NATIONAL ENVIRONMENTAL SUMMARY
ANTIGUA AND BARBUDA

2010

UNEP

UNITED NATIONS ENVIRONMENT PROGRAMME

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Acronyms

AFD	Agence Francais de Devloppment/ French Development Agency
APUA	Antigua Public Utilities Authority
CCA	Common Country Assessment
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum of African, Caribbean and Pacific States.
CBO	Community Based Organisation
CIDA	Canadian International Development Agency
CBD	Convention on Biological Diversity
CDEMA	Caribbean Disaster Emergency Management Agency
CDM	Comprehensive Disaster Management
CPACC	Caribbean Planning for Adaptation to Climate Change
CRFM	Caribbean Regional Fisheries Mechanism
CRDEP	Caribbean Renewable Development Energy Programme
CSR	Corporate Social Responsibility
DCA	Development Control Authority
EC	European Commission
EDF	European Development Fund
ENCAPD	Environmental Capacity Development
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agricultural Organisation
FFEM	Fionds Francais pour l'Environement Mondial/
GOAB	Government of Antigua and Barbuda
GEF	Global Environment Facility
GTZ	German Technical Corporation
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IICA	Inter-American Institute on Cooperation on Agriculture

IWCAM	Integrated Watershed and Coastal Area Management
JICA	Japan International Cooperation Agency
MACC	Mainstreaming Adaptation to Climate Change
NCM	National Coordinating Mechanism on Environmental Conventions
NCSA	National Capacity Needs for Self Assessment
NEMMA	North East Marine Management Area
NES	National Environmental Summary
NODS	National Office of Disaster Services
OAS	Organisation of American States
OECS	Organisation of Eastern Caribbean States
OPAAL	OECS Protected Areas and Associated Livelihoods National Project
PAHO	Pan American Health Organisation
POP	Persistent Organic Pollutants
SIRMM	Sustainable Island Resource Management Mechanism
SIRMZP	Sustainable Island Resource Management Zoning Plan
SLM	Sustainable Land Management
SPAW	Protocol Concerning Special Protected Areas and Wildlife
UNEP	United Nations Environment Programme
UNCBD	United Nations Convention on Biological Diversity
UNCCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations Convention on Law of the Sea
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFCCD	United Nations Framework Convention to Combat Desertification
UNIDO	United Nations Industrial Development Organisation
USAID	United States of America International Development
USDA	United States Department of Agriculture
WB	World Bank

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EXECUTIVE SUMMARY

From a review of national reports and technocrats interviewed, environmental issues of national priority for Antigua and Barbuda (AB) are:

1. Natural Disasters and Climate Change;
2. Invasive Species;
3. Inadequate Land Use Planning;
4. Land Degradation;
5. Uncontrolled Grazing by Roaming and Stray Livestock;
6. Degradation of Marine and Coastal Resources;
7. Pollution;
8. Water Scarcity; and
9. High Energy Cost.

A well laid path to development of sustainable development framework has been articulated in Antigua and Barbuda's Environmental Management Strategy and Action Plan 2004 to 2009.[1] Broadly speaking, that strategy, other national reports, and interviewees indicate that various components of the current framework must be strengthened in terms of an increase in the staff complement of various institutions; provision of staff training vital for undertaking stipulated institutional mandates; provision of relevant regulatory and enforcement capabilities of institutions; maintenance of a baseline of programmatic activities such as data collection and monitoring; the ability to use information from various sources for decision making; and the development of fiscal policies to stimulate corporate environmental stewardship, and to incentivise new business models that focus on the sustainable utilisation of natural capital to attract foreign exchange.

The UNCCA and UNDAF process can therefore assist in orienting and aligning international development assistance and partnerships in support of Antigua and Barbuda's development goals in a sustainable manner.

[1] Government of Antigua and Barbuda, 2004.

INTRODUCTION AND BACKGROUND

The twin island nation of Antigua and Barbuda is located in the middle of the Leeward Islands in the Eastern Caribbean, roughly 17 degrees north of the equator. Antigua is 280 square km with its highest point beings Mount Obama (approximately 402 metres), located in the south western corner of the island. Barbuda is a flat coral island with an area of only 161 square km, lies approximately 48 km north. The nation also includes the tiny (16 square km) uninhabited island of Redonda. The current population for the nation is approximately 86,752 and its capital is St. John's on Antigua.[2]

Temperatures generally range from 23 degrees Celsius in the winter to 31 degrees Celsius in the summer months. Annual rainfall averages only 45 inches and humidity is low year-round with constant northeast trade winds.[3]

The National Environmental Summary (NES) for Antigua & Barbuda is an information tool to support the incorporation of environment in UN Common Country Assessments (CCA) and United Nations Development Assistance Framework (UNDAF). It provides a critical analysis of gaps in existing policy/programmes responses and in the national legislation in addressing environmental issues and their critical linkages to poverty reduction and development.

Method

The Driving Forces-Pressures-State-Impacts-Responses (DPSIR) framework was used to frame information gathering and analysis for the development of the NES. Information gathering involved the review of national assessment and policy documents, national legislation, as well as interviews with key stakeholders in Antigua and Barbuda.[4] Interviews took place from July 12 to 14, 2010.

[2] http://www.antigua-barbuda.org/index.htm, and https://www.cia.gov/library/publications/the-world-factbook/geos/ac.html.

[3] *Ibid*.

[4] See Annex 1.

STATE OF THE ENVIRONMENT & ENVIRONMENTAL ISSUES

The following environmental issues were identified as being of national priority.

Natural Disasters and Climate Change

Natural disasters such as hurricanes, earthquakes and droughts have a significant impact on the national development. These events often have significant impact on the social, economic and environmental fabric of the country, thereby driving some people into poverty. It is believed by interviewees, that climate change has significantly played a hand in the increased frequency of destructive hurricanes and prolonged drought conditions; shifts in rainfall patterns and hence changes in dry and wet season; increased diurnal temperatures; and strong ocean surges. The resulting consequences of natural disasters and climate change include: drought induced fires, decline in coastal fisheries and destruction of fisheries infrastructure, coastal erosion as a result of unpredictable swells; sedimentation; increased rates of coral bleaching; and decreased productivity of coral reefs, mangroves and other coastal ecosystems. Further impacts include decline in the quality of the tourism product, opportunities for recreation (especially in coastal areas), livelihoods (fishers and recreational service providers); the decline in the productivity of agricultural lands due to long droughts; and the need for adaptation measures such as the relocation of settlements in the event of landslides from seismic activities.[5]

Invasive Species

Antigua and Barbuda has seen the introduction of invasive species at an increasingly frequent rate. Introduction of these invasives has had a detrimental effect on some of the native wild species, as they act as predators, parasites or competitors, resulting in the decline of native species. Invasive species have not only been introduced by humans at specific points of entry but also by natural methods e.g winds, at times, during natural disasters such as hurricanes.

The Cuban Tree Frog[6] (*Osteopilus septentrionalis*), the Giant African Snail *(Achatina fulica*) – a predator of plants that affects 0.07 square metres of the island's 108 square metres[7], the West Indian Fruit Fly (*Anastrepha obliqua*)– predator of the red plum and guava, the Red Palm Mite (*Raoiella indica*) have all had some impact on the biodiversity, agriculture and cultural practices in Antigua and Barbuda. The rapid spread of the introduced lemon grass (*Cymbopogon citratus)* causes considerable changes in the natural habitat, and is a significant threat to native forests. The problem lies not only with the impact of the spread of the grass, but in combination with the cultural practice of setting the grass alight at the beginning of the dry season. The grass adapts to fire and unlike other vegetation, grows

[5] Sea level rise is another threat of climate change that may necessitate relocation of coastal residents in the future.
[6] These frogs are known to enter residential water tanks. As it is unknown whether or not they contaminate the water, home owners resort to purchases bottled water as a precaution.
[7] Personal Communication: Dr. Janil Francis Gore, Plant Protection Officer, Department of Agriculture of Antigua and Barbuda. July 12, 2010.

and expands. Invasive species therefore contributes to not only biodiversity loss but land degradation.[8]

Inadequate Land Use Planning

There is no implemented plan or policy to demarcate zones of development to guide application approval. As such, multiple land uses (residential, commercial, agricultural or industrial) occur in close proximity causing conflicts among various users. Specifically this gap in the management of land use and development has left Antigua and Barbuda faced with inappropriately located structures along the coastline which sometimes results in the destruction of coastal ecosystems such as the coral reefs and mangroves. This in turn causes a decrease in fish stocks due to their loss of habitat. There is also the issue of squatting on Government lands.

Land degradation

Land degradation is an issue of national significance. Contributors to this problem include the destructive land clearing practices such as burning of vegetation, erosion and chemical use in the watershed areas, stray and roaming grazing animals, uncontrolled spread of villages and land use demands for residential and tourism development purposes, increases in alien species such as Citronella species (lemon grass), unplanned and/or poorly planned infrastructural development and natural hazards such as droughts. The impacts of land degradation include pollution (via sedimentation) of surface water and coastal waters, declined agricultural productivity; and poor maintenance or waterways and the roads that lead to them.

Uncontrolled Grazing by Roaming and Stray Livestock

Livestock owned by farmers with little or no land for raring, as well as some strays are allowed to graze on idle land left vacant by sugar corporations. Some areas are particularly affected by these roaming livestock such as the parish of St. Paul's which has a goat population density of 0.9 goats per acre, that is, approximately 10,0000 (25%) of the island's goat population. The impact of overgrazing includes loss of flora, loss of habitat for fauna, increase surface run off, caused by compacting of soil - thereby increasing the incidence of flooding and land degradation. Coastal ecosystems are also impacted upon as land degradation results in sedimentation of coastal waters. Roaming and stray livestock have also been known to contaminate residential water supplies by defecating in water storage tanks.

Degradation of Coastal Resources

Antigua and Barbuda are both coral islands with coral reefs, sea grass beds and mangroves which serve as habitats for flora and fauna. Degradation of coastal ecosystems has been occurring as a result of natural disasters, strong ocean currents, pollutants entering the coastal waters (such as sewage, effluent from residential and industrial activity, sedimentation – for example from soil loss from the Body Ponds and Potworks watershed), unsustainable exploitation of the coastal flora and fauna and development (mangroves are often removed for construction of hotels and other tourism related developments, for

[8] *Ibid*.

example Jolly Beach, Fort James and Cades Bay) and sand mining on beaches. The impact of coastal degradation includes loss in recreational opportunities, of natural habitats for flora and fauna and of the natural protection of the coastline. In addition, the loss of livelihoods and economic opportunities to fishers, hoteliers and related business is another reality of the degradation of coastal resources.

Pollution

Solid waste was cited as a problem of national priority. In addition to poor behavioural attitudes by residents with regards to littering, another critical element of this issue is that the majority of waste consists of manufactured and imported products. The increase in waste is expected to shorten the life cycle of landfills, thereby increasing pressure on government to expand existing or find new appropriate land (a scarce and expensive resource) to support waste assimilation. Challenges include changing the psyche of the public regarding solid waste disposal and capacity to use recyclable materials in an economically viable manner.

With respect to liquid waste most of the population of Antigua and Barbuda rely on septic tanks, pit latrines and pitless latrines[9] for sewage disposal. Further to this, even where there are existing sewage systems they are often inadequate. Pesticides used in agriculture are improperly disposed of, and liquid waste from commercial operations such as garages and factories is done via open sewers. Improperly managed liquid waste often leads to compromised fresh and marine waters quality. There are challenges with respect to finding appropriate disposal for hazardous waste.

The resulting consequence of all pollution is the threat to both public health and the physical environment.

Water scarcity

Demand for water often outstrips supply capacity in Antigua and Barbuda. This is expected given the low average rainfall and long periods of drought experienced. An estimated 33% of the domestic water supply comes from surface storage or ground water aquifers.

The water scarcity is caused by high seasonal and interannual rainfall variability. Most of the rainfall is received with severe intensity during the rainy season from July to December. Further to this, especially during droughts, there is loss of surface stored water because existing reservoirs have high evapo-transpiration rates as they are often shallow and exposed. Droughts also make aquifers more susceptible to salt water intrusion into groundwater supply. Reduction in reservoir storage capacity is experienced due to sedimentation precipitated by land degradation. There is also the matter of inadequate reservoir design and catchment management as well as the absence of an integrated national water policy.

[9] A shallow hole is used to deposit waste.

At present the Government of Antigua and Barbuda (GOAB) attempts to supplement the shortage by way of desalination. However, the agricultural needs for water to irrigate crops are not being met. A contributor to the latter issue is the fact that traditional ponds once available to farmers for irrigation are sometimes infilled with the establishment of nearby housing development, or is used as household effluent dump points thereby creating dead ponds.

High Energy Cost

Antigua and Barbuda, like other Caribbean nations, is dependent on fossil fuels. Negative environmental impacts from the use of fossil fuels exist. In addition to undesirable environmental consequences such as pollution, the almost exclusive reliance on fossil fuels is a heavy burden on the country's vulnerable economy. The causes for concern include unpredictable oil prices, the drain on foreign exchange and the opportunity costs of maintaining the status quo. These and other related factors consume resources that could otherwise be employed to address various development issues.

Key drivers of the environmental issues listed above include:

1. The poverty rate of Antigua and Barbuda is 14% of the population, while the indigent rate is 4% and the vulnerability rate is over 28% of the population.[10] Causes of poverty include high levels of unemployment which is thought to be further exacerbated by the influx of immigrants from neighbouring islands seeking employment,[11] as well as the effects of the global economic crisis;

2. Economic crisis – there is a dearth of funds available for national programming across the board. As such a number of issues can only be addressed immediately with the injection of funds from donor agencies. A negative impact of this, is that local environmental issues are often addressed within the parameters set by the donor;

3. Attitudes as well as traditional practices in the face of a changing environment - this is particularly challenging as rapid changes in environment (such as those caused by climate change) does not allow for incremental human behavioural shifts. This in turn affects the political will of politicians to support measures necessary to effect change;

4. Urbanisation and development demands – housing, agricultural, tourism and industry;

5. Inadequate institutional capacity caused by insufficient staff, the absence of the right staff complement, the need for training staff members to enable them to effect

[10] Poverty Reduction and Human Development in the Caribbean: Addressing the Millennium Development Goals, Caribbean Development Bank - Special Development Fund (SDF) 7, July 2008.
[11] Examples of this include the decline of the banana industry in neighbouring islands like Dominica.

the stipulated functions of the institutions and the absence of equipment for research and monitoring;

6. Existence of outdated legislation and poor enforcement of existing legislation;

7. Lack of synergies among sectoral programmes as well as the limited exposure of key decision makers to the extent of the cross-sectoral nature of environmental issues and management; and

8. Overall lack of medium and long-term development strategies and implementation in a way that addresses economic, social and environmental issues in tandem.

National Responses

Antigua and Barbuda has an Environmental Management Strategy and Action Plan 2004 to 2009.[12] The objectives of the strategy are:

1. **Policy and Planning framework:** to integrate environmental and natural resources management into development policies, plans, legislation and budget processes at all levels;
2. **Improved legal and institutional frameworks:** to protect the environment and improve the quality of development projects and programs;
3. **Provide a framework for Sustainable Livelihood:** to provide the private sector with a framework for enhanced participation and maximisation of the economic benefit from natural resources;
4. **Civil Society participation:** to ensure meaningful participation by civil society in environmental decision-making;
5. **Capacity Building:** to strengthen local expertise and technical ability in planning and implementing sustainable natural resource management programs and for negotiating multilateral environmental agreements through the development of appropriate tools and techniques, training, policy formulation, and cooperation in science and technology; and foster a culture of participation by Civil Society in decision-making and implementation and to build capacity to achieve this;
6. **Economic incentives:** to develop a package of economic instruments that will provide incentives or disincentives and the necessary funds to protect and or restore the environment; and
7. **Environmental education, training and awareness:** to strengthen environmental education, raise awareness and provide training in support of environmental management and the sustainable use natural resources.

It was developed to ensure that the country remains focused on the principles of the St. Georges' Declaration whereby members of the Organisation of the Eastern Caribbean States (OECS)[13] committed to a sustainable development approach and was intended for use by not only the public sector but the private and voluntary sectors.

Antigua and Barbuda has a draft Environmental Management Act which establishes a Department of the Environment as the principal executive agency responsible for implementing the provisions of the Act. Provisions in the draft cover: the appointment of inspectors and other officers; the establishment of an Environment Trust Fund; procedures for conduct of Environmental Impact Assessments including establishment of a Unit within the department to pursue these activities; units within the Department responsible for climate change and ozone depletion; the management of wastes, biodiversity and national parks, coastal resources, sustainable forestry, and water quality, and protection of the

[12] GOAB, 2004.
[13] OECS Member States include: Anguilla , Antigua & Barbuda, British Virgin Islands, Commonwealth of Dominica, Grenada , Montserrat , Saint Lucia, St. Christopher (St. Kitts) & Nevis and St. Vincent & the Grenadines .

marine environment; and the establishment of a National Coordinating Mechanism on Environmental Conventions (NCM) that reports to the Minister responsible for foreign affairs and is charged with coordinating the management and implementation of international environmental agreements.

Specific national responses to the issues identified above are described in Table 1.

TABLE 1: NATIONAL RESPONSES TO ENVIRONMENTAL ISSUES

ISSUE	RESPONSE
Natural Disasters and Climate Change	Antigua and Barbuda is signatory to the United Nations Framework Convention on Climate Change (UNFCCC)[14]. The Convention 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. The Convention is managed by Environment Department. While Disaster Management is the responsibility of the National Office of Disaster Services (NODS). The National Capacity Self Assessment (NCSA) Project funded by United Nations Environment Programme-Global Environment Facility (UNEP-GEF), allowed for a thorough assessment of the capacity needs and constraints facing national efforts to improve environmental conservation and sustainable development programmes, and to meet global environmental management obligations. It allowed for analysis regarding the institutional capacity framework that was initiated under the UNFCCC, the United Nations Convention on Biological Diversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD) and facilitated the identification of management strategies relevant to sustainable environmental development. The Government of Antigua and Barbuda (GOAB) embraced the Comprehensive Disaster Management (CDM) Strategy, where Caribbean Disaster Emergency Management Agency (CDEMA) participating states incorporate all phases of the disaster management cycle (prevention, mitigation, preparedness and response, recovery and rehabilitation) while focusing on promoting and accelerating disaster risk reduction initiatives. As a consequence there is a harmonization mechanism at the national level under which Disaster Management legislation is being revised that supports a more integrated framework. The current Natural Disaster Management Act focuses on preparedness and response. Under this mechanism, stakeholders report to the National Harmonisation Council regarding their activities. The Mainstreaming Adaptation to Climate Change in the Caribbean (MACC) Programme seeks to reduce physical, social, economic and environmental

[14] The objective of this Convention is to stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system while allowing ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner: http://unfccc.int/essential_background/convention/background/items/1353.php: Accessed July 21, 2010.

	vulnerability to the impacts of climate change. The project builds capacity through the mainstreaming of adaptation into the national development planning process through various programme areas and pilot projects. The climate vulnerability risk assessment foci areas for MACC are: Water Resources, Tourism, Agriculture and Coastal Zone, as well as Public Education and Outreach strategies.
Invasive Species	Antigua and Barbuda is signatory to the World Trade Organisation, under the Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement),[15] the Cartagena Protocol on Biosafety and the International Plant Protection Convention. Invasive plant species are managed under the Plant Protection Act of 1941. There are no regulations. A new Plant Protection Act is awaiting approval by cabinet. Upon approval, this Act will be used to build a 10 year sector plan. GOAB recognises the extent to which invasive species can have a significant impact on the economic viability of the agricultural sector and have made significant efforts to protect crops. Inspections with the aim of preventing entry of invasive species are carried out at the air and sea ports. Under the Public Sector Investment Programme capital funds were allocated for incinerators at the ports. At present the Department of Agriculture is trying to restructure the Plant Protection Unit in order to facilitate compliance with World Trade Organisation standards. It is hopes that fumigation and quarantine facilities will be included in the new facility intended. The United States Department of Agriculture (USDA) in collaboration with Inter-American Institute for Cooperation on Agriculture (IICA) has assisted the GOAB by facilitating training and workshops on the identification and survey of specific pests; fund trainers for public awareness and education initiatives; and fund participation at the Caribbean Plant Health Directors Forum as well as the meetings of Technical Working Groups.
Inadequate Land Use Planning	Currently the main agency responsible for land use planning is the Development Control Authority. The Authority ensures that Environmental Impact Assessments (EIA) (according to the current Development Control Act) precedes all development projects that are likely to have negative effects on the environment. GOAB, via the Environment Division, the National Executing Agency of the US$3 million GEF funded project, the Development and Implementation of a Sustainable Island Resource Management Mechanism in a Small Island Developing State (SIRMM) will attempt to ensure the sustainability and maintenance of island ecosystem integrity, health, and function through integrated planning and management of the islands' resources, thereby providing a basis for continued sustainable economic development. It is expected that the project will aim have four major outcomes: • Easy and reliable access to information for environmental management by all

[15] This Agreement sets constraints on member-states' policies relating to food safety (bacterial contaminants, pesticides, inspection and labelling) as well as animal and plant health (phytosanitary) about imported pests and diseases.

	stakeholders through an Environment Information Management Advisory System, • A Sustainable Island Resource Management Plan, • Realignment of policy, legislation, and institutional capacity to support the SIRMM Plan, and • Implementation of the SIRMM Strategic Plan, including four on-the-ground demonstration projects. To implement these outcomes the Environment Division, working in coordination with key agencies including Fisheries, Forestry, National Parks, DCA (Development Control Authority), Barbuda Council, NODS, Antigua Public Utilities Authority (APUA), Surveys and Land Registry to develop of policies Two of the four demo projects were commence – the Sustainable land use practices for the conservation of soil and water resources and rehabilitation of the Body Ponds watershed on Antigua; and the Integrated Planning and Management for the sustainable use of Codrington Lagoon (Barbuda). The project also entails the development of an Environment Information Management Advisory System that will provide easy and reliable access to information for environmental management by all stakeholders. The Sustainable Island Resource Management Zoning Plan (SIRMZP) for Antigua and Barbuda, including Redonda and will feed into the structure of the Sustainable Island Resource Management Plan. This zoning plan will designate different categories of land and marine resource use and each category will have an associated set of activities and guidelines and regulations. The process will involve stakeholder consultation and will be carefully coordinated with the Physical Planning Act and the National Physical Development Plan.
Land degradation	Though Antigua and Barbuda signed the United Nations Framework Convention to Combat Desertification UNCCD in 1994, it became a party on June 6, 1997. National efforts relevant to this Convention are coordinated by the Environment Department. Other agencies such as those responsible for agriculture, forestry, water, development control, National Parks and waste play an integral part in the management of land degradation. Relevant actions include: • Antigua completed it National Action Plan in 2005 which articulates specific plans and interventions regarding public awareness, education, drought management, land use management, watershed management, pasture and range management, coastal management, institutional capacity building and improving information resources relating to land degradation processes, monitoring and amelioration • The Department of Agriculture has spearheaded the development of an Agricultural Policy that is awaiting cabinet approval, and a National Food

	Production Plan which seeks to promote sustainable use and conservation of our natural resources and employ environmentally friendly technologies and practices. This Department has also instituted farmers' training regarding good agricultural practices. • Antigua is listed as one of the participating countries of the UNDP's Sustainable Land Management (SLM) Project which aims to mitigate land degradation by maintaining the ecological integrity, stability and productivity of their terrestrial resources by focusing on integrating SLM into national development policies, plans and regulatory frameworks; developing institutional and individual capacities for SLM; developing capacities for knowledge management in support of SLM, including a computerised Land Resources Information System; and investment planning and resource mobilisation for implementation of SLM interventions.
Uncontrolled Grazing by Roaming and Stray Livestock	Specific national responses to the roaming and stray livestock include the drafting of legislation which provides for making owners more responsible for livestock. Provisions stipulate the introduction of a system of registration of animals. The Livestock Division of the department of Agriculture has also been branding cattle and tagging sheep and goats to identify owners of animals found roaming, involved in accidents, or who have caused some property damage. This allows for convictions where negligence of owners can be proved.
Degradation of Coastal Resources	Antigua and Barbuda has ratified the Cartagena Convention on marine pollution prevention, Protocol Concerning Special Protected Areas and Wildlife (SPAW), United Nations Convention on the Law of the Sea (UNCLOS), Protocol Concerning Pollution from Land-Based Sources and Activities and is a member of the International Maritime Organisation. The main body responsible for coastal resources is the Fisheries Division of the Ministry of Agriculture whose main activities include data collection and analysis, quality assurance and control, public awareness and training, conservation and environmental monitoring with a focus on coastal and marine biodiversity, and surveillance and control of the waters of Antigua and Barbuda. Fisheries however work with a number of agencies, inter alia, the Forestry Department and the Development Control Authority and Environmental Health. In response to the issue of coastal degradation the GOAB: • has designated 4 areas as Marine Reserves; • is undertaking an inventory of all fisheries areas; and • is revising legislation that not only allow for the designation of a marine reserve, but takes into account the protection of specific marine elements as well as coral reef and seagrass damage. The legislation will also provide for a permit system for users. The OECS Protected Areas and Associated Livelihoods National Project (OPAAL), funded by the GEF through the World Bank, Agence Francais de Development (AFD) and the Fionds Francais pour l'Environement Mondial (FFEM) and the GOAB, aims to promote biodiversity conservation, removing barriers to effective

	management of protected areas as well as boosting the participation of the private sector and NGOs in the process. The project also seeks to provide environmentally sustainable economic opportunities for nearby communities. Antigua and Barbuda's demonstration site is the North East Marine Management Area (NEMMA). The Sustainable Island Resource Management Mechanism (SIRMM) Project is also a critical national response to coastal degradation issues in Antigua and Barbuda.[16]
Pollution	The National Solid Waste Management Authority is a statutory body established by the National Solid Waste Management Act 1995. The Authority is mandated to store, collect, transport, treat and handle all solid waste generated in Antigua and Barbuda. The Environmental Health Department (via the Public Health Act) protects the health of the public. Other relevant legislation include: the Dumping at Sea Act (No. 29 of 1975), the Public Health Act (Cap No. 236, 1957) and various regulations such as the Litter Act (No. 7 of 1983), and the Litter (Fixed Penalty Procedure) Regulations (SRO No. 41, 1984) (and Amendment Regulations of 1985). To manage the issue of litter there are 4 Litter Wardens which are intended to monitor and prevent acts of littering. There are also a number or private sector business ventures that facilitate the recycling and reuse of bottles, scrap metal, plastic cans and batteries by the private sector. Under the Integrated Watershed and Coastal Areas Management (IWCAM) programme Antigua will gain assistance regarding freshwater and coastal water quality, and hygiene and sanitation, as the project activities will focus on improvements in integrated freshwater basin-coastal area management. Antigua and Barbuda acceded to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal since April 1993. The convention obliges its member countries to ensure that hazardous waste is managed and disposed of in an environmentally sound manner, and that transboundary pollution is prevented. In Antigua, hazardous waste is stored, batteries are exported out, oil paint and sludge are taken to a diesel making company. Asbestos is dealt with on site. In anticipating the negative impacts of the ever increasing non-degradable waste, government is interested in developing a waste to energy initiative and identifying viable market for recyclable waste.
Water Scarcity	Water resources management is vested in the Public Utility Act with APUA as the implementing authority. As a means of addressing water shortages, GOAB has two desalination systems situated at Crabs Peninsula – one flash distillation plant and a reverse osmosis

[16] See above – page 9.

	plant. Rainwater harvesting by households contributes an important source of safe drinking water provided the collection and storage system is kept in hygienically good condition. It is mandated by law, that new residential properties be equipped with rainwater collection and storage systems.
High Energy Cost	In seeking to reduce the negative impacts of fossil fuel dependence, GOAB has established a sustainable energy desk in the Prime Ministers' office with the aim of exploring alternative energy. At present power generation and distribution is governed by the Antigua Public Utilities (Amend) Act (2004) which grants the utility company the sole right to generate and distribute energy in Antigua. Despite this statutory monopoly, the Antigua Public Utilities Authority (APUA) has entered into contracts with a number of Independent Power Producers which produce electricity which is then distributed by APUA. During the first quarter of 2010, GOAB commissioned an 18 member National Energy Task Force (NETF) which is currently working on the development of a national energy policy. Following the commissioning of the NETF, a series of stakeholder consultations were held to solicit input on the priorities to be reflected in the national energy policy. As part of OECS, GOAB is working with UNIDO to examine waste to energy options for the region and capacity building, and other regionally based initiatives and projects such as: • OAS' Caribbean Sustainable Energy Project (CSEP): whose primary objective is to facilitate the adoption of energy policies and legislation pertaining to address the market conditions for the development and use of renewable energy and energy efficiency systems by mitigating the barriers to their use; and • Caribbean Renewable Energy Development Programme (CREDP): an initiative where Caribbean countries work towards removing barriers to the use of renewable energy and to foster its development and commercialisation. The objectives of the project are to reduce greenhouse gas emissions by removing barriers to renewable energy development, establish the foundation for a sustainable renewable energy industry, and create a framework under which regional and national renewable energy projects are mutually supportive. The German Government through agreements via Caribbean Community (CARICOM) provided assistance under Phase II of this programme.

International Assistance Programmes

Table 2 presents an analysis of existing United Nations assistance programs and aid provided by other international organisations, as well as bilateral donors relevant to the issues identified, taking into account critical linkages to poverty reduction and development. In all instances, the GOAB partners/partnered/will partner with the international funding agencies identified. Regional entities such as the Organisation of Eastern Caribbean States (OECS) and the Caribbean Community (CARICOM) tend to act as facilitators for regional initiatives funded by international organisations.

TABLE 2: INTERNATIONAL ASSISTANCE PROGRAMMES AND PROJECTS – ANTIGUA AND BARBUDA

INTERNATIONAL INSTITUTION	MAJOR INTERNATIONAL PARTNERS	WHAT HAS BEEN OR IS CURRENTLY DONE	FUTURE PROGRAMMES
United Nations Development Programme (UNDP)	GEF	• National Biodiversity Strategy Action Plan and Report to the COP; • Clearing House Mechanism Enabling Activity; • Assessment of Capacity Building Needs and Country Specific Priorities; • Enabling the Antigua and Barbuda to Prepare its First Communication in Response to its Commitment to UNFCCC; • Climate Change Enabling Activity (Additional Financing for Capacity Building in Priority Areas); and • Demonstrating the Development and Implementation of a Sustainable Island Resource Management Mechanism in a Small Island developing State.	
United Nations Environment Programme (UNEP)	GEF	• National Capacity Needs for Self Assessment (NCSA) for Global Environmental Management of the three major multilateral environmental agreements UNCCD, UNFCCC, UNCBD; and • Enabling Activities for the Stockholm Convention on	

		Persistent Organic Pollutants (POPs): The Development of a National Implementation Plan for Antigua and Barbuda.	
United States Agency For International Development (USAID)		USDA provided assistance with invasive species due to Antigua and Barbuda's proximity to US borders.	Currently conceptualising a climate change based project based on water resources and coastal zone management for OECS countries.
Organisation of American States (OAS)		Caribbean wide Caribbean Sustainable Energy Project	
European Union (EU)		Under the 10th EDF (2008-2013), EUR 3.43 million has been allocated with the focal sector being Fiscal and Public Sector Modernisation. Under previous EDFs, the EU funded the following environmentally oriented initiatives: • Caribbean Regional Environmental Programme; • Regional Radar Warning System; • Caribbean Regional Sustainable Tourism Development Programme.	
World Bank (WB)	GEF International Bank for Reconstruction and Development (IBRD)/Inter-American Development Bank (IADB)	• Mainstreaming Adaptation to Climate Change in the Caribbean (MACC) Programme seeks to reduce physical, social, economic and environmental vulnerability to the impacts of climate change. • Protected Area and associated livelihoods Project (OPAAL): contributes to the conservation of biodiversity by removing barriers to the effective management of protected areas, and increasing the involvement of civil society. The demonstration site for Antigua is North East Marine Management Area.	
Germany	CARICOM/UNDP	Caribbean Renewable Energy Development Programme – Phase II (CREDP)	
Japan International Cooperation Agency (JICA)		Development of Artisanal Fisheries Facilities Codrington, Barbuda (EC$30million)	
Canadian International	PAHO/WB and OAS	While there are no long term bilateral projects, current Caribbean wide initiatives include: Health Sector	There is no bilateral programme but Antigua and Barbuda can benefit from

Development Agency (CIDA)		Disaster Risk Management, Disaster Risk Management Facility, Caribbean Catastrophe Risk Insurance Facility, Caribbean Disaster Responsive Fund, Disaster Preparedness, OECS Environmental Capacity Development (ENCAPD) (coastal and marine environmental management).	geographic programme and inter-American programmes.
UK Department for International Development	CIDA/EC/OECS Secretariat	Comprehensive Disaster Management -Harmonised Implementation Programme (CDM-HIP): Support for the regional Comprehensive Disaster Management (CDM) Strategy- assisting the Caribbean Disaster and Emergency Management Agency (CDEMA) to strengthen institutional support for CDM Program implementation at national and regional levels; and build community resilience (e.g. safer building and landslide protection for the most vulnerable) in CDERA states/ territories to mitigate, respond to, and recover from the adverse effects of climate variability and change and disasters.	
	UNECLAC; IADB/CDB and AusAid tbc)	Caribbean Review of Economics of Climate Change (RECC)-Phase 2 and 3: an economic assessment of the impacts of climate change looking at key vulnerable sectors with different socioeconomic development scenarios and emission trajectories. This includes costs and benefits of inaction (known as business as usual or baseline) versus adaptation to reduce vulnerability, and transition towards sustainable low carbon economy. It will include analysis of poverty, equity and gender where possible The programme also includes training of professionals across the region in modelling the economic impacts of climate change and adaptation to boost technical capacity in this area.	

Critical Gaps and Opportunities to Support Country Environmental Priorities

Review of national documents and information gathered from interviews indicate that the following gaps in existing response mechanisms (policies, programmes, legislation) to the environmental issues taking into account the relationship between the natural environment, social needs and economic development, as well as opportunities to support environmental priorities (See Table 3).

MAIN THRUST

A well laid path to development of sustainable development framework has been articulated in Antigua and Barbuda's Environmental Management Strategy and Action Plan 2004 to 2009.[17] Broadly speaking, that strategy, other national reports, and interviewees indicate that various components of the current framework must be strengthen in terms of an increase in the staff complement of various institutions; provision of staff training vital for undertaking stipulated institutional mandates; provision of relevant regulatory and enforcement capabilities of institutions; maintenance of a baseline of programmatic activities including data collection and monitoring; the ability to use information from various sources for decision making; and the development of fiscal policies to stimulate corporate environmental stewardship, and to incentivise new business models that focus on the sustainable utilisation of natural capital to attract foreign exchange.

The UNCCA and UNDAF process can therefore assist in orienting and aligning international development assistance and partnerships in support of Antigua and Barbuda's development goals in a sustainable manner.

[17] GOAB, 2004

TABLE 3: CRITICAL GAPS & OPPORTUNITIES TO SUPPORT ENVIRONMENTAL PRIORITIES

	GAPS	OPPORTUNITIES
Mainstreaming environment by the creation and implementation of an overarching policy framework	While there is acknowledgment of the importance of natural resources to the achievement of national development goals, there is still a need to move towards implementation and mainstreaming of natural resource management in all sectors.	• Implementation of policies and programmes, in particular an updated Environmental Management Strategy and Action Plan as the overarching policy document; • Provide institutional and regulatory capabilities that would harmonise policies and facilitate the development of cross-sectoral bodies to effect the mainstreaming of environmental management and sustainable development; • Development of rationalisation of policies plans programmes projects, legislation and institutional arrangement in a manner that will promote effective and efficient use of resources. The NCSA output can be used to inform this process; • Mechanism to incorporate environmental values, revenues and management costs into national accounting system; • Facilitate non-partisan discussion and cooperation on environment matters, in particular overarching matters such as climate change, in order to allow for guaranteed continued programming; • Formalised planning for climate change adaptation strategies at the national level; • Agricultural policy should adequate address: plant protection, stray and roaming livestock; • Creation of a water management policy; and • Creation of a national energy policy.
Legislative & Enforcement Framework	Absence of legislation to give specific institutional powers to manage natural resource use, and in many instances, there are no Statutory Rules and Orders necessary to effect purposes of the Act, e.g. there are no regulation for the new Plant Protection Act. Associated schedules must be WTO compliant.	• In keeping with mainstreaming efforts, conduct institutional and legislative assessments of existing institutions and statues; • Formal and informal training of legal personnel regarding concepts such as sustainable development, green economy and specifically environmental management to foster a holistic understanding of the role environment and related

	GAPS	OPPORTUNITIES
	Backlog of draft legislation with the Legal Unit or Cabinet. There is a weak enforcement of existing legislation relevant to the environment in all sectors.	legislation in the context of the national development framework; • Education via training courses for law enforcement (Police) regarding the national importance of enforcement of environmental legal provisions; and • Development of programmes/projects that encourage compliance to work in tandem with legislative penalties for breach of law.
Private Sector and Non-Governmental multi-sectoral participation	Environmental issues of national priority are largely addressed primarily by GOAB.	• Development of more policies and incentives to encourage CSR as a means of tackling environmental issues identified; and the promotion of fiscal benefits of CSR (by way of Costs Benefit Analysis) to private sector entities; • The banking community should be encouraged to implement environmental standards for loan approval that are in tandem with other development policies; • Capacity building of private sector and civil society (especially Community Based Organisations (CBOs) to increase participation; • Provision of incentives to encourage the construction of energy efficient buildings; and • Development of small business programmes that promotes use of natural capital as a means of alleviating and preventing poverty and traditional knowledge.
Attitudes & Education	Poor attitudes/behaviour and need for environmental education	• Assessment of education strategies and development of new sector specific strategies (e.g. in the case of climate change: problems, consequences and solutions). This should include high level decision makers who should be made aware of the cross-sectoral nature of issues and solutions. These initiatives could take the form of focus groups, workshops and training courses. • Specifically, there is a need for clarity regarding climate change issues at the level of senior management and at the policy level.

	GAPS	OPPORTUNITIES
Environmental Standards, Information Gathering & Monitoring	There is a lack of environmental standards and more long termed sustained monitoring of productivity of the natural resource base and the ecosystem services provided There is inadequate infrastructure for the provision of information to support decision making and a shortage of, inaccurate and inaccessible scientific data for decision making. For example, time series meteorological data needed due to decline in information collecting capacity with the loss of banana plantations.	• Development of environmental standards and codes of action e.g. water quality standards (and the accompanying water resource management and use efficiency policy) and microbiological testing; • Wider laboratory capabilities to test various environmental media; • Establishment of automated stations, to determine climatic shifts for planning purposes; • Development of an integrated data collection system, possibly incorporated into or working in collaboration with the national statistical unit which would need to be strengthened; • Vulnerability analysis of environmental risk over 20 year period with an aim to intervene and decrease risks in hotspots (e.g. rockfalls south of the seaport) • Include Hazard Vulnerability Assessment in EIA process to lower risks associated with developments; • Provision of funding to implement planned Plant Protection Headquarters building with pathology and entomology laboratories; and • Monitoring of water harvesting, crop harvesting cycle and crop rotation connected to seasons; • Research to determine the impact of the Cuban tree frog – does the frog contaminate residential water storage tanks.
Capacity Building: Manpower, Professional Development & Equipment	Many of the agencies charged with responsibility for environmental matters are understaffed, lack the necessary tools and budgets to effectively and efficiently execute their duties e.g. Department of Agriculture.	• Across the board there is a need for increase manpower and specialised training to effect institutional responsibilities • There is a need for laboratory equipment and facilities, information technologies and monitoring and data collection tools; and • Development of skill sets to all adequate analysis of an EIA process that included Hazard Vulnerability Assessment.
Horizontal Cooperation	As a small island with limited financial resources, finding solutions to some issues can be challenging. Examples of	• Facilitation of horizontal cooperation programmes, not only among OECS, CARICOM (Caribbean Community) members

	GAPS	OPPORTUNITIES
	such include determining a viable method for the disposal of used oil, batteries and recyclable materials.	states but Small Island Developing States (SIDS). Initiative in need of such cooperation include the regional cooperation on waste to energy and finding external markets for waste as each islands experience difficulties in managing their waste, national volumes are inadequate to make shipping waste to external markets viable or establish profitable waste to energy initiatives.
Physical Development/ Infrastructure	Inadequate system to manage liquid waste. No setback for coastline.	• Development of a sewage treatment system to abate liquid waste pollution; and • Implementation of setback standard from high water mark for coastal developments.

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5. Government of Antigua and Barbuda, Biodiversity Strategy and Action Plan, April 2001.
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9. Griffith, M.D. and Oderson D., Nuts and Bolts - Strengthening the Inner Circle for Environment and Sustainable Development: The Case of the Caribbean Community, 2010.

WEBSITES

http://unfccc.int/essential_background/convention/background/items/1353.php

http://www.antigua-barbuda.org/index.htm.

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[18] Interviewed By Dr. Asha Singh.
[19] *Ibid.*

ANNEX 2: Antigua and Barbuda's PARTICIPATION IN MULTILATERAL ENVIRONMENTAL AGREEMENTS[20]

MULTINATIONAL ENVIRONMENTAL AGREEMENTS	STATUS
Wildlife /Conservation	
Convention of International Trade in Endangered Species, 1972 (CITES)	A -1997
Convention on the Conservation of Migratory Species (CMS)	A-2007
Convention on Wetlands of International Importance especially as Waterfowl Habitats (RAMSAR)	A -2007
International Convention for the Regulation of Whaling 1948 ad 1959	Ad-1982
Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean, 1983 (RE)	S-1990
Biodiversity/Bio-safety, Traditional Knowledge	
International Plant Protection Convention, Rome, 1951	Ad-2006
Convention on Biological Diversity, 1992	R-1993
Cartagena Protocol on Bio-Safety	R-2003
Marine Protection and Safety	
Convention on the Protection and Development of the Marine Environment in the Wider Caribbean, 1983 (Cartagena Convention) (RE)	A-1986
Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean, 1983 (RE)	A-1986
Protocol of 1973 to the International Convention for the Prevention of Pollution from Ships as Amended (MARPOL 1973/78)	A-1988
International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC, 1969)	A-1997
Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT, 1992)	A-2000
International Convention for the Establishment of an International Fund for the Compensation of Oil Pollution, 1971 (FUND,1971)	A-1997
Protocol of 1992 and 2003 to the International Convention for the Establishment of an International Fund for the Compensation of Oil Pollution, 1971	A-2000
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as Amended (LC 1972)	DI-1989
International Convention on Oil Pollution Preparedness, Response and Cooperation	A-1999

[20] Adapted from Griffith, M.D. and Oderson D., Nuts and Bolts - Strengthening the Inner Circle for Environment and Sustainable Development: The Case of the Caribbean Community, 2010.

(OPRC Convention), 1990	
Marine Resources	
United Nations Convention on the Law of the Sea, 1982	R-1989
Chemicals/Waste Management	
Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal	A-1993
Sustainable Land Management	
United Nations Convention to Combat Desertification	A-1997
Atmospheric/Climate Systems	
Vienna Convention for the Protection of the Ozone Layer, Vienna, 1985	A-1992
Montreal Protocol on Substance that Deplete the Ozone, 1989*	A-1992
United Nations Frame- work Convention on Climate Change, 1992	R-1993
Kyoto Protocol	R-1998
Protection of Human Health and the Environment	
Stockholm Convention on Persistent Organic Pollutants (POPs), 2001	A-2003
Culture and Natural Heritage	
Convention for the Protection of World Culture and Natural Heritage, 1972	Ac-1983

Key	
A:	Accession
Ac:	Accepted
Ad:	Adherence
DI:	Date of Deposit of Instrument
R:	Ratification
RE:	Regional MEA

ANNEX 3: LIST OF INTERNATIONAL PROJECT IMPLEMENTED IN 2005-2009 AND PLANNED FOR 2010-2015

DONOR *(IMPLEMENTING AGENCY)*	INTERNATIONAL PROJECT	TOTAL FUNDS (000,000.00)	TIMELINE	NOTES
	ANTIGUA & BARBUDA AS PART OF THE REGION			
CIDA/PAHO	Health Sector Disaster Risk Management	CAN $3.00	2007-2015	
CIDA	Disaster Risk Management Facility	CAN $12.86	2007-2015	
CIDA/WB	Caribbean Catostrophe Risk Insurance Facility	CAN $20.00	2007-2012	
CIDA	Caribbean Disaster Responsive Fund	CAN $10.00	2003-2008	
CIDA/OAS	Disaster Preparedness	CAN $3.86	2001-2008	
CIDA	OECS Environmental Capacity Development (ENCAPD) (coastal and marine environmental management)	CAN $4.50	1999-2009	
DFID/CIDA, EC and OECS Secretariat *(CDEMA)*	Comprehensive Disaster Management - Harmonised Implementation Programme (CDM-HIP)	USD 3.6	April 2009- March 2013	
DFID/UNECLAC; IADB/CDB and AusAid tbc) *(UNECLAC and CCCCC)*	Caribbean Review of Economics of Climate Change (RECC)-Phase 2 and 3	USD1.125	June 2009-January 2011	
DFID/AusAid supporting CCRA for five additional countries	Caribbean Climate Change Risk Atlas (CARIBSAVE CCRA)-Phase 1 for tourism sector	USD1.125	March 2010-June 2011	

(OUCE and CCCCC)				
DFID/Climate Development Knowledge Network (CDKN) *(CCCCC)*	Development of an Implementation Plan for the Regional Framework for Achieving Development Resilient to Climate Change	co funded with CDKN USD 0.66	August 2010- March 2011	
DFID *(CCCCC)*	CCCCC/regional task force support	USD 0.269	Oct 2007-June 2010	
DFID *(UNDP with CCCCC)*	Copenhagen and beyond-Capacity building for CARICOM policy makers involved in climate change negotiations	USD 0. 2245	Sept 2009- June 2010	
DFID *(CCCCC)*	ECACC-Enhancing Capacity for Adaptation to Climate Change in the Caribbean Overseas Territories	USD~450,000	2007-2010	
DFID *(National Disaster Offices)*	DRR Capacity building in the UK Overseas Territories	USD450,000	2008-2011	
DFID	Low carbon/renewable energy development	tbc	2010-	Regional (pipeline)
DFID	Research -Climate Change Adaptation in Asia, Latin America and the Caribbean (CCA-ALAC)	tbc	??	
DFID	Global Environmental Facility – Sustainable environmental management	£11 million	2010-2012:UK	
EC (8th & 9th EDF)	Regional Weather Radar System	€13.20	2003-2006	
EC (9th EDF)	Disaster Management	€3.40		
EC (7th & 8th EDF)	Caribbean Regional Sustainable Tourism Development programme	€8.00	2000-2007	
EC (7th EDF)	Caribbean Regional Environmental Programme	€9.15	2000-2006	
GTZ/UNDP	Caribbean Renewable Development Energy Programme – Phase II (CRDEP)	???	2008 - ???	

OAS	Caribbean Sustainable Energy Project	???	2008- ??	
WB (IBRD/IDA)	OECS Protected Areas and Associated Livelihoods Projects	€2.70	2005-???	
	ANTIGUA & BARBUDA			
GEF/UNDP	National biodiversity Strategy, Action Plan and Report to the COP	US$0.139		Project Completion
GEF/UNDP	Clearing House Mechanism Enabling Activity	US$0.014		Approved
GEF/UNDP	Assessment of Capacity Building Needs and Country Specific Priorities	US$0.212 [+US$0.050 Co-financing]		Project Completion
GEF/UNDP	Enabling Antigua & Barbuda to Prepare its First National Communication in Response to its Commitment to UNFCCC	US$0.162		Project Completion
GEF/UNDP	Climate Change Enabling Activity (Additional Financing for Capacity Building in Priority Areas)	US$0.100		Project Completion
GEF/UNDP	Demonstrating the Development and Implementation of a Sustainable Island Resource Management Mechanism in a Small Island developing State	US$3.193 [+US$4.703 Co-financing]		Endorsed
GEF/UNEP	National Capacity Needs for Self Assessment (NCSA) for Global Environmental Management	US$0.193 [+US$0.071 Co-financing]		Under Implementation
GEF/UNEP	Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants (POPs): The Development of a National Implementation Plan for the Antigua and Barbuda	US$0.397 [+0.074 Co-financing]		Project Completion