1. Population urban (percent of total)	32%
	7.1.2. Population rural (percent of total)	68%
7.2.	Population growth (annual %)	0.55%
7.3.	Life expectancy (years)	72.16
7.4.	Infant mortality rate (per 1000 live births)	18.86
7.5.	GDP (current US \$)	750 million
7.6.	GNI per capita (current US\$)	11,000
7.7.	National poverty rate (% of population)	NA
7.8.	Crop production (metric tons)	
7.9.	Livestock production (metric tons)	

### 8. Human development

8.1.	Primary education completion rate (% age group)	100 (11 years)
8.2.	Number of women in rural development (total number)	NA
8.3.	Unemployment (% of total)	
8.4.	Youth employment (age 15-24)	
8.5.	Illiteracy total (% age 15 and above)	
8.6.	Illiteracy male (% age 15 and above)	
8.7.	Illiteracy female (% age 15 and above)	

### 9. Science and technology

9.1	Number of scientific institutions engaged in desertification-related work (total number)	NA
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### 10. Data sources

Statistical Division (2004) 2001 Census of Population and Housing, Summary Social, Economic, Demographic and Housing Characteristics Vol. 1 Antigua and Barbuda Summary Ministry of Finance and Economy St. John's

Government of Antigua and Barbuda (2006) National Action Plan

The Office of Meteorological Services

Ministry of Finance (2006) 2006 Antigua and Barbuda Recurrent and Development Estimates