



Barbados Program of Action (BPOA)

**National Assessment Report for the Ten Year Review of the
Barbados Programme of Action**

**Antigua and Barbuda
2004**

The preparation of Antigua and Barbuda's National Assessment Report for the Ten year Review of the Barbados Programme of Action was undertaken by the Environment Division of The Ministry of Agriculture, Land, Marine Resources, Environment and Food Production with financial support from the offices of UNDP-Barbados.

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1.0 Executive Summary

Genesis of the Barbados Programme of Action (BPOA) was achieved in 1994 at the first Global Conference on the Sustainable Development of SIDS, convened in Barbados. The BPOA set forth specific actions and measures to be taken at the national, regional and international levels in support of the sustainable development of Small Island Developing States (SIDS). The BPOA was formulated as a blue print for action on sustainable development that should be undertaken by SIDS with the cooperation and assistance of the international community.

The World Summit on Sustainable Development (WSSD) in 2002 reaffirmed the special case of SIDS and highlighted a series of SIDS-specific issues and concerns in the Johannesburg Plan of Action,¹ adopted by the Summit. In a follow-up to WSSD, the United Nations General Assembly (UNGA) adopted Resolution (A/57/262), which, among other things, called for a comprehensive review of the BPOA at an international meeting, to be held in Mauritius in 2004², some ten years after its adoption.

In an effort to present a consolidated position several regional SIDS meetings have been organised to review the progress made at the national level in the implementation of SIDS plans of action. This review will take into account the addition, in 1994, of critical socio economic issues to the core environmental issues adopted in the POA.

This report details the progress made by Antigua and Barbuda on the respective national actions related to the 15 priority areas identified in the BPOA³.

Priority Areas

In this review, it has been deemed necessary to increase the scope of the priority issues to include particular emphasis on the four main cross-sectoral issues (trade, investment, capacity building and cooperation) that have been endorsed by the Alliance of Small Island States (AOSIS) at its plenary in January 2003. As a Small Island Developing State, it is imperative that the existing limitations as a country with an economy in transition be included in any developmental assessment or policy of Antigua and Barbuda.

Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) was ratified on February 2, 1993 and entered into force on March 21, 1994. The Kyoto Protocol to the UNFCCC was signed on December 11, 1997 and ratified on October 28, 1998.

In April 2001 the National Mitigation Assessment was completed and published as part of the first national report. This document focused primarily on Climate change and Energy production (energy production was responsible for 90% of the national GHG emissions).

The Green House Gas Emission Inventory was undertaken and identified sector wise distribution of emissions. In the furtherance of this activity, national training workshops and sensitisation seminars were conducted in the second quarter of 2003 to develop the capacity in a number of

¹ UN Economic and Social Council, "Report of World Summit on Sustainable Development. (A/CONF.199/20) p. 41-43.

² UNGA, "Further implementation of the Programme of Action for the Sustainable Development of Small Island Developing States", A/57/262. December 22, 2002.

³ The BPOA is a blue print for action on sustainable development in the following 15 priority areas: 1. Climate Change and Sea Level Rise; 2. Natural and Environmental Disasters; 3. Management of Wastes; 4. Coastal and Marine Resources; 5. Freshwater Resources; 6. Land Resources; 7. Energy Resources; 8. Tourism Resources; 9. Biodiversity Resources; 10. National Institutions and Administrative Capacity; 11. Regional Institutions and Technical Cooperation; 12. Transport and Communication; 13. Science and Technology; 14. Human Resource Development and, 15. Implementation, Monitoring and Review. See United Nations General Assembly, "Report of the Global Conference on the Sustainable Development of Small Island Developing States", Barbados, 25 April-6 May 1994, (A/Conf.167/9), October 1994, p. 5-6. Available on the internet at <http://www.un.org/documents/ga/conf167/aconf167-9.html>

agencies toward the development of an annual GHG Inventory. Antigua and Barbuda has elaborated its Initial National Communications on Climate change.

National actions were hindered by the limitations of institutional capacity, finance, human resources and the sheer difficulty of prioritising climate change issues in the context of the myriad of pressing socio economic concerns.

Natural and Environmental Disasters

The collective phenomena termed natural disasters have proven to be one of the primary obstacles to national development. Hurricanes, earthquakes and droughts are the common causal factors which effectively result in significant social, economic and environmental damage to Antigua and Barbuda.

For the period 1990 to 2000, nine tropical storms (8 of hurricane intensity) were recorded as affecting the nation. These episodes have caused millions of dollars in damage to all social and economic sectors.

The location of the islands along the convergent zone of the Caribbean and Atlantic tectonic plates has resulted in significant seismic activity being recorded. It should be noted that during the height of volcanic activity in the nearby British dependent of Montserrat, seismic tremors could be felt 40 miles away in Antigua from several of the eruptions. The ash-fallout from the volcanic eruptions has affected the local Antiguan population through social discomfort and economic loss.

As a natural disaster, severe droughts occur in Antigua and Barbuda with a periodicity of approximately 20 years. However, this does not preclude the occurrence of slight to moderate droughts, which have a more erratic (though decidedly more frequent) periodicity.

The establishment of the National Office of Disaster Services as the mandated agency responsible for natural disasters was effected as a means of coordinating the national actions related to this priority area.

Management of Wastes

Coordination of national actions was planned through the formation of the National Solid Waste Management Authority. Considerable progress was also effected by establishing a sanitary landfill, developing waste receptacles at the expanded Port facility, introducing a fee recovery structure, and drafting of new environmental and waste management act regulations and standards.

The national solid waste management strategy is in need of further strengthening to develop and implement fiscal and policy incentives to encourage environmentally sustainable imports and local products.

Coastal and Marine Resources

With the tourism and fisheries industries in conjunction with marine based recreation activities contributing over 70% of the national GDP, the importance of the coastal and marine resources is well recognised. National policies and collaborative institutional activities serve to coordinate management of the coastal zone.

The national limitations in meeting the agreed actions are a direct result of the problems encountered with enforcement of national strategies. Currently measures are being undertaken to provide the necessary framework for effective implementation of the management strategies.

Freshwater Resources

Antigua and Barbuda has diligently pursued the national action policies and measures agreed to in the BPOA. Various mechanisms and modalities have been identified and implemented to effectively manage the local fresh water resources.

Sustainability of the municipal fresh water supplies was recognised as a priority from as early as 1768 when severe drought was experienced throughout the islands. The droughts of the early seventies and eighties caused government to invest into desalination plants to supplement the freshwater supplied by surface catchments and wells. However, the present system of relying primarily on desalinated water has proven a very expensive undertaking hence preliminary analysis of alternative technologies is underway.

Water security for the agricultural sector has been achieved for the most part through the promulgation of water saving practices and the development of ponds and dams at various agriculture intensive areas. Further effort is still required for the national actions pertaining to the establishment of an integrated watershed management system, sewage disposal and the design and use of forecasting models for water management.

Land Resources

National land management issues have traditionally focussed on unsustainable horticultural practices, poor watershed management, uncontrolled livestock grazing and soil and sand mining. Recent investigations and stakeholder analyses specifically reveal that national priorities are inclusive of destruction of natural coastal subsystems to facilitate construction, poor positioning of structures along the coast, degradation of land/vegetation and erosion, depletion of fish stocks due to over fishing and destruction of terrestrial fish habitats, pollution due to improper disposal of garbage sewage, industrial effluent and agricultural chemicals, residential encroachment onto agricultural land and uncontrolled development

The inability/limited ability to transcend from the design phase to the implementation phase has undermined the success of relevant agencies to execute the specific national action and policies agreed to in BPOA relating to land resources. Noteworthy efforts are the development of sectoral plans, compilation of land use information in databases and development of physical development legislation.

Energy Resources

Antigua and Barbuda has done very little work in the area of implementation of the national actions on Energy. The country still remains heavily dependent on imported petroleum products mainly for transport and electricity generation. Very little work has been done to increase the efficiency in fuel use through promotion of appropriate technology and national energy policies. Except for the high cost of fuel and electricity locally, which provides an incentive for efficient use, not much else has been accomplished.

Tourism Resources

As tourism is a major contributor to Antigua and Barbuda's economy, the Government has put measures in place to ensure that its development and environmental management are mutually supportive. A significant degree of progress has been made on all actions agreed to under the BPOA. The high level of success is a direct result of Government adoption of integrated planning and policies to ensure sustainable tourism development.

Biodiversity Resources

With the signing of the Convention on Biological Diversity, the Convention of International Trade in Endangered Species of Wild Fauna and Flora and the Specially Protected Areas and Wetlands Protocol, the Government of Antigua and Barbuda has effectively implemented integrated strategies for the conservation and sustainable use of local biodiversity.

National Institutions and Administrative Capacity

Antigua and Barbuda has strengthened institutional arrangements and administrative capacity in order to integrate environment and economic policy into national planning. Implementation strategies and schedules inclusive of financing mechanisms have been developed.

National efforts have also incorporated the establishment of national information nodes on sustainable development to encourage the development of the information network SIDSNET, and to facilitate the exchange of experiences among SIDS.

Regional Institutions and Technical Cooperation

Antigua and Barbuda has supported regional organisations through both membership and budgetary contributions. The Government has encouraged improved co-ordination and collaboration among regional bodies and between the international community and regional programmes.

In efforts to encourage co-ordination and collaboration among regional bodies, the Government has obtained membership in OECS and contributes to OECS/NRMU and CCA. It also participates in OAS-sponsored regional projects for protection of natural resources. Co-ordination between the international community and regional programmes has been facilitated through collaboration with UNEP and IMO.

Further national actions have resulted in the development of a management strategy specifically geared towards environment and sustainable development to integrate all development policies, plans and strategies in operation within Antigua and Barbuda as well as to synergize the various conventions.

Transport and Communication

Antigua and Barbuda is well developed, in terms of infrastructure including transportation and communication. Road networks, telephone, radio, television, internet coverage approach developed countries standard. Much of the transportation challenges are regional challenges especially air and sea transport. This has posed challenges to the establishment of a regional market.

Science and Technology

Although this is one of the weaker areas, the Government has attempted to ensure that science and technology policy is closely linked to national environmental strategies and sustainable development plans, emphasising elements such as self-sufficiency and research and development training for science and technology. The development and use of information and communication technology to overcome size and isolation problems have also been emphasised. Some level of research and development in agricultural processing has also been promoted. The Government has developed or ensured access to databases on environmentally-sound technologies of local relevance.

Human Resource Development

Human Resource Development is one of the strong areas of work and accomplishment by Antigua and Barbuda. With a per capita income of over US\$10,000, free education and health services, fundamental needs of human development have been met. Housing, access to water, electricity and sewage disposal are available to all nationals. The overall success of the human resources development initiative has translated into great strides being made towards national achievement of the millennium development goals.

Implementation, Monitoring and Review

Implementation, monitoring and review of the national environmental component programmes and actions have been established through institutional strengthening inter-agency and restructuring to facilitate partnerships with all stakeholders.

Emerging Concerns and Special Needs

Through the review process it was identified that the implementation of the BPOA was generally hindered by inadequate financial and skilled human resources, lack of scientific support from the educational and research institutes, poor facilities, equipment and limitations of technology transfer.

Trade and investment related concerns are focused on improving the level of participation in the international trade by the identification of mechanisms to exploit foreign direct investment, increasing the relative role of the services sector in the national economy, and the development and strengthening of national initiatives and economic reform policies. Further concerns include the existences of unilateral foreign policies which effectively undermine the emerging financial sector.

A summarisation of the other areas warranting special attention:

1. Small size, rapidly growing population and great dependence on limited natural resources underlies the need for more frequent and pertinent environmental assessments with Antigua and Barbuda.
2. At the policy level, the assessment needs have to be better incorporated in the relevant social, economic and environmental plans and policies.
3. Capacity building of the present institutional arrangements will have to be undertaken to efficiently maximize the benefits entrenched in sustainable development initiatives.
4. The current level of information exchange and dialogue between the public and private sectors will have to be strengthened to ensure the views and suggestions of all stakeholders are ingrained into national policies.
5. The national capacity to address issues related to emerging technologies and their applications will have to be addressed. Given the emerging concerns of biotechnology and genetically modified organisms, for example, adequate mechanism will have to be identified and implemented to circumvent possible negative implications.
6. National sensitivity to trade liberalisation and the impacts of globalization would suggest that more detailed analysis of the influence these changes would have on the nation of Antigua and Barbuda.
7. The degree of progress with the Millennium Development Goals within Antigua and Barbuda suggests that improvements will have to be identified at the policy level and the data collection level.

2.0 Introduction

Antigua and Barbuda is an archipelagic state situated in the Eastern Caribbean and comprising of two principal islands and a number of smaller islets (Figure 1.). Antigua, the larger of the two, is 108 sq. miles (280 sq. km.) and is located 17° 10'N by 61° 55'W; and Barbuda which is situated some 28 miles north of Antigua at 17° 35'N by 61° 48'W is 62 sq. miles (160 sq. km.)



Figure 1. Map of Antigua and Barbuda with Insert of the Eastern Caribbean showing Geographic Location

Unlike Barbuda, which is predominantly made of lime stone flats (Figure 2b), the topography of Antigua comprises of three distinct geological zones (Fig 2a); a mountainous region of volcanic soils in the south west, central planes of clay stretching to the south east and limestone hills in the north.

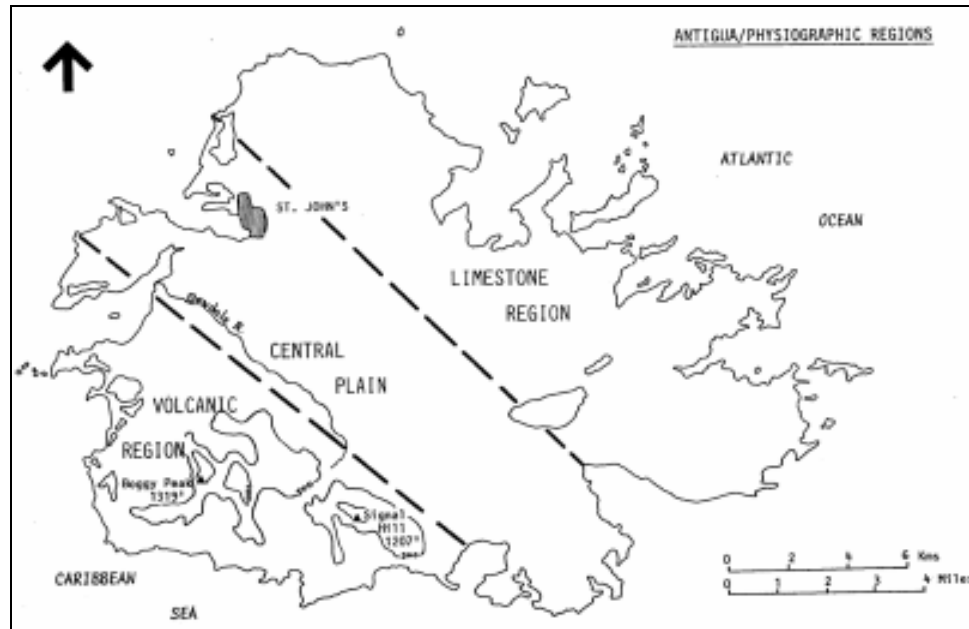


Fig. 2a. Topographic zones of Antigua

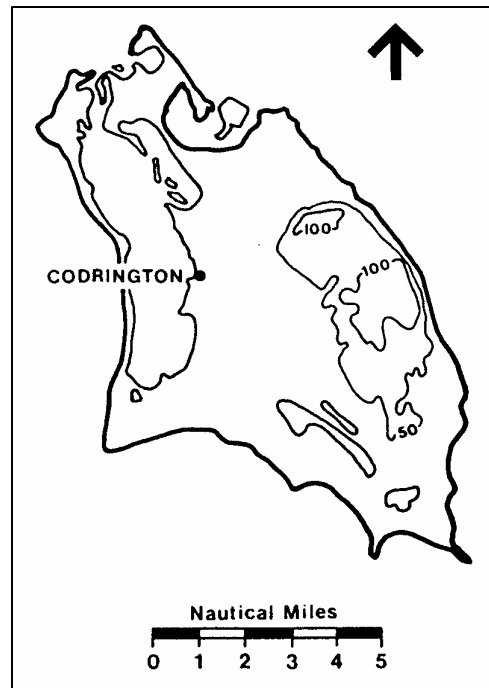


Figure 2b. Topographic zones of Barbuda

Antigua and Barbuda is categorized as having a tropical maritime climate. Due to its geographic location, Antigua and Barbuda experiences little variation in daily and seasonal temperatures. The average monthly minimum temperatures range 22.4°C in February to 25.4°C in August, while the average monthly maximum temperatures range from 27.9°C in February to 30.5°C to 30.5°C in September. Relative Humidity averages range from lows of 72% - 78% in mid afternoon to early morning highs of 81% to 85%. The drier conditions and lower temperatures

are experienced during the months of January to April. The average annual rainfall for Antigua is recorded at 1050mm (40ins), however due to the propensity of the islands to experience droughts and tropical storms, the rainfall can range from 667 mm to 1708 mm (25-65 inches respectively). Barbuda on the other hand experiences a significantly reduced amount of precipitation ranging from 750 mm to 9000 mm (30-35 inches).

In the 2001 national census it was determined that Antigua has a population of 73,661 people, while Barbuda is home to some 1,417 contributing to an overall population of 75,078. Population density figure for Antigua and Barbuda indicates a national average of 442 persons per sq. mile (172 persons per sq. km.). Antigua alone has a population density of 682 persons per sq. mile (263 persons per sq km.) where as Barbuda has density of 23 persons per sq. mile (9 people per sq. km.). It should be noted, however, that the majority of the population in Barbuda resides in a small village leaving a large portion of the land in fallow. The total population growth between the last two censuses, 2001 and 1991 is recorded at approximately 18%. Figures indicate that in 1991 with a total population of approximately 64,000, the annual rate of growth was -0.5%. Presently, the annual rate of population growth is recorded (as of last census) at 2.4%.

Table 1. Selected Population Demographics by Parish

PARISH	ESTIMATED POPULATION ⁴			HOUSEHOLDS			HOUSEHOLD SIZE		
	1991	2001	%	1991	2001	%	1991	2001	%
St. John's City	23,139	23,701	2.43	7,532	7,889	4.74	3.1	3	-3.23
St. John's Rural	14,862	21,189	42.57	4,477	6,861	53.25	3.3	3.1	-6.06
St. George	4,670	6,447	38.05	1,458	2,223	52.47	3.2	2.9	-9.38
St. Peter	3,791	4,817	27.06	1,077	1,472	36.68	3.5	3.3	-5.71
St. Phillip	3,216	3,293	2.39	924	989	7.03	3.5	3.3	-5.71
St. Paul	6,496	7,779	19.75	1,929	2,503	29.76	3.4	3.1	-8.82
St Mary	5,700	6,435	12.89	1,712	2,069	20.85	3.3	3.1	-6.06
Barbuda	1,314	1,417	7.84	392	456	16.33	3.4	3.1	-8.82
TOTAL	63,880	75,078	17.53	19,501	24,462	25.44	3.2	3.1	-3.13

As can be seen in Table 1 above, there has been a significant increase in population growth and number of households through Antigua and Barbuda. The resultant high density districts effectively cause particular strain to be placed on land resources as residential areas are expanding in a disorganized manner and competing with other sectors. This increase also places significant pressure on the provision of utilities and other services to meet the requirement of the growing population.

Antigua and Barbuda has a Per Capita Income of over US\$7000. The economy evolved from a mono cultural sugar production to a tourism- based service economy. Today, Tourism produces directly and indirectly, over 60% of the GDP. Manufacturing and agricultural production individually contribute less than 5% GDP. Unemployment is estimated at below 10%; Antigua and Barbuda is part of a monetary union that included all the islands in the Leeward Chain. This arrangement has resulted in a stable currency which has been fixed at \$2.70 exchange rate to US\$1.00 for over 20 years. Antigua and Barbuda is ranked among the top fifty countries in the world based on UNDP human development index, reflecting high standards in health, education and economic profiles. The country is a former British Colony and gained its full independence in 1984.

3.0 National Progress Made on Implementation of the BPOA

To facilitate quick and easy comparisons and consolidation of the information with other SIDS, each national action by Priority Area will be reported categorically.

3.1 Climate Change and Sea Level Rise

The United Nations Framework Convention on Climate Change (UNFCCC) was ratified on February 2, 1993 and entered into force on March 21, 1994. The Kyoto Protocol to the UNFCCC was signed on December 11, 1997 and ratified on October 28, 1998 (Table2).

Table 2. Climate-change specific instruments enforced by Antigua and Barbuda

Instrument & Title	Place & Date of Signature	Ratification	Date of Application
Vienna Convention for the Protection of the Ozone Layer	December 3, 1992	December 3, 1992 (accession)	
Montreal Protocol on Substances that Deplete the Ozone Layer	September 16, 1987	March 12, 1992 (accession)	March 3, 1993
Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	June 29, 1990	February 23, 1993 (accession)	

In April 2001 the National Mitigation Assessment was completed and published as part of the first national report. This document focused primarily on climate change and energy production (energy production was responsible for 90% of the national GHG emissions).

The Green House Gas Emission Inventory was undertaken and identified sector wise distribution of emissions. Antigua and Barbuda has never approached its global restriction in terms of the production of Ozone Depleting Substances (ODS) or green house gases. However, Antigua and Barbuda (through the private enterprise Westrading) is one of the primary importers and suppliers for the Caribbean region. From as early as 1996, Antigua and Barbuda could account for its total national consumption of ODS. In 1999, a national freeze on the importation of CFCs was instituted. The present phase out programme plans for present consumption levels to be reduced to 50% in 2005; then 85% in 2007; and total phase out of CFCs by 2010. The freeze on methyl bromide is scheduled to commence 2002 while that for HCFCs is set for 2016 and a total phase out in 2040. Antigua and Barbuda has subsequently elaborated its Initial National Communications on Climate Change.

In the furtherance of national activities, in July 2001, Antigua and Barbuda held its National Train-the Trainers Workshop for Customs Officers and other stakeholders. All customs officers are now trained in the detection and handling of ozone depleting substance. Subsequently a national training workshop was conducted in the second quarter of 2003 to develop the capacity in a number of agencies toward the development of an annual GHG Inventory. Antigua and Barbuda has prepared a Country Handbook on National Regulations and Import/Export Licensing System for the Phasing Out of Ozone Depleting Substances.

The Antigua and Barbuda Hazard Vulnerability Assessment Project (see section 3.2) pointed out that the potential threat of extreme weather events such as sea level rise and storm surges would be exacerbated by the effects climate change.

Little progress was made on national actions related to the formation of adjustment and mitigation policies in the context of integrated coastal area management through limited institutional capacity, finance, inadequate human resources and the sheer difficulty of commanding national attention and high priority in government programming in the context of the myriad of pressing socio economic issues.

3.2 Natural and Environmental Disasters

One of the primary obstacles to development in Antigua and Barbuda is that of natural disasters; hurricanes, earthquakes and droughts are the common natural phenomena, which cause significant social, economic and environmental damage on the nation.

Frequented by tropical storm and drought episodes, Antigua and Barbuda (as well as St. Kitts and Nevis) through the assistance of the Organisation of American States (OAS) and the United States Agency for International Development (USAID), sought to assess and reduce the national vulnerability to natural disasters. Of particular importance in the development of this plan was identification of the development of scales of impact of natural hazards on physical, social and economic structures. This plan has also provided response and preparation plans for floods, erosion, drought, landslides and hurricanes as a whole.

3.2.1 Hurricanes

Antigua and Barbuda (and the wider Caribbean) generally experiences these tropical storms from the month of June to November. Over the last decade, Antigua and Barbuda has endured a number of violent storms (Table 3). These episodes have caused millions of dollars in damage to all social and economic sectors. Hurricanes have destroyed over 5% of GDP over this period. Economic Recovery has been rapid and normalcy quickly returned to the population's lives.

Table 3. Tropical Storms affecting Antigua and Barbuda for the period 1990 to 2000

NAME	DATE	YEAR	TYPE
KLAUS	Oct 03 rd – 09 th	1990	Hurricane Category 1
LUIS	Aug 27 th – Sept 11 th	1995	Hurricane Category 4
MARILYN	Sept 12 th – 22 nd	1995	Hurricane Category 1
IRIS	Aug 22 nd – Sept 4 th	1995	Tropical Storm
BERTHA	Aug 23 rd – Sept 8 th		Hurricane Category 1
GEORGES	Sept 15 th – 29 th	1998	Hurricane
JOSE	Pct 17 th – 25 th	1999	Hurricane Category 2
LENNY	Nov 13 th – 22 nd	1999	Hurricane
DEBBY	Aug 19 th – 24 th	2000	Hurricane

3.2.2 Earthquakes/Tectonic Activity

Although Antigua and Barbuda has not experienced a major tremor since 1974, the location of the islands along the convergent zone of the Caribbean and Atlantic tectonic plates has resulted in significant seismic activity being recorded. It should be noted that during the height of

volcanic activity in the nearby British dependent of Montserrat, tremors could be felt 40 miles away in Antigua from several of the eruptions. It should also be noted that eruptions in Montserrat also produce towering ash clouds, covering all possible areas in nearby islands like Antigua and St. Kitts causing social discomfort and economic loss. In the most recent episode July 12/13, 2003, a large ash cloud caused the temporary closure of local airports as well as those of nearby US Virgins Islands and as far away as Puerto Rico.

3.2.3 Droughts

Severe droughts occur in Antigua and Barbuda with a periodicity of approximately 20 years. However, this does not preclude the occurrence of slight to moderate droughts, which have a more erratic (though decidedly more frequent) periodicity.

3.2.4 Other Phenomenon

The majority of the remaining natural disasters, which affect Antigua and Barbuda can (under normal circumstances) be linked to one or a combination of the primary disasters previously identified. In 1999, Hurricane Lenny caused a record number of landslides over a two day period. During the most recent drought episode (2003), Antigua and Barbuda experienced some 70 wildfires from January to April 2003.

Antigua and Barbuda has a dedicated Ministry and institution responsible for natural disasters. This institution and its disaster plans and recovery programmes have been severely tested over the past ten years.

Antigua and Barbuda made considerable progress in the national actions relating to strengthening national and regional institutional mechanisms, improvement of access to technology and information sharing for pre-disaster planning. Much work remains to be done on national actions proposing the establishment of a national disaster emergency fund with joint private and public support for areas where insurance is not available in the commercial market.

3.3 Management of Wastes

Antigua and Barbuda made considerable strides in implementing the national actions proposed for waste management.

The Government further strengthened its waste management capacity by the formation of the National Solid Waste Management Authority, a Sanitary Landfill, development of waste receptacles at the expanded port facility especially for Cruise Ships, introduced a fee recovery structure, and drafting of new environmental and waste management act regulations and standards.

The recent implementation of the environmental levy serves to meet the obligations inferred by the national action which proposed development of fiscal and policy incentives and other measures to encourage environmentally sustainable imports and local products with low waste or degradable waste content.

3.4 Coastal and Marine Resources

Table 4. illustrates the date of ratification/signature of the UN convention on the Law of the Sea and other related agreements.

Table 4. Conventions related to the management of Coastal Resources

Instrument & Title	Date of Signature	Ratification	Date of Application
United Nations Convention on the Law of the Sea	November 16, 1994		
Convention On the Prevention of Marine Pollution by Dumping of Wastes and Other Matter	February 5, 1989 (Entered into Force)		
MARPOL Convention (i.e. International Convention for the Prevention of Pollution from Ships Basel Convention (i.e. Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal)	April 29, 1988 (Entered into Force) March 22, 1989	April 5, 1993 (Accession)	April 7, 1993
Convention on Biological Diversity	June 5, 1992	March 9, 1993	December 29, 1993
Cartagena Protocol on Biosafety on the CBD	January 29, 2000	September 11, 2003	
Stockholm Convention on Persistent Organic Pollutants	(May 23, 2001)	September 11, 2003	

The Coastal and Marine Resources are of critical importance to the survival of Antigua and Barbuda. Tourism which is based on the coast, fishing and marine based recreational activities together contribute over 70% of the GDP.

Antigua and Barbuda has moved from an environment policy stance where tourism projects could be approved without any regard for the dynamic stability of the coastal landscape. This resulted in the degradation of the coastal ecosystem, land destruction of the beaches and near shore assets – sand mining is one of the most critical problems in the coastal zone.

Under present legislation, sand mining should not occur without documented approval from the Ministry of Public Works, Development Control Authority and Cabinet. In spite of the fact there has been no sand mining permits granted for the last ten years, illegal sand mining still continue to be a problem.

The Barbuda local government main source of revenue comes from sand mining, which until recently, was carried out without any appropriate monitoring and control.

The establishment of an environment Division over five years ago, provided new institutional capacity to coordinate management of the coastal zone. A national Bill and Physical Development Plan are currently under consideration to provide an appropriate legal framework for enforcement of new management strategies.

Antigua and Barbuda has the largest Exclusive Economic Zone (EEZ) in the Eastern Caribbean. This is due to the geographic location of the three largest islands in the archipelago, Antigua,

Barbuda and Redonda. Totalling some 110,071 km², only 3,400 km² of the Continental Shelf is regularly fished. The immense size of the EEZ, which is 250 times greater than the land mass, has made it an arduous task to effectively patrol and monitor offshore activity. Illegal Fishing, Smuggling and Illicit Drugs are serious challenges that are still to be met.

Antigua and Barbuda has been diligent in pursuing the national action policies and measures agreed to in the POA. Future actions implementing these agreements will incorporate the use of modern technology (ex. Geographic Information Systems) to design comprehensive monitoring programmes for coastal and marine resources as a basis for integrated coastal zone planning.

3.5 Fresh Water Resources

Drought in Antigua and Barbuda has been a well documented feature in the islands history since as early as 1768. After a severe drought in the seventies and the drying up of surface and well water, the Government invested in a desalination plant. Another severe drought in 1983-84 forced the Government to buy two additional desalination plants to increase the volume, availability and reliability of the municipal water supply.

Presently, the Antigua Public Utilities Authority (APUA) is exploiting the feasibility of using deep wells as a supplementary source for water. The present system of relying primarily on desalinated water augmented with available surface water has proven a very expensive undertaking. If deep wells prove to be a viable option, it will not only facilitate greater availability of water at a reduced cost, it will also facilitate the development of a more rational management and distributional system with significantly reduced pumping cost.

Although there has been significant research into the assessment of drought episodes which have affected Antigua and Barbuda, the primary indicator is still quoted as occasions when there has been a total annual rainfall of less than 32.50 inches (825.50 mm). The national average is 40.74 inches (1,034.80 mm). A recent drought hazard assessment developed more graduated scale of drought levels of varying intensities ranging them from slight 95% of annual average to extreme greater than 70% of annual average. Although this intensity based indicator provides a much clearer perception of drought episodes there is still the inherent problem of only being able to officially declare a drought at the end of the year. It also means that on occasions, Antigua and Barbuda can have an inordinately low rainfall recorded during the first six months of the year, but due to tropical storm activity in the latter six months, record annual precipitation in excess of the national average. It is therefore, necessary that the indicators be developed to identify drought episodes from as early as three months, to facilitate an early warning and monitoring system.

In direct contrast to drought episodes, Antigua and Barbuda also suffers from hurricanes, which while helping to recharging surface dams and wells, wreak havoc, causing major significant damage, especially when they occur after a period of drought, where with little vegetative cover, the land is susceptible to erosion.

Fresh water is critical to agriculture development, and the cost of agriculture production. Drip irrigation is the predominant technology used and a system of dedicated agricultural ponds and dams have been developed. Work on protection of watershed has been limited to demarcation and development of management plans.

Because of the critical impacts of drought and hurricanes, Antigua and Barbuda has made considerable progress in all five of the National Actions agreed to.

Work in sewage disposal, forecasting models for water management, involving community in management and conservation of forest and reforestation still require major work

3.6 Land Resources

Antigua and Barbuda became a party to the UNCCD on June 06th 1997, although signed initially 14th, 1994. In the initial communication to the UNCCD two priority issues were identified, drought and land management. In a recent review, it was decided to increase the scope of the priority issues to include coastal degradation as an urgent issue. Land management issues focused on unsustainable horticultural practices, poor watershed management, uncontrolled livestock grazing, soil and sand mining.

Since 2000, the Ministry of Agriculture and the Environment Division have reinstated national Arbor Day Celebrations. This activity is focused on the reforestation and urban beautification of Antigua and Barbuda, and encourages nationals to consciously participate in increasing the national food security and become aware of issues such as soil conservation, productivity and food security.

A comprehensive land use plan was developed through research and consultation on a number of issues. This research resulted in a three volume national development plan which presented policies and proposals in the areas of population and settlement, Housing, Tourism, Industrial Development, Agriculture, Conservation of coastal and wetland Areas, Offshore islands and Cays, conservation of built environment.

The following critical areas were identified as National Priorities: Destruction of natural coastal subsystems to facilitate construction; Poor positioning of structures along the coast; indiscriminate sand mining for construction; degradation of land/vegetation and erosion; depletion of fish stocks due to over fishing and destruction of terrestrial fish habitats; pollution due to improper disposal of garbage sewage, industrial effluent and agricultural chemicals; encroachment of built developments onto agricultural land ad hoc and uncontrolled development.

As part of the implementation process of this strategy new physical development legislation has been developed and is presently before the Ministry of Justice and Legal Affairs for vetting prior to being sent to the parliament.

Antigua and Barbuda had little success in implementing the specific national action and policies agreed to in BPOA relating to land resources, while several plans have been developed and information compiled in a couple of related databases, very little implementation of these plans have taken place.

Further work must be done in the area of formulating and enforcing laws, regulations, and economic pricing and incentives in order to encourage the sustainable and integrated use, management and conservation of the land and its natural resources.

3.7 Energy Resources

Antigua and Barbuda has done very little work in the area of implementation of the national actions on Energy. The country still remains heavily dependent on imported petroleum products mainly for transport and electricity generation.

With more than 90% of households with access to electricity, the quality of electricity has been haphazard with breakages or outages becoming common in remote as well as heavily populated areas in the urban area due to a demand that is higher than the capacity of the supply.

Very little work has been done to increase the efficiency in fuel use through promotion of appropriate technology and national energy policies. Except for the high cost of fuel and electricity locally, which provides an incentive for efficient use, not much else has been accomplished.

Negligible attempts have been made to establish and/or strengthen the national research capability in the development and promotion of new and renewable sources of energy, including wind, solar, geothermal, hydroelectric, wave and biomass energy.

3.8 Tourism Resources

Antigua and Barbuda economic survival depends on Tourism. Over the past decade, the dependence of tourism on sustainable environmental practices has been increasingly recognised. Institutionally, the portfolios of Tourism and Environment have been placed in the same Ministry with the single Minister of government responsible for both.

Antigua and Barbuda has been successful in implementing the national actions agreed to in BPOA for Tourism Actions relating to supportive tourism-environment policies, sustainable tourism development and the protection of cultural integrity. Work has been initiated on the action stipulating the identification and development of facilities to meet specific niche markets, particularly in eco-tourism, nature and cultural tourism and involving local populations in the identification and management of natural protected areas set aside for eco-tourism.

3.8.1 The Caribbean Alliance for Sustainable Tourism (CAST)

In order to create an effective mechanism that would institutionalise environmental activities throughout the region, the Caribbean Alliance Sustainable Tourism (CAST) was created in 1995. CAST's goals lead to a more competitive tourism product through:

- The implementation of the principles of Agenda 21 in the Caribbean tourism industry;
- The assistance of hoteliers in the effective management of natural resources;
- The provision of environmental expertise and services to members;
- The gain of international recognition for Caribbean hoteliers.

CAST is an agreement between the Caribbean Hotel Association, Green Globe 21 and the International Hotel Environment Initiative (IHEI). Regional business leaders provided financial assistance for the creation of CAST.

CAST delivers practical, hands-on services to hoteliers. Its mission is to enhance the quality of the region's hotel and tourism operators by offering education and training on sustainable tourism. CAST also promotes the industry's efforts and successes to the travelling public and

other stakeholders and serves as a vital link to all stakeholders with sustainable tourism interests in the Wider Caribbean Region. The local participants of the CAST Project enjoy cost savings through more efficient energy, water, and solid waste management initiatives.

3.8.2 Small Tourism Enterprises Project

The Small Tourism Enterprise Project (STEP) is a project of the Organisation of American States (OAS) Inter Sectoral Unit for Tourism, and is funded by United States Agency for International Development (USAID). The STEP is a regional initiative designed to create a new cooperative marketing model for Caribbean small tourism enterprises to ultimately enhance their profitability and competitiveness.

Through a comprehensive combination of aggressive marketing and the provision of business and financial support programs, the STEP approach harnesses the advantages of providing individualized services to client enterprises by utilizing the benefits of large scale business' economics.

On a national scale, over 30 small enterprises have joined the STEP programme. Through affiliations with Net Corps and Canadian Executive Services Overseas (CESO), the national STEP project has been able to source volunteers to assist small tourism enterprises in adopting technology and to train owners/managers in information technology operations.

3.8.3 Community Group Tourism Projects

Within the rural community of Bendals in Antigua, a group of concerned citizens chartered the Bendals Community Group to address certain social concerns of the wider community. In due course, the community group was mandated to propose and develop mechanisms for the improvement of the socio-economic status of the Bendals community. As a direct output of the social improvement initiative, it was decided that detailed analysis of a possible alternate-tourism venture be undertaken. It was eventually decided that an eco-tourism project be implemented taking advantage of the local site of Greencastle Hill.

The Greencastle Hill is an identified archeological site of interest displaying formation of prehistoric "megaliths". The Bendals Community Group Ecotourism Project aims to primarily attract visitors to the site and secondarily to enhance the visitor experience at the site through the provision of guided tours. Recently the Project has been extended to include "nature walks" to the nearby Mc'Nesh Hill thereby combining aspects of ecotourism and heritage tourism to produce a more comprehensive tourism product.

The greatest challenge to the Bendals Community Group is the need to strengthen the present administrative framework of the project to allow for the efficient collection of financial resources. To ensure financial sustainability of the project, the Bendals Community Group is currently investigating the possibility of implementing a user fee system and a management plan for the area.

3.9 Biodiversity Resources

Historical accounts of Antigua have described the Island as having lush rainforest vegetation similar to the forests found throughout some of the neighbouring Islands. However, during the period of colonialism from the mid 17th century through the 1970s, an extensive monoculture of sugar cane cultivation was practiced. This entailed the clearing of almost all the indigenous vegetation. The persistent years of sugar cultivation have resulted in particularly poor soils, which primarily support secondary pasture and scrub vegetation types. The singular focus on

cultivation also resulted in the majority of the nation's endemics being found along the coasts and in the offshore Islands.

Since the 1970s, Antigua and Barbuda has abandoned the monoculture of sugar cane cultivation and has adopted tourism as its primary industry. With 365 white sandy beaches in Antigua and a number of extensive pink sand beaches in Barbuda, the island state seems to be tailor made for tourism. Being one of the earliest pioneers in island tourism within the Caribbean has cost the islands the loss of a number of mangroves with considerable stress being placed upon a number of beaches.

3.9.1 Endangered Fauna

The Antigua racer, *Alsophis antiguae*, is probably the rarest snake in the world. This harmless snake used to be abundant throughout Antigua and the (immediate) offshore islands, but it was almost wiped out by mongooses, released here in the 19th century.

By 1995, only 60 Antigua racers remained. All of those were on Great Bird Island, a tiny island some 20 minutes by boat from Antigua. Even here, the racers were not safe. Aggressive black rats overran the island, attacking the snakes and their eggs. It looked unlikely that the Antigua racer would survive to see the new millennium...

Considering the rarity of the snake, its uniqueness to the country, the state impending extinction and the general commitment made to the Convention on Biological Diversity six local and international entities set out on a crusade to not only stabilize the racer population on Great Bird Island but also to facilitate a growth in the population. These agencies were:

- Antigua Forestry Unit
- Environmental Awareness Group
- Fauna & Flora International
- Durrell Wildlife Conservation Trust
- Black Hills State University
- Island Resources Foundation

The Antigua Racer Conservation Project (ARCP) was formed in 1995 to save the Antiguan racer snake from extinction, and to conserve the many other kinds of rare wildlife that depend on Antigua's offshore islands. The work covers a variety of activities, including biological research, public education, skills transfer, ecological restoration, conservation breeding and habitat management.

Now with the success of the ARCP firmly established the managers of the project have developed project documents broadening its scope and renaming it the Off Shore Island Conservation Project (OICP). This evolved initiative strives to repeat and further the success of the ARCP with other rare and sensitive species, which can be found on Great Bird Island and other nearby islands. The expanded project, which has received funding for the OAS does research on lizards and birds as well as the Antigua Racer snake.

Antigua and Barbuda is off to a slow start in implementing national actions in Biodiversity. The current National Biosafety Framework Project (as mandated by ratification of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity) seeks to establish the necessary enabling regime to minimise the potential effects of biotechnology on the nation's biodiversity. It should be noted national progress has been hindered as there are still some significant gaps in inventory compilation and safeguarding of intellectual property rights.

3.10 National Institutions and Administrative Capacity

Antigua and Barbuda has moved quite speedily to put in place the necessary institutional mechanisms required to manage the environment and initiate the process of integrating the environment into general economic planning.

Much work needs to be done on the actions which essentially require enactment of modern legislation regulations and provision of adequate resources.

The following is a highlight of the major activities carried out over the period.

- Improvement in legal and institutional frameworks for the management of the environment and natural resources;
- Meaningful participation by civil society in decision making;
- Prevention and management of the causes and impacts of natural disaster and disaster response;
- Pollution and waste management; and
- Recognition of the relationships between the environment and trade, energy use, science and technology.

Being a signatory to the St. George's Declaration, the government of Antigua and Barbuda has endeavoured to collaborate in the development and implementation of the OECS Environmental Management Strategy (OECSEMS) and the establishment of a Technical Advisory Committee to coordinate and guide its implementation. Compliance with the tenets of the SGD is ascertained by local policies which ensure that future national programs are consistent with the principles contained in the St. George's Declaration and with the eventual OECSEMS.

Conformity with the principles of the SGD is monitored through an annual reporting matrix through which national submissions have been delivered to the OECS NRMU.

3.10.1 Institutional Arrangements

The implementation of the MEAs in Antigua and Barbuda is dependent on the collaborative organization of the duties and responsibilities among the various government agencies. Firstly, there is a three-pronged focal point system for all sustainable development conventions. Secondly, participation has been institutionalised, with recommendations being submitted directly to the policy makers. Finally, legislation is being developed with the specific purpose of ensuring synergies in sustainable development initiatives.

3.10.1.1 Focal Point System

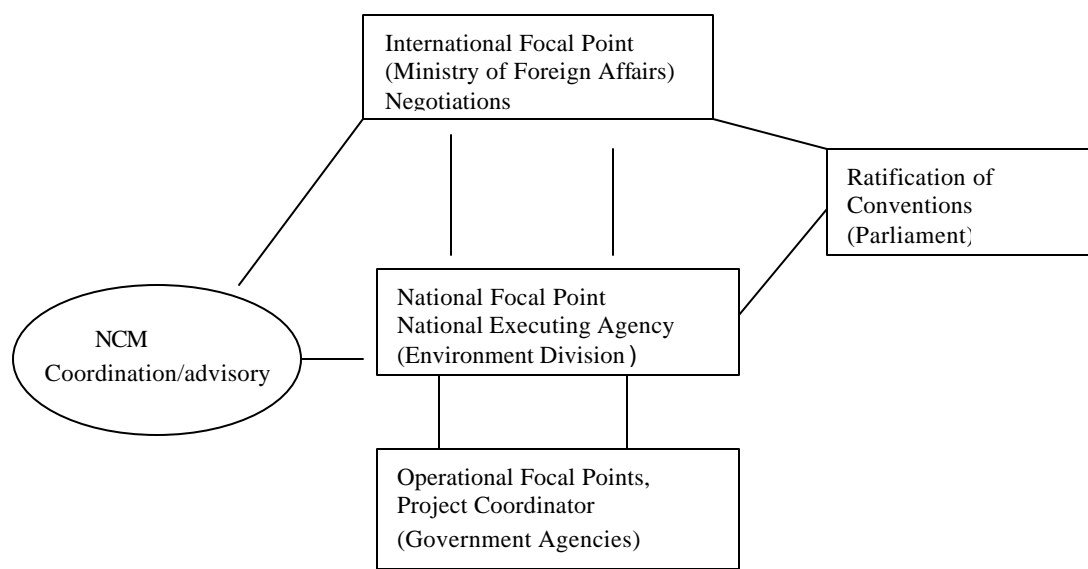


Figure 3: Institutional Arrangements For Implementing of MEAs Source: *National Coordinating Mechanism Seventh Meeting (2002) Implementation of Multilateral Environmental Agreements NCM 7*

Recognizing that the issues to be addressed, as defined by the various sustainable conventions, overlap in scope, the responsibilities of a number of government agencies, the Antigua and Barbuda government decided that the best strategy to implement these conventions would be to utilize multiple focal points. 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 a plethora of government agencies as a result of the implementation of one convention, and most importantly without significant 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. The National Focal Point (NFP) in most cases is the Environment Division, the government agency set up with the specific task of coordinating 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 with implementation objectives. 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.

As seen in Figure 3, 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 Organisations, to facilitate discussion in the sustainable development process.

3.10.1.2 NCM

The NCM was established by the Cabinet of Antigua and Barbuda in 1999 in an effort to formalize the participatory process towards sustainable development. The secretariat of the NCM is housed in the Environmental 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 NCM's organisational chart (figure 4) illustrates the communication links, information exchange and the availability of resources. 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.

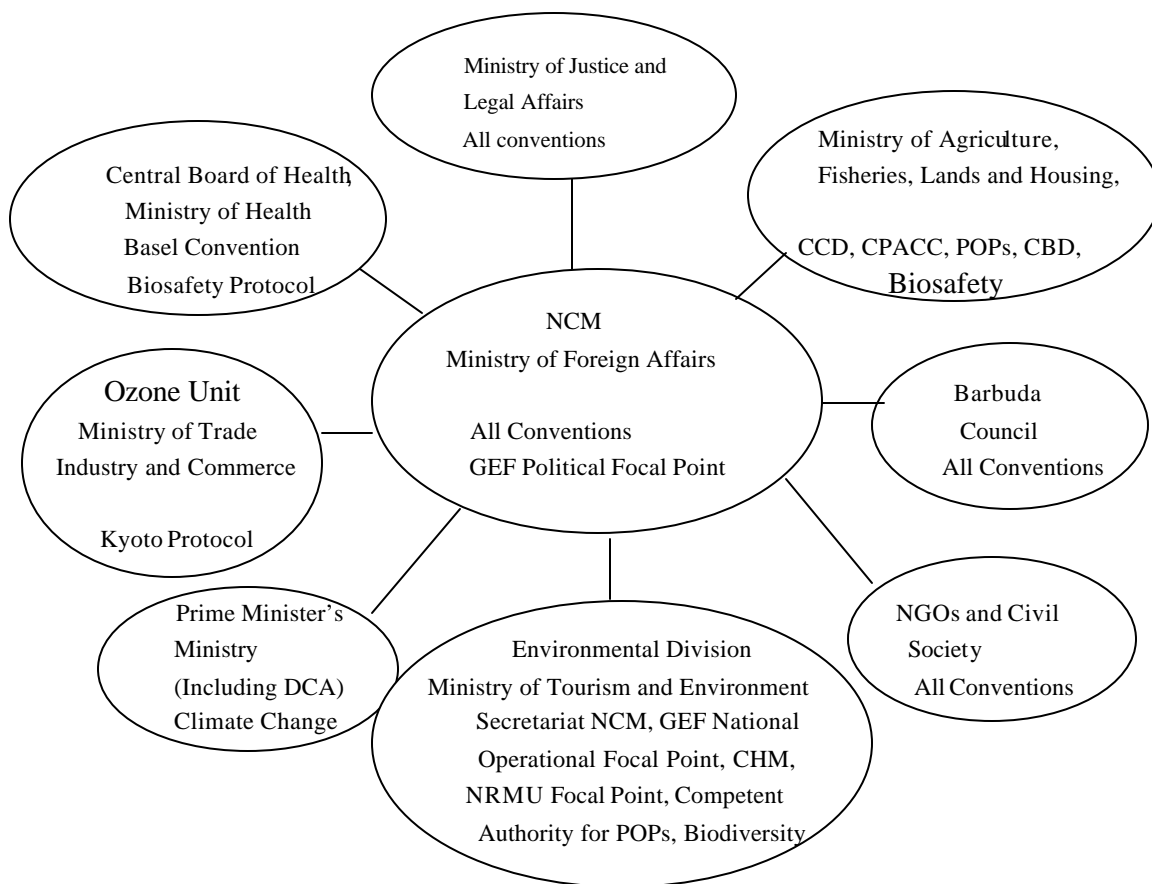


Figure 4. Composition of NCM Source: *National Coordinating Mechanism Seventh Meeting (2002) Implementation of Multilateral Environmental Agreements NCM 7*

3.10.2 Legislation

The development of legislation has been based on a strict sense of multi-agency communication, public consultation and most importantly the synergy of environmental convention.

3.10.3 Physical Planning Act (Proposed)

One of the outputs of an extensive public and stakeholder consultation to develop strategies for better land management, coastal management, drought preparation, rural development and agricultural support, the physical planning act represents the identification of those CCD issues present in the national situation as recognized objectives in the national strategy for sustainable Development.

3.10.4 Draft Environmental Management Act

Recognizing the functional shortcomings of ratification without integration into the existing legislation, the Environment Division through the assistance of United Nations Environment Programme/Regional Office Latin America and the Caribbean (UNEP/ROLAC) has initiated the development of an umbrella environment legislation to not only guide development initiatives but also to provide a statutory link of the conventions to functioning statutory instruments. The act identifies eight (8) specific functions:

- Institutional arrangements
- Procedures for co-operative governance
- Integrated environmental management
- International obligations and agreements
- Compliance and enforcement
- Memorandum of understanding
- Administration of act, and
- General and transitional provisions

3.10.5 International Conventions

Table 5 illustrates the total number of International Conventions related to sustainable development to which Antigua and Barbuda is party to, and those conventions which have been signed, ratified or acceded.

Table 5. Nationally relevant International Environmental Conventions

Instrument & Title	Date of Signature	Ratification	Date of Application
United Nations Convention on the Law of the Sea	November 16, 1994		
Convention of the International Maritime Organisation	January 13, 1986 (Entered into Force)		
Convention on the International Regulations for Preventing Collisions at Sea	January 29, 1998 (Entered into Force)		
Convention On the Prevention of Marine Pollution by Dumping of Wastes and Other Matter	February 5, 1989 (Entered into Force)		
MARPOL Convention (i.e. International Convention for the Prevention of Pollution from Ships	April 29, 1988 (Entered into Force)		
International Convention for the Safety of Life at Sea	May 9, 1987 (Entered into Force)		
International Convention on	September 21, 1997		

Instrument & Title	Date of Signature	Ratification	Date of Application
Civil Liability for Oil Pollution Damage	(Entered into Force)		
International Convention on Oil Pollution Preparedness, Response and Co-operation	April 5, 1999 (Entered into Force)		
International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage	September 21, 1997 (Entered into Force)		
Basel Convention (i.e. Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal)	March 22, 1989	April 5, 1993 (Accession)	April 7, 1993
Cartagena Convention (Convention for the protection and Development of the Marine Environment of the Wider Caribbean Region)	October 11, 1986 (Entered into Force)		
Convention on International Trade in Endangered Species of Wild Fauna and Flora	October 6, 1997 (Entered into Force)		
Convention and Statue on the Regime of Navigable Waterways of International Concern	January 25, 1989 (Entered into Force)		
Convention on Biological Diversity	June 5, 1992	MRCH 9, 1993	December 29, 1993
Cartagena Protocol on Biosafety to the CBD	January 29, 2000	September 11, 2003	
International Convention for the Regulation of Whaling	July 21, 1982 (Entered into Force)		
Stockholm Convention on Persistent Organic Pollutants	(May 23, 2001)	September 11, 2003	

3.11 Regional Institutions and Technical Cooperation

The OECS, ECLAC and the UWI are three major regional organisations involved in technical cooperation work. Antigua and Barbuda has been fully involved in these regional activities. The two national actions agreed to under the BPOA have been implemented. These regional bodies will report on the details of these activities.

3.11.1 National Environmental Management Strategy

Although all of the aforementioned strategies have identified concrete synergies for the implementation of the CCD and other MEAs, it has been recognized that there needs to be development of a management strategy specifically geared towards environment and sustainable development to integrate all development policies, plans and strategies in operation within Antigua and Barbuda as well as synergize the various conventions. To this end and as part of an Organisation of Eastern Caribbean States (OECS) initiative, the Government of Antigua and Barbuda has undertook to develop a comprehensive management strategy, which will serve as the management strategy governing the implementation of all environment and sustainable development conventions to which Antigua and Barbuda is party.

3.11.2 St. Georges Declaration on Principles of Environmental Sustainability

As requested by the OECS Environmental Policy Committee, the OECS Natural Resources Management Unit (NRMU) developed the St. George's Declaration Of Principles For Environmental Sustainability in the OECS, which sets out the broad framework to be pursued for environmental management in the OECS region. The St. George's Declaration (SGD) set forth twenty principles that constitute a framework of member government commitment to sustainable development.

Noteworthy among the numerous commitments are those calling for:

- The integration of social, economic and environmental considerations into national development policies, plans and programmes;
- Improvement in legal and institutional frameworks for the management of the environment and natural resources;
- Meaningful participation by civil society in decision making;
- Prevention and management of the causes and impacts of natural disaster and disaster;
- Pollution and waste management; and
- Recognition of the relationships between the environment and trade, energy use, science and technology.

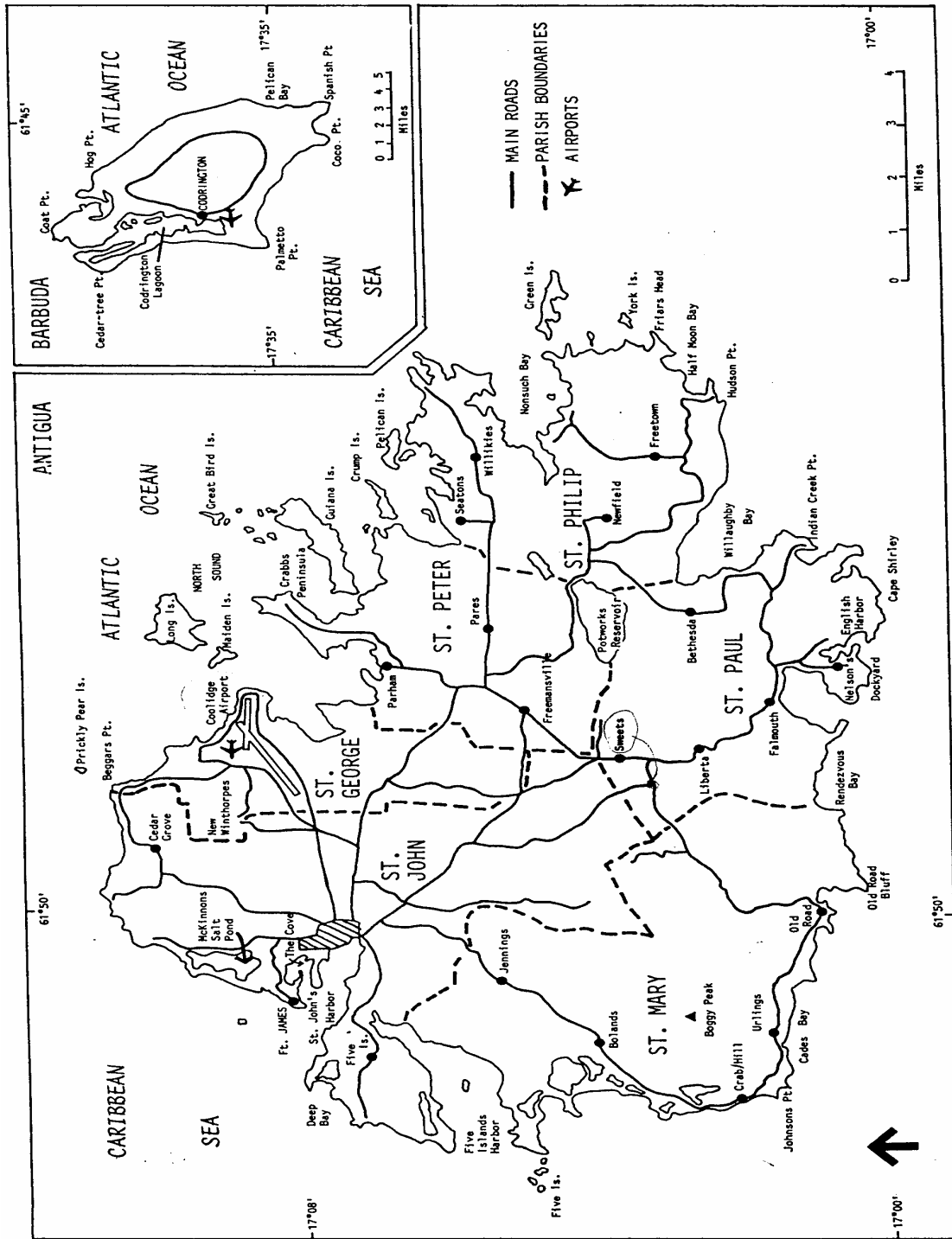
Being signatory to the St. George's Declaration, the government of Antigua and Barbuda has endeavoured to collaborate in the development and implementation of the OECS Environmental Management Strategy (OECSEMS) and the establishment of a Technical Advisory Committee to coordinate and guide its implementation. Compliance with the tenets of the SGD is ascertained by local policies which ensure that future national programs are consistent with the principles contained in the St. George's Declaration and with the eventual OECSEMS.

Conformity with the principles of the SGD is monitored through an annual reporting matrix through which national submissions have been delivered to the OECS NRMU.

3.12 Transport and Communication

Antigua and Barbuda is well developed, in terms of infrastructure including transportation and communication (Figure 5). Road networks, telephone, radio, television, internet coverage approach developed countries standard. Much of the transportation challenges are regional challenges especially air and sea transport. This has posed challenges to the establishment of a regional market.

Figure 5. Map of main infrastructure for Antigua and Barbuda



3.13 Science and Technology

This chapter is one of the weaker areas of work carried out by Antigua and Barbuda. The lack of adequate budgeting and human resource has prevented any work of substance in this area. All of the six national Actions remain outstanding challenges in Antigua and Barbuda.

With the present limited resources, the Government has ensured that science and technology policy is closely linked to national environmental strategies and sustainable development plans, emphasising elements such as self-sufficiency and research and development training for science and technology. The development and use of information and communication technology to overcome size and isolation problems have also been emphasised. Research and development in agricultural processing has been promoted.

The Government has developed or ensured access to databases on environmentally-sound technologies of local relevance. Also, the role of women in science and technology disciplines has been promoted and strengthened.

3.14 Human Resource Development

Human Resource Development is one of the strong areas of work and accomplishment by Antigua and Barbuda. With a per capita income of over US\$10,000, free education and health services, fundamental needs of human development have been met. Housing, access to water, electricity and sewage disposal are available to all nationals.

Examination of the specific national Actions agreed to under the BPOA reveals that Antigua and Barbuda has had outstanding success in all their implementation. The overall success of the human resources development initiative has translated into great strides being made towards national achievement of the millennium development goals.

3.14.1 Poverty Eradication

The lack of comprehensive time series data on the established indicators of extreme poverty with Antigua and Barbuda prevents the provision of any in-depth analysis of the development goal. It is generally acknowledged that abject poverty exists only in isolated pockets

3.14.2 Education and Reduction of Child Mortality

For many years free and universal education had been provided in Antigua and Barbuda. The first known occurrence of free and universal education being made available was in 1813 by a religious-affiliated institution. Today, the Government of Antigua and Barbuda provides free education to all residents less than 17 years of age (both native and immigrant). This system also has been in effect for many years. The primary change in the national educational system of Antigua and Barbuda since the 1994 Barbados summit, has been the institution of the Education Levy in 1994 (2.5% of salary) and the establishment of the Board of Education 1995.

Besides providing free primary and secondary education, the Government of Antigua and Barbuda also affords considerable supports into the tertiary level of educational study of nationals.

As a means of supporting tertiary study, the government has initiated a scholarship programme which caters to 60-70% of applicants each year at an average of 300 applicants per year. This has a monetary value of 2 – 3.2 million EC\$ per annum. Since the existence the programme has funded a total of 961 students (citizens).

The Education Levy is not sufficient to address all matters in the management of the education system. Maintenance (including purchasing, refurbishing, insuring) of schools (primary, secondary and the Antigua State College) facilities, furniture, buses, provision of books, security, supplies (for both staff and students); pay economic cost to the University of the West Indies, Government contribution to the CXC.

Further financial assistance has been provided from the Caribbean Development Bank in the form of a \$40 million loan. Through affiliations with the UK Government, the Department for International Development (DFID) donated funds to refurbish two schools after they sustained hurricane damage.

As indicated previously, the number of hurricanes affecting the nation has negatively impacted on all sectors of society, inclusive of the educational facilities. Of particular note was the 1995 episode (Hurricane Luis) which damaged every educational institution. As a result, the Board of Education was forced to utilize a significant portion of its funds in damage repair at the start of its operations.

As could be surmised from the previous statements, the national strategy for education in Antigua and Barbuda functions on a very simple principle which was initiated by our first Prime Minister and former Premier, the Rt. Hon. V. C. Bird Sr. – everyone was to be educated.

The national campaign used in the schools of Antigua and Barbuda is “Every child a reader”. This programme was initiated by the Board of Education in 1997. The programme starts from kindergarten where reading is introduced. Then onto Primary school where educators are encouraged to increase intensity of reading. In the initial outline of the campaign, the Board of Education planned to put centres in every school – however lack of funding has resulted in only two centres for the 60 (49 government) primary schools. However, due to financial constraints, libraries have been established in all the schools as a consolation. There has also been the development of a mobile library to increase access to reference and general reading materials.

Since the last major earthquake in 1974, Antigua and Barbuda has been without adequate facilities for the Public Library. The government is presently constructing a new state of the art facility for the public library.

Within Antigua and Barbuda, analysis of the progress made in achieving the goal of reducing child mortality by 2015, suggests that although the goal is achievable, a greater effort would need to be made to achieve all indicators notwithstanding the aggressive health care policies for all citizens of the nation.

The first indicator of achieving the identified goal is the reduction of the under-5 mortality rate by 2/3 of the 1990 rate. The fluctuation in the under-5 mortality rate (Table 6) suggests that more sustainable mechanisms have to be put in place to assure consistent targets.

Infant mortality rates, expressed as deaths of infants under 1 yr per 1000 live births, have generally fallen over the investigation period (Table 6). The difficulty in determining these rates is a major factor which would need to be addressed as a potential means of distorting the results.

The proportion of 1 yr old children immunized against measles is another indicator associated with the reduction in infant mortality. The proportion of children who were vaccinated (Table 6) translates into Antigua and Barbuda being at the forefront of the OECS region in terms of coverage.

Table 6 National Indicators for the reduction in child mortality

Indicator	Year						
	1990	1995	1997	1998	1999	2000	2001
Under-5 Mortality Rate	27.2	20.0	18.0	13.9	-	-	21.2
Infant Mortality Rate	25.5	17.1	14.5	-	-	21.6	15.4
Proportion of 1 yr olds immunized for measles	94	100	-	100	-	-	100

(Adapted from: The Millennium Development Goals in the Eastern Caribbean: A Progress Report, Downes, A.S; Downes, D.A.)

3.14.3 Gender Equality and Empowerment of Women

The formation of the Gender Affairs Division within the Ministry of Health, Social Improvement, Home Affairs and Community Development was for the sole purpose of monitoring and promoting national progress made with the promotion of gender equality.

Nationally, women have made significant strides on all fronts of society due mainly to the national policies targeting gender equality and the empowerment of women. All indicators of the development goal reflect this scenario. For the period 1990 to 2001, the ratio of girls to boys within primary schools has decreased from 0.97 to 0.91, but the ratio within the secondary schools has increased from 1.01 to 1.29 over the same period. The ratio of literate females to males (ages 15 to 24) indicates a ratio over 1.0. Even on the political front, women have become more prominent. The proportion of seats held by women in the national parliament has increased from 2.8% to 11.1% over the period 1990 to 2001.

3.14.4 HIV/AIDS, Malaria and Other Diseases

Other than the aforementioned national projects and initiatives, the unavailability of time series data restricts a comprehensive analysis of the national situation. However, concurrent to the regional state of affairs, the incidence of HIV/AIDS still remain high with a subsequent burden on the health care facilities.

Recognising the global threat and damage done by HIV/AIDS epidemic and also considering that the rate of infection in the Caribbean is second only to Sub-Saharan Africa, Antigua and Barbuda has developed a Strategic Plan for the National Response to the HIV/AIDS: 2002-2005:

In a country where the cumulative total infection as of 2001 was 370 and total death as a result of the disease was 110, the present living HIV/AIDS count represents 0.34% of the national population. At present the rate of infection has been recorded as 0.5%

In the national consultation to develop the strategic plan, participants identified the primary factors which have facilitated the disturbing rise in HIV/AIDS infection rates in Antigua and Barbuda, and the most vulnerable groups. From the data collected what has become apparent is the engine driving the spread of the disease has been linked significantly to the movement of non-natives into and around the nation. In this world of globalization and increased mobility, it appears that Antigua and Barbuda will be left as a victim in its wake.

Treatment and care of HIV/AIDS in Antigua and Barbuda has been recognized as an example of commitment and generosity by one of the nation's physicians. From the onset of the epidemic this physician not only addressed issues and shortcomings in the national system, but has brought HIV/AIDS into the realm of primary consciousness both for Antigua and Barbuda and the wider

Caribbean.

Over the implementation cycle of the strategic plan, Antigua and Barbuda has committed itself to the following areas:

- Education and Prevention
- Care, Treatment and Support
- Policy and Legislation
- Employment and Social Mobilisation
- Surveillance and Epidemiological Research
- Resource Mobilisation and Programme Management

The leading Communicable diseases found within Antigua and Barbuda are:

- Acute Respiratory Infection
- Gastro-Enteritis
- Influenza
- Sexually transmitted diseases
- Ciguatera Poisoning

In Antigua and Barbuda, Malaria is not an endemic disease. The only instances of recorded cases were due to the importation of the infected individuals. Further, no reported deaths have ever been recorded for this disease. Prevalence rates have been recorded as 2.95 (1995), 1.41 (1999) and 2.64 (2001). No data was available for the proportion of the population in malaria risk areas.

3.15 Implementation Monitoring and Review

Implementation, monitoring and review of the national environmental component programmes and actions have been established through institutional strengthening and inter-agency restructuring to facilitate partnerships with all stakeholders.

A code of practice exists wherein the implementation of all national environmental programmes must be inclusive of specific administrative and financial management systems. The identification of National Executing Agencies and focal points is a prerequisite for the implementation of any project. Additional activities are inclusive of the identification and recruitment of relevantly trained personnel to compose Technical Advisory Committees to oversee the projects.

One particular mechanism being explored is the implementation of small scale grants to community groups for sustainable development activities. Complementary actions ensured that communities were closely involved in developments and projects, while private sector local consultants were given employment opportunities in close collaboration with the respective agency responsible for each development component.

Evaluation of programmes and projects are conducted using phased evaluation procedures. Difficulty has been encountered in the evaluation process as traditional monitoring processes have overlooked the inclusion of parameters for quantitative indicators.

4.0 Cross Sectoral Areas: Trade and Investment

Financial imbalances resulting from war, threats of war, falling and volatile stock markets, accounting impropriety and a general uncertainty by investors in the financial market have translated to limited growth within the global economy and by extension the economy of developing countries such as Antigua and Barbuda. Within Antigua and Barbuda in conjunction with the dependence on capital flows, this uncertainty translates into a heightened vulnerability to the tensions in the world financial markets typical of other developing states.

In light of the international thrust towards globalization and free trade, efforts to bolster the economic development of Antigua and Barbuda have focused on improving the level of participation in the international trade by the identification of mechanisms to exploit foreign direct investment, increasing the relative role of the services sector in the national economy, and the development and strengthening of national initiatives and economic reform policies. Nonetheless, sustainable development as facilitated by the strengthening of national economic policy has been inadequately addressed due to the existence of specific vulnerabilities such as small size, insufficient capacity (institutional, financial, regulatory, and technical), and proneness to natural disasters.

The constraints to national economic growth are further intensified by unilateral foreign policies which effectively undermine the emerging financial sector. The 1998 harmful tax competition report by the Organisation for Economic Co-operation and Development (OECD) classifying Antigua and Barbuda as a “tax haven” with “potentially harmful tax regimes” and the resultant slump in the economic sector typifies the national vulnerability to external directives. More recently, the efforts of the U.S. to make internet gaming industry illegal is viewed as being contributory to the decline in the number of local online gaming companies and a direct threat to national fiscal development. The existence of investment distorting trade barriers in the form of foreign policies which violate national rights to ensure market access to cross-border services is a great concern to the nation of Antigua and Barbuda warranting necessary attention.

Numerous local initiatives have been structured to diversify the national economy through improving competitiveness and expanding the range of products and services traded. Through assistance from the Inter-American Development Bank (IDB), the Ministry of Trade is attempting to enhance small manufacturers by adopting measures to increase their capacity in identifying and implementing trade efficient policies. Reform is being undertaken through the Caribbean Single Market and Economy (CSME) programme to ensure manufacturers and producers improve their method of production to become more competitive on the world market.

There is also an ongoing initiative to develop a responsive trade policy to diversify the range of products locally and to ensure that the country is able to exploit any niche market opportunities. Presently, a draft policy has been produced and is currently scheduled to be presented to Cabinet for discussion.

Initiatives through the Organisation of American States (OAS) have also been implemented to support programmes and ventures for micro enterprise development. Recent collaborative efforts with the OAS Trade Unit have been structured to assist public, private and civil society interests in their requests to obtain technical assistance under the Hemispheric Co-operation Programme. Such technical assistance is seen as being vital to assisting the nation with the transition to free trade and liberalisation. Technical assistance will also aid the nation in the present trade negotiations at the level of the World Trade Organisation (WTO) and Free Trade Area of the Americas (FTAA). It is such technical assistance which will ensure that Antigua and Barbuda will be able to implement the imminent trade obligations to which we are bound.

Attempts are also underway to broaden the scope of national negotiations to adequately address

and identify mechanisms to protect domestic producers and assist small businesses in competing with larger subsidized firms. The traditional focus on market access as opposed to the supply component of trade has impacted the local agricultural sector which has recently been experiencing the dumping of sometimes inferior products from Canada or the U.S.

The development of the services sector is also an area of great concern. Under the General Agreement on Trade in Service (GATS), Antigua and Barbuda has experienced a pervasive drain of skilled service professionals in the health and educational sectors to the US and Europe.

Summarily, it should be noted that the plethora of regional agreements and multilateral frameworks have great implication to Antigua and Barbuda as government's decisions are becoming increasingly restricted by external forces over which we have minimal input. With the high dependence on trade and foreign direct investment, Antigua and Barbuda suffers from a high fiscal sensitivity to trade liberalization which in the context of high fiscal deficit has significant implication for government expenditure in relation to sustainable development.

5.0 Emerging Concerns

National progress with the implementation of the necessary actions mandated by the BPOA reveals that the necessary framework exists to implement all of the national actions given the right supplemental assistance. The specific needs identified translate into the thematic categories of institutional capacity building, technology exchange, financial resources, political support, enforcement of existing regulations and the need to develop and review existing legislation.

As illustrated by the text of this report, a few areas have been identified as those warranting special attention:

- Small size, rapidly growing population and great dependence on limited natural resources underlies the need for more frequent and pertinent environmental assessments with Antigua and Barbuda.
- At the policy level, the assessment needs have to be better incorporated in the relevant social, economic and environmental plans and policies.
- Capacity building of the present institutional arrangements will have to be undertaken to efficiently maximize the benefits entrenched in sustainable development initiatives.
- The current level of information exchange and dialogue between the public and private sectors will have to be strengthened to ensure the views and suggestions of all stakeholders are ingrained into national policies.
- The national capacity to address issues related to emerging technologies and their applications will have to be addressed. Given the emerging concerns of biotechnology and genetically modified organisms, for example, adequate mechanism will have to be identified and implemented to circumvent possible negative implications.
- National sensitivity to trade liberalisation and the impacts of globalization would suggest that more detailed analysis of the influence these changes would have on the nation of Antigua and Barbuda.
- The degree of progress with the Millennium Development Goals within Antigua and Barbuda suggests that improvements will have to be identified at the policy level and the data collection level.