

JOHANNESBURG SUMMIT 2002

BAHAMAS



COUNTRY PROFILE



UNITED NATIONS

INTRODUCTION - 2002 COUNTRY PROFILES SERIES

Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, underscored the important role that States play in the implementation of the Agenda at the national level. It recommended that States consider preparing national reports and communicating the information therein to the Commission on Sustainable Development (CSD) including, activities they undertake to implement Agenda 21, the obstacles and challenges they confront, and other environment and development issues they find relevant.

As a result, in 1993 governments began preparing national reports for submission to the CSD. After two years of following this practice, the CSD decided that a summarized version of national reports submitted thus far would be useful. Subsequently, the CSD Secretariat published the first Country Profiles series in 1997 on the occasion of the five-year review of the Earth Summit (Rio + 5). The series summarized, on a country-by-country basis, all the national reports submitted between 1994 and 1996. Each Profile covered the status of all Agenda 21 chapters.

The purpose of Country Profiles is to:

- Help countries monitor their own progress;
- Share experiences and information with others; and,
- Serve as institutional memory to track and record national actions undertaken to implement Agenda 21.

A second series of Country Profiles is being published on the occasion of the World Summit on Sustainable Development being held in Johannesburg from August 26 to September 4, 2002. Each profile covers all 40 chapters of Agenda 21, as well as those issues that have been separately addressed by the CSD since 1997, including trade, energy, transport, sustainable tourism and industry.

The 2002 Country Profiles series provides the most comprehensive overview to date of the status of implementation of Agenda 21 at the national level. Each Country Profile is based on information updated from that contained in the national reports submitted annually by governments.

Preparing national reports is often a challenging exercise. It can also be a productive and rewarding one in terms of taking stock of what has been achieved and by increasing communication, coordination and cooperation among a range of national agencies, institutions and groups. Hopefully, the information contained in this series of Country Profiles will serve as a useful tool for learning from the experience and knowledge gained by each country in its pursuit of sustainable development.

NOTE TO READERS

The 2002 Country Profiles Series provides information on the implementation of Agenda 21 on a country-by-country and chapter-by-chapter basis (with the exception of chapters 1 and 23, which are preambles). Since Rio 1992, the Commission on Sustainable Development has specifically addressed other topics not included as separate chapters in Agenda 21. These issues of trade, industry, energy, transport and sustainable tourism are, therefore, treated as distinct sections in the Country Profiles. In instances where several Agenda 21 chapters are closely related, for example, chapters 20 to 22 which cover environmentally sound management of hazardous, solid and radioactive wastes, and chapters 24 to 32 which refer to strengthening of major groups, the information appears under a single heading in the Country Profile Series. Lastly, chapters 16 and 34, which deal with environmentally sound management of biotechnology, and transfer of environmentally sound technology, cooperation, capacity-building respectively, are presented together under one heading in those Country Profiles where information is relatively scarce.

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LIST OF COMMONLY USED ACRONYMS

ACS	Association of Caribbean States
AMCEN	Africa Ministerial Conference on the Environment
AMU	Arab Maghreb Union
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CARICOM	The Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CIS	Commonwealth of Independent States
CGIAR	Consultative Group on International Agricultural Research
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CSD	Commission on Sustainable Development of the United Nations
DESA	Department for Economic and Social Affairs
ECA	Economic Commission for Africa
ECCAS	Economic Community for Central African States
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIDA	Foundation for International Development Assistance
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEA	International Atomic Energy Agency
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development

IEEA	Integrated Environmental and Economic Accounting
IFAD	International Fund for Agricultural Development
IFCS	Intergovernmental Forum on Chemical Safety
IGADD	Intergovernmental Authority on Drought and Development
ILO	International Labour Organisation
IMF	International Monetary Fund
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	Integrated Pest Management
IRPTC	International Register of Potentially Toxic Chemicals
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature and Natural Resources
LA21	Local Agenda 21
LDCs	Least Developed Countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MEAs	Multilateral Environmental Agreements
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organizations
NSDS	National Sustainable Development Strategies
OAS	Organization of American States
OAU	Organization for African Unity
ODA	Official Development Assistance/Overseas Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Papers
SACEP	South Asian Cooperative Environment Programme
SADC	Southern African Development Community
SARD	Sustainable Agriculture and Rural Development
SIDS	Small Island Developing States
SPREP	South Pacific Regional Environment Programme
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNCED	United Nations Conference on Environment and Development
UNCCD	United Nations Convention to Combat Desertification
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNU	United Nations University
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES

Decision-Making: The Technical Assistance Unit of the Ministry of Foreign Affairs coordinates all technical assistance and training programmes offered by International and Regional Organizations. Financial assistance is processed through the Ministry of Finance

Programmes and Projects: No information available.

Status: Assistance includes seminars and technical meetings, documentation and technical information, support for human resource development and the strengthening of national institutions. It also includes short-term and long-term consultancies for policy formulation, drafting of legislation and transfer of expertise and technology and improvements in administration and management capabilities. There are also programmes for small business development.

Capacity-building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: The Bahamas receives financial assistance from the European Union, the World Bank, the Caribbean Development Bank and the Inter-American Development Bank. Technical assistance is also provided by these organizations, as well as from UNEP, UNCTAD, UNESCO, ILO, IMO, International Civil Aviation Organization (ICAO), WMO, International Telecommunication Union (ITU) and Universal Postal Union (UPU); OAS, Pan American Health Organization (PAHO) and Commonwealth Fund for Technical Cooperation (CFTC); and regional organizations such as CARICOM, U.W.I. Centre for Environment and Development (UWICED), the Caribbean Food and Nutrition Institute, the Caribbean Centre for Development Administration (CARICAD) and the Commonwealth Caribbean Medical Research Council.

Cooperation: See under **Financing**.

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**CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE
DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC
POLICIES - TRADE**

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 3: COMBATING POVERTY

Decision-Making: Decisions are taken by officials responsible for the particular areas in question. Major programmes are referred to the Cabinet for approval. Given the fact that the Bahamas is a small country with a population of approximately 260,000 inhabitants, most issues are discussed at the central level. It is the objective of the Government to improve the quality of life for all nationals but in particular, those who fall below the poverty level. In addition to Government's efforts, major groups working for combating poverty are various church groups, private sector organizations and women's groups.

Programmes and Projects: The Bahamas has no programmes that focus exclusively on combating poverty. However, virtually every programme formulated by the Bahamas Government has the needs of the least advantaged in mind. The Government's objective of improving the quality of life for all nationals and in particular for the poor can be reflected in the Government's programmes to encourage investment and development to create employment opportunities, education, health care, child care, housing, and so forth.

Status: No information available.

Capacity-building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: As programmes are an integral part of each Ministry's work schedule, funds are provided in the annual budget by sector.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS

Decision-Making: The Central Government is responsible for most policy initiatives. The Bahamas has not held a policy discussion on consumption at the national level, but emphasis is placed on the reduction of waste and increasing energy efficiency in the transport sector.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Bahamas has not been involved in any bilateral or multilateral initiatives in the area of consumption patterns.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY

Decision-Making:

Coordinating Bodies: The Public Utilities Commission is responsible for regulating all utility companies, including those for telecommunications and water as well as electricity. It is an autonomous agency and the Bahamas Government appoints individuals to serve on the Commission. For regulating utility companies, the Commission considers the policy of each sector. To date, sector policy has been established for telecommunications. Plans are in place to develop policies for electricity, water and sewerage. The Commission ensures that the interest of the consumer is protected and that the pricing of services is such that utility companies can make a good return. It also ensures that prices for given services reflect the cost of providing these services in order to avoid supra- or above normal profits. It aims to ensure that licensed entities operate in a manner that will foster competition. At present, the Commission has no resources to establish environmental standards and monitor companies for environmental compliance. This would have to be done by another agency, such as Department of Environmental Health Services. The Commission does, however, encourage companies to do internal monitoring and compliance.

Legislation, regulations and policy instruments: At present The Bahamas has no national energy legislation or policy instruments. The Public Utilities Commission was established by Act of Parliament and its organizational structure and function is outlined in this Act. There is a punitive tax structure in place to encourage the purchase of more energy efficient vehicles of less than 2.5 litre engines. This is an indirect energy emissions-related tax.

Strategies, policies and plans: While there is no national energy policy, it is a policy decision of the Bahamas Government that the entire Bahamas become electrified. Efforts are being made to secure equitable access to electricity for all users. Power supply to the Family Islands is subsidized by the Government and by consumers in Nassau. This must be done as it is not currently feasible or cost-efficient for these outlying consumers to pay for energy production.

Programmes and Projects: A pilot project was conducted with the consulting firm, ESB International and two companies (Bacardi and Crystal Palace Hotel) to show how they could save money by using improved lighting, improved air-conditioning and more efficient pumps.

To increase its energy efficiency, BEC has a demand-side management program to control technical and non-technical losses. Technical losses occur due to the condition of the equipment; it must therefore be maintained so that it will function properly. Non-technical losses consist of theft by consumers who access the power supply illegally. BEC controls the demand-side of energy production by cutting back on theft, ensuring proper meter readings and ensuring efficiency of supply.

Status: The two major agencies responsible for energy production in the Bahamas are Freeport Power Co. Ltd and the Bahamas Electricity Corporation (BEC). Freeport Power provides electricity services to all of Grand Bahama and the offshore communities of Deep Water Cay and Sweeting's Cay. The Company generates energy through the use of an 18,000 kW diesel plant, 2 gas turbines totaling 35,000 kW, and a 75,000 kW steam plant. Total annual units of power generated by Freeport Power for 1999 was 336,724 MWh.

BEC produces energy through the use of 7 diesel-driven alternators, 8 simple cycle gas turbines and 1 combined cycle unit, comprised of a steam and a gas turbine. The total electricity consumers connected by BEC in New Providence, Paradise Island and the Family Islands as of September 30, 1999 was 93,606. Total annual units of power generated by BEC for 1998-1999 was 1,184,599,322 kWh.

Targets are set for energy savings. Transmission and distribution losses of energy are known to BEC. The Corporation knows how efficiently its plant generates energy. Currently, there is expected an improvement of 14% in transmitted power losses, and at the power plant, a heat rate improvement of 11,000 BTU per kWh. BEC also suggests to consumers how to operate more efficiently in their businesses and homes.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: There have been researches for renewable energy production methods. With the present market, conventional energy supply is preferred. Experimentation for using solar energy is being done on a small scale privately.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT

Decision-Making: The Bahamas Environment, Science and Technology (BEST) Commission's Committee on Environmental Safety is vested with the responsibility of investigating the entire issue of emissions and making recommendations for national policy and legislation.

Programmes and Projects: No information available.

Status: Since the United Nations Conference on Environment and Development in 1992, the Government has tried to expand and improve the performance and safety of the mass transportation system.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: In the area of environment and transport, only some ad hoc observations of emissions have been carried out. High priority in the transport sector is given to the use of safe technologies.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: The Bahamas Environment, Science and Technology (BEST) Commission of the Office of the Prime Minister, the Ministries of Health, Environment, and Social Development, and the Department of Statistics are engaged in integrated policy coordination in the field of environment, development policies, and population.

Programmes and Projects: The Bahamas has no programmes that exclusively focus on combating poverty. However, virtually every programme formulated by the Bahamas Government has the needs of the least advantaged in mind. The Government's objective of improving the quality of life for all nationals and in particular for the poor can be reflected in the Government's programmes to encourage investment and development to create employment opportunities, education, health care, child care, housing, and so forth. The Ministry of Health and the Department of Statistics have conducted population programmes. The Government supports NGOs working in this area including: The Bahamas Family Planning Association (population activities); and The Bahamas National Trust (environment).

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: Public information activities are undertaken for raising awareness of the linkages among population, environment and sustainable development, particularly in relationship with the preparations for and follow-up to the Cairo Conference. The Government has provided resources needed for capacity-building and providing training.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: There are no bilateral or multilateral initiatives in the area of population and sustainable development in which the Government has been involved.

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CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

Decision-Making: No information available.

Programmes and Projects: Contributing to the goal of providing the best health care, the Government sponsors health education programmes throughout the country addressing all matters including the means to maintain a healthy lifestyle and adopt a sound nutritional basis.

Status: Basic health care is available to all people living in The Bahamas, with treatment available for almost all illnesses and conditions. The population of The Bahamas continues to experience improvements in many areas of health. Life expectancy at birth has been steadily moving from about 60 years in the early fifties to approximately 73 years in the early nineties. The Bahamas is an archipelagic nation where the population of approximately 260,000 is concentrated on 20 islands with over 65% living in New Providence Island that has three hospitals, eight community clinics and one satellite clinic. On the other 19 islands, there is one hospital, 49 community clinics and 53 satellite clinics. There are approximately 430 doctors, 88 dentists, 446 registered nurses, and 450 clinical nurses in total. The hospitals (three public and two private) have a total of 1,100 beds. The public hospitals treat approximately 420,000 outpatients annually. Those nationals living in the Family Islands who require health care may receive treatment from clinics and will be flown into New Providence for hospital care if needed. Major steps have been taken to address environmental health concerns including garbage collection and pollution.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

Decision-Making: No information available.

Programmes and Projects: The Bahamas has continued its efforts to provide reasonable housing for its population. In the Island of New Providence, where over 65% of the population lives, there have been a number of low-cost housing projects. In 1996, the Government completed 184 houses in Phase C of the Flamingo Gardens and Faith Avenue Subdivision and the Cox Street Housing Development. Work is still ongoing on 89 houses in the Jasmine Gardens and Tall Pines Estates, and construction of 442 houses is to commence in the first quarter of 1997 in Emerald Gardens, Pastel Gardens and Olive Gardens.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: A Family-Island Infrastructure Study is proposed for 1997. It will include an inventory of existing infrastructure facilities and identify priority infrastructure projects in support of environmentally sound economic activities in islands in the Bahamas archipelago.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: The Bahamas Environment, Science and Technology Commission (BEST) is responsible for coordinating activities for sustainable development. It is chaired by the Ambassador for the Environment and includes: the Directors of Agriculture, Fisheries, Environmental Health Services, and Physical Planning; the Director-General of Tourism; the Deputy Permanent Secretary of Ministry of Foreign Affairs; the Deputy Permanent Secretary of Ministry of Finance; the President of the College of the Bahamas; the Senior Hydrologist of Water and Sewerage Corporation; and the Executive Director of Bahamas National Trust. BEST has constituted a number of Standing Committees, including the following: National Conservation Strategy; National Land Use; Biodiversity Implementation; Biodiversity Data Management; Climate Change; Environmental Safety; Science and Technology; and International Obligations. Legislation is to be drafted to ensure that regulations are in force to support the provisions of the conventions concerning sustainable development. A major step in the process of integrating environment and development in decision-making has been the introduction of the mandatory requirement for EIAs to be carried out with respect to all development projects. This has been done to ensure that all future work will be designed to ensure sustainable development.

National legislation relevant to sustainable development includes the following: 1) Archipelagic Waters and Maritime Jurisdiction Act, 1993; 2) Agriculture and Fisheries Act (Ch. 223), 1963; 3) Bahamas Agriculture and Industrial Corporation Act, (Ch. 328), 1981; 4) Bahamas Maritime Authority Act, 1995; 5) Bahamas National Trust Act (Ch. 335); 6) Coast Protection Act (Ch. 190); 7) Continental Shelf Act (Ch. 5); 8) Environmental Health Services Act (Ch. 217); 9) Fisheries Resources (Jurisdiction and Conservation) Act (Ch. 225); 10) Fisheries Resources (Jurisdiction and Conservation) Act Amendment No.2, 1993; 11) Local Government Act 1996; 12) Port Authorities Act; 13) Private Roads and Sub-Divisions Act (Ch. 237); 14) Reclamation and Drainage Act; 15) Seal Fisheries Act; 16) Town Planning Act; 17) Plants Protection Act, 1916; 18) Water and Sewerage Corporation Act (Ch. 184); 19) Whaling Industry (Regulation) Act; 20) Wild Bird Protection Act (Ch. 230); and, 21) Wild Animals Protection Act (Ch. 229). In addition, a number of new pieces of legislation have recently been introduced for the relevant biodiversity conservation. These include: 1) Agriculture and Fisheries (Protected Areas) Rules, 1996; 2) Antiquities, Monuments and Museums Act; 3) Continuity of the Water and Sewerage Corporation Forestry Act; 4) Marine Mammal (Dolphin) Legislation Act to Regulate the Removal of Hills and Trees; and, 5) Tourism Incentives Act (Marinas, Environmental and Theme Park).

The National Conservation Strategy Task Force in the BEST Commission is developing a National Strategy and Action Plan that will be incorporated into the nation's legal framework. The BEST Commission is making all efforts to involve NGOs in the process of decision-making. These include, primarily, Research Institutions and individual scientists and researchers.

Programmes and Projects: No information available.

Status: The main constraints for the implementation of international legal instruments related to sustainable development have been the lack of resources, technical expertise and funding.

Capacity-Building, Education, Training and Awareness-Raising: With regard to capacity-building, there is the need for additional upgrading and training of staff in relevant areas of research capabilities and in developing integrated and holistic development. A National Strategy and Development Plan for Capacity-Building as related to Sustainable Development is presently in the final stages of preparation. It would need to focus on training and educational programmes/activities, focusing on sustainable development. Additional staff and equipment is also required. The following organizations contribute to capacity-building in the Bahamas: Government: Departments of Agriculture; of Fisheries; of Education; of Environmental Health Services; of Lands and Surveys; of Legal Affairs; of Meteorology; of Physical Planning; Port Department of Public Works; Ministry of Education; of Finance; of Foreign Affairs; of Tourism and of Transport; Private Sector/NGOs: The Bahamas National Trust; Quasi-Government Agencies: College of the Bahamas; Water and Sewerage Corporation; Research Institutions/Academia: College of The Bahamas. The Bahamas takes advantage of every opportunity to interact

with the countries whose regional entities exist in the region, on environmental issues, largely through the assistance provided by those regional entities such as the UNEP Regional Office, the Organization of American States, and the University of the West Indies Centre for Environment and Development (UWICED), among others.

Information: No information available

Research and Technologies: No information available

Financing: No information available.

Cooperation: The BEST Commission's Committee on International Obligations is mid-way through an in-depth study of all the obligations under each Convention ratified by the Bahamas with a view to coordinate all sustainable development issues. The BEST Commission is establishing an administrative and legal process to identify the relationships and overlaps between agreements concerning sustainable development.

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making:

Coordinating Bodies: BEST is responsible for coordinating activities in this sector. The Department of Environmental Health Services is the primary agency that is responsible for the control of emissions and air pollution. An Environmental Court has been established under this department where those found guilty of pollution and related acts will be prosecuted and heavily fined. A National Ozone Unit has been established at the Public Analyst Lab, Department of Environmental Health Services to function in implementing aspects of the Montreal Protocol on Ozone-Depleting Substances (ODS). This Unit is the implementing agency for the country's programme to reduce the use of Chlorofluorocarbon (CFC) and other ODS while the BEST Commission serves as the national focal point for the Montreal Protocol.

The National Climate Change Committee has been established by BEST, headed by a Commission member, to implement the provisions of UNFCCC.

Legislation, regulations and policy instruments: The Government of the Bahamas ratified both the Montreal Protocol and the London and the Copenhagen Amendments on 4 May 1993. The latest report to the Montreal Protocol Secretariat was prepared in 1996. The Bahamas Country Programme was completed in 2002 with all its training components, and the Terminal Phase-Out Programme has begun. UNFCCC was signed in 1992 and ratified in 1994. The First National Communication on climate change was presented to the UNFCCC COP in 2001. National legislation to protect the atmosphere has not yet been reviewed in the light of Agenda 21. In the sector of energy production, priority is given to the rehabilitation and modernization of power systems and the use of EIA. In the sector of electric power, a review has been undertaken for both the current energy supply mixes and feasibility of energy sources. There is a punitive tax structure in place to encourage the purchase of more energy efficient vehicles of less than 2.5 litre engines. This is an indirect energy emissions-related tax.

Strategies, policies and plans: The Government gives very high priority to the use of EIA for all large-scale developments. Environmental audits of industrial facilities are also accorded the highest priority. The Government promotes policies and programmes in the areas of: energy efficiency; environmentally sound and efficient transportation; industrial pollution control; sound land use practices; sound management of marine resources; and, management of toxic and other hazardous wastes.

High priority in the transport sector is given to the use of safe technologies. Since the United Nations Conference on Environment and Development in 1992, the Government has tried to expand and improve the performance and safety of the mass transportation system. The Bahamas has committed itself to the phase-out of the production of ODS as well as to eliminate the use of all ODS before 2010. Since the Bahamas is not a net emitter of GHG, there is no need to develop or modify land or marine based practice in this regard. The Bahamas, however, does support conservation and the preservation of its marine and land resources as is evident in the creation of the Bahamas National Trust and the extensive marine and land park system.

Programmes and Projects: As a result of decisions taken at the Second Conference of the Parties to UNFCCC, a GEF funded project has been initiated, enabling the Bahamas to fulfil its commitments to UNFCCC. This project has resulted in the development of a national inventory of GHG emissions, the identification of options to meet the objectives of the Convention and the production of the First National Communication on Climate Change. Further activities will involve the preparation of the National Plan and National Strategy for the Convention in the Bahamas. It is also envisaged that the status of the Bahamas, as a SIDS and is vulnerable to climate change, will be highlighted. The Government has established and strengthened early warning systems and response mechanisms with particular reference to hurricanes. Due to financial constraints, there is no early warning system or response mechanism for transboundary air pollution resulting from industrial accidents or natural disasters.

The Bahamas Country Programme involved the completion of a national survey to analyse the country's consumption of ODS. This programme consists of two projects:

1. An Institutional Strengthening Project

This project was mainly set up for coordinating, monitoring and promoting activities for the phase out of ODS. It aims to receive, collect, analyse and disseminate information on the issues involved in ozone layer protection.

2. A Refrigeration Management Plan (RMP)

The RMP consists of three subprojects:

- The Good Practices in Refrigeration Training Programme
- The Recovery and Recycling Training Programme
- The Customs Training Programme

The Terminal Phase-Out Programme will serve to eliminate all ODS in the Bahamas before the phase-out date of 2010. Mauritius and the Bahamas are the only two developing countries in the world attempting such a phase-out programme.

Status: The Bahamas contributes little to the global net release of GHG but, like all small states, is severely threatened from the possible effects of climate change. Rising temperatures and sea level followed by floods, coastal flooding and erosion as well as the projected increase in the number and intensity of tropical cyclones are of particular concern given that 80% of the Bahamas is within five feet of mean sea level. There is also a concern regarding loss of corals by bleaching and heat stress, health, and groundwater supplies. The loss of biodiversity is also of a concern as shifting climate zones can have a significant impact on plant and animal communities. Habitats at risk include wetlands, pine forests and coral reefs. Other areas or sectors that can be potentially impacted include: tourism; agriculture; health; and groundwater supplies.

Capacity-Building, Education, Training and Awareness-Raising: All projects involved training, capacity-building, education and awareness-raising components for stakeholders involved as well as the public. See also under **Programmes and Projects**.

Information: No information available.

Research and Technologies: In the area of environment and transport, only some ad hoc observations of emissions have been carried out. Studies have been undertaken on air pollution and ozone layer depletion, the most recent being the 1995/96 Bahamas Ozone Country Study and inventory of GHG in 2002.

Financing: The Government has received support and assistance from GEF/UNDP for enabling activities regarding the UNFCCC in the amount of USD 189,000. The Bahamas is participating in the OAS-Caribbean--Adaptation to Climate Change Project (CPACC). Funding for project under the Montreal Protocol has been provided through the World Bank.

Cooperation: The Bahamas cooperates closely with the United Nations on: the scientific-basis decision-making; promotion of sustainable development; prevention of stratospheric ozone depletion; and, transboundary atmospheric pollution. For the promotion of sustainable development, it works closely with OAS. The Bahamas sits as a member of UNCSD.

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CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

Decision-Making: *Coordinating Bodies:* Land management comes under the purview of several agencies, namely the Department of Lands and Surveys; Physical Planning; Ministry of Public Works; Agriculture; Fisheries; Local Government; and the Bahamas National Trust. The BEST Commission is involved in some aspects of land management through the EIA process for large-scale developments and the environmental oversight that is provided for certain projects. The introduction of Local Government throughout the country has had a major effect on matters relating to land use as some development activities can be approved by them without consultation with the Central Government.

Legislation, regulations and policy instruments: Present legislation is relatively weak and does not provide a sufficiently strong backing for planning to be effective in the Bahamas. This is because of the shortage and dispersal of qualified personnel responsible for the management of land resources. The new legislation being prepared seeks to redefine the meaning of the term “development” to include mining and engineering operations and, most notably, deforestation. Increased penalties have also been suggested for violations. The use of EIA reports to support development applications for large projects has increased over the past eight years. Two key requirements to ensure the sustainable use of land resources are: (a) an effective planning system which provides long and short-term frameworks for the allocation of land among competing uses; and, (b) mechanisms to evaluate and monitor proposals for development. Planning at this level requires extensive databases, surveys and analysis and clear policy definition. These are areas where have been lacking in the Bahamas.

Strategies, policies and plans: The Bahamas is seeking to formulate, with regional and international cooperation, comprehensive land-use plans, regulations and economic incentives to promote sustainable land use, improve land-tenure and administration systems and support rehabilitation programmes. While preparation of the comprehensive plan for the main island of New Providence has been deferred, it still remains a priority area for the Government.

Programmes and Projects: The Bahamas National Geographic Information System (BNGIS) Unit was established at the Department of Lands and Surveys. The Unit was established with technical assistance from the Inter-American Development Bank and also technical and financial assistance from the Government of Japan. The work of this Unit has resulted in the development of GIS data for the islands of New Providence and San Salvador.

Status: *Challenges:* Development of the long-range Planning (Research) Section of the Department of Physical Planning is crucial to improve the effectiveness of the land management.

Capacity-Building, Education, Training and Awareness-Raising: The BNGIS Unit also functioned to train representatives from several Government agencies in the use and application of this information system.

Information: GIS data now exists for the islands of New Providence and San Salvador.

Research and Technologies: As a prelude to the comprehensive plan for land management on the main island of New Providence, the Ministry of Public Works (responsible for urban and regional planning) has engaged consultants who have prepared, as a first component, a Land Status Map, which is an inventory of lands approved for development through the subdivision approval process. The zoning of these lands will be indicated as well. Also the components included in this study are the identification of social, economic and environmental issues involved in land development on New Providence. The second component of this contract will yield terms of reference for preparation of a comprehensive land use plan for New Providence in the short- or medium-term that will seek to resolve some of these issues. The first component was scheduled to be completed by 31 January 1997.

Financing: No information available.

Cooperation: See under **Programmes and Projects**.

CHAPTER 11: COMBATING DEFORESTATION

Decision-Making:

Coordinating Bodies: The Forestry Unit is a part of the Department of Lands and Surveys. Its mandate includes the sustainable management and conservation of the forest resources located on Crown Lands in The Bahamas.

Legislation, regulations and policy instruments: A Forest Policy was formulated in 1988 by the Government and resulted in the formation of the Forestry Unit. In 1996, draft forestry legislation was reviewed by this Unit through the consultation with stakeholders. The Attorney-General's Office was asked to make the necessary amendments to the Bill for an Act to provide for the Conservation and Protection of Forests. The Bill awaits the government's consideration prior to its presentation to Parliament for debate and enactment.

Strategies, policies and plans: Until the drafted legislation, mentioned above, is enacted, no effective management strategies can be implemented. It is recommended that a programme to protect, manage, and harvest forests on the basis of sustained yields be established. Whether the forests are then harvested for lumber or for pulpwood will be a matter of Government policy.

Programmes and Projects: No information available.

Status: Commercial felling of timber from the pine forests commenced in the Bahamas with the issuance of the first timber licence in 1906. Logging continued uninterrupted with subsequent licenses up to 1974, when all licensed rights were relinquished to the Crown. After this period, natural regeneration occurred and there has been only local and sporadic felling in recent years. Consideration is now being given to the finalisation of a position regarding the implementation of the non-legally binding authoritative statement of principles, adopted by the UNCED, for a global consensus on the management, conservation and sustainable development of all types of forests.

Challenges: The absence of specific forestry legislation is the principal barrier to more effective and sustained development of forestry in The Bahamas. A programme of selective thinning of pine forests is needed, as it is essential to maintain forest cover in designated areas to conserve and protect wildlife. This will entail the establishment of saw-mills. Saw-mill operation could be undertaken by the private sector, but felling would need to be monitored by a strong Forestry Department. Attention must also be given to the coppice lands. More effective measures and approaches are often required for development of technical and multidisciplinary skills, forestry extension and public education, research capability and support, administrative structures and mechanisms, and dissemination of information and public relations.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: Sustainable annual funding by the Government to the Forestry Unit is paramount to the success of the implementation of forestry development programmes and longevity of the natural forest resources.

Cooperation: Linkage and cooperation is established between the Bahamas Forestry Unit and Forestry Departments throughout the Caribbean and the Americas, the FAO Committee on Forestry, the Latin American and the Caribbean Forest Commission, the Commonwealth Forestry Association, the Standing Committee on Commonwealth Forestry, the Institute of Tropical Forestry, and the Oxford Forestry Institute, in various facets of forestry development.

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CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

Decision-Making: The Bahamas acceded to UNCCD in November 2000. Drought is a serious concern for the Bahamas as it has limited fresh water resources. Shortage of water is serious health and economic concern for many islands in the country. The BEST Commission in collaboration with the Ministry of Agriculture, Fisheries and Local Government is working to ensure the country's obligations under the UNCCD are fulfilled and to bring focus to this issue nationally.

Programmes and Projects: No information available.

Status: As a signatory member to the Convention, the Bahamas is now obligated to prepare a National Action Programme as to how the issues of desertification and drought will be addressed nationally.

One of the first steps to facilitate this process is the organization of a National Awareness Seminar. This seminar will focus on relevant stakeholders, government and nongovernmental individuals and the general public at large. The specific objectives will include:

- Introduction of the objectives of UNCCD;
- National assessment of the desertification issues in the Bahamas;
- Assessment of public knowledge of desertification matters, and of traditional knowledge and practices that may be used to combat desertification;
- Identification and review of national experiences with desertification;
- Establishing partnerships with relevant stakeholders, government and nongovernmental officials;
- Specifying the contributions of major groups in the development of the National Action Programme (NAP); and,
- Specifying the methodology in preparing NAP.

A report on desertification and drought issues in the Bahamas will be submitted to UNCCD Secretariat in 2002.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: Funding for the National Awareness Seminar and the National Report has been provided by the UNCCD Secretariat.

Cooperation: No information available.

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

Decision-Making: This issue is not applicable.

Programmes and Projects: This issue is not applicable.

Status: This issue is not applicable.

Capacity-Building, Education, Training and Awareness-Raising: This issue is not applicable.

Information: This issue is not applicable.

Research and Technologies: This issue is not applicable.

Financing: This issue is not applicable.

Cooperation: This issue is not applicable.

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CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

Decision-Making:

Coordinating Bodies Agriculture and its development falls under the mandate of the Department of Agriculture. Current legislation governing this sector includes the Agriculture and Fisheries Act 1963, the Plant Protection Act 1916, and subsidiary regulations. Given the competing demands for limited land resources including urban use, agriculture, forestry, tourism and conservation, legislation regulating the import and use of pesticides is being developed. Forestry legislation has been drafted under which extensive areas, including mangrove forests, would be declared as “conservation forests”.

Strategies, Policies and Plans To promote agricultural development, the Government has made available over 65,000 acres of prime agricultural land on New Providence, Abaco, Grand Bahama and Andros for long-term leasing to private farmers. The Government also provides interest-free credit on farm supplies and operates a wholesale exchange for Bahamian farmers in Nassau as well as production packing houses on several other islands. The Government’s strategy for the agricultural sector has been the stimulation of the production of short-term crops and livestock to increase farm incomes; under this strategy, potatoes, onions and pigs have been targeted. Another objective for the Department has been to diversify production to include medium-term crops and livestock, such as bananas, papayas, pineapples and poultry. The Department also seeks to encourage investment in long-term crops and livestock, such as coconuts, avocados, mangos, sheep and goats.

Agricultural production is being increased through more efficient use of land and increasing the amount of land under cultivation in a strategy aimed at a combination of import substitution and increased share of export markets. The short and long-term objectives of the planned agricultural expansion are: to increase the earnings from the export (thereby continuing to diversify the economy); to increase employment opportunities; and to achieve greater self-sufficiency in food supplies. Much of this expansion will be in fruit crops (especially citrus) and vegetables for the export. Continued expansion in livestock agriculture is also expected but primarily for the local market. An expansion in food processing activity is also envisaged, in parallel with the expansion in production.

The Bahamas recognizes that agricultural expansion must be made compatible with the maintenance of biodiversity. This will require the creation of buffer zones and limitations on the use of pesticides. Lease agreements encourage environmentally friendly patterns of land use by offering incentives to leave the belts of shelter and not to cultivate areas of unusual biodiversity. Particularly important are: (a) the protection of wetlands, where adjacent to agriculture areas; and (b) the protection of freshwater resources from contamination by fertilizer nutrients, pesticides and animal wastes. Since much of the projected agricultural expansion will depend on good-quality water for irrigation, it is a matter of self-interest for the agricultural sector to protect water resources. Already, the land for agriculture, forestry and conservation, are being set aside.

Programmes and Projects: Given the fact that The Bahamas is located in the hurricane belt, contingency plans with infrastructural support are being developed.

Status: The Bahamas is located in the hurricane belt and is vulnerable to their devastating effects. In 1992 Hurricane Andrew caused severe salt intrusion on one of the major farming areas. More recently, heavy rains following Hurricane Lili in 1996 led to flooding of land with consequent leaching of fertilizer and delay in replanting. Hurricanes Floyd and Michelle in 2000 and 2001 respectively resulted in heavy losses in the agricultural sector. In addition, tornadoes, waterspouts, droughts, fire, flooding and other disasters, periodically plague the agricultural sector. Given the permeability of the soils, and indeed of the parent rock, agro-chemicals are readily leached into the freshwater lenses, which supply water needed for agricultural, industrial and domestic uses.

Challenges: Additional requirements include institutional strengthening through improved training, data management and research capability; review and introduction of comprehensive natural resource legislation and management programmes, especially in forestry and wildlife; monitoring of compliance with provisions in agricultural leases; introduction of comprehensive pesticide legislation, with a certification programme for pesticide applicators; strengthening and modernization of marketing, communications and transportation infrastructure; and introduction of a comprehensive programme for the control of exotic plants and animals. Immediate requirements include the upgrading of facilities and training in all areas; the collection of data on feral dogs, cats, pigs and their effect on habitat and biodiversity depletion; training in pesticide monitoring and evaluation; and a review and

strengthening of legislation to improve plant and animal quarantine so as to exclude, as far as possible, exotic pests and diseases, and to protect endangered and threatened species.

Given the fragility of the Bahamian ecosystem, the most challenging problem facing sustainable development is a comprehensive programme of human resource training. Any programmes must also take into consideration the differing social and environmental factors on each Bahamian island. The Bahamas contains numerous farms with strong local differences that require strikingly different management practices. Aging farmers and low entry-level participation threaten the long-term viability of the sector; especially in the absence of outreach programmes to adopt new technologies and to attract new and younger entrants to the sector.

Capacity-Building, Education, Training and Awareness-Raising: The Department of Agriculture provides training and technical support to farmers through on-going programmes and extension services.

Information: No information available.

Research and Technologies: Research at the Gladstone Road Agricultural Complex in New Providence focuses on vegetable crop variety selection, improvement of small ruminant production through genetics and management, and improvement of pig production by producing and distributing quality breeding stock and finishers to farmers. At the complex, there is also a Plant Propagation Unit and a Food Safety and Technology Laboratory to comply with HACCP (Hazard Analysis at Critical Control Points). Research capacity is limited from a national perspective. It is estimated that on an annual basis five to ten persons assist indirectly in activities sponsored and funded by academic non-national efforts in various endeavours covering the marine and terrestrial environment. Recent developments elsewhere in biotechnology, including tissue culture and rapid propagation techniques, will be adopted here in order to preserve endangered species and develop sustainable agricultural programmes. There is a need to strengthen agricultural research to improve service to the agricultural community. Better transportation and communications among the dispersed islands will be needed for the full development of the Family Islands in order to facilitate access to markets. The thin soil and limestone substrate increases land preparation costs and needs to be addressed by research and the development of appropriate technologies.

Financing: No information available.

Cooperation: The Food and Agriculture Organization (FAO) has provided assistance to the Department through a Technical Cooperation Project entitled “Assistance to Review Agricultural Policies and Legislation”. This project was completed and it includes a review of environmental and conservation legislation that falls within the Department’s mandate; as a result of this review, recommendations were made for new legislation and guidelines to assist the Department in fulfilling its mandate. These draft guidelines and legislation have been submitted to the Attorney-General’s Office; their review for submission to Cabinet for approval has not been completed to date. The Bahamas has recently become affiliated with the Inter-American Institute for Cooperation on Agriculture (IICA). A tentative collaborative work programme is still being developed, but may include an analysis of the agricultural sector, a youth programme and assistance with the establishment of farmers' organisations.

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CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making:

Coordinating Bodies: The BEST Commission functions as the coordinating body for biodiversity. Its Biodiversity Subcommittee is comprised of representatives from the Ministry of Agriculture and Fisheries, the Forestry Unit, the Department of Environmental Health Services, and The Bahamas National Trust among others. The Bahamas National Trust is mandated to manage the national parks system in the country.

Legislation, regulations and policy instruments: The Convention on Biological Diversity was signed in 1992 and ratified in 1993. The latest report was submitted in 1996. The Second National Report is scheduled for completion in late 2002. The Bahamas also ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora, in 1979. The latest report was submitted in 1996. A national report will be presented in 2002 to the Conference of the Parties. The Bahamas Government has made the submission of EIAs a mandatory requirement for all projects that are likely to have significant adverse effects on biological diversity. Natural resource protection legislative initiatives and action go back for generations, accelerating during and after World War II. From 1959, the Bahamas began setting aside major land and seabed areas to guarantee the survival of its most critically threatened or endangered species in conjunction with a statutorily created Bahamas National Trust and, since then, there have been no known extinctions. Existing legislation protecting wildlife includes the Wild Animals Protection Act, Wild Birds Protection Act, Fisheries Resources (Conservation and Jurisdiction) Act and the Bahamas National Trust Act. A list of all Bahamian legislation relating to environmental issues is provided under the section on Integrated Decision-Making. The Bahamas is taking appropriate measures to enforce regulatory provisions and prohibit trade in specimens in violation of the regulations contained in CITES. In 1995, a total of 73 import permits were issued, 58 of these for birds (principally parrots, macaws and cockatoos) and 15 for orchids. Also, 47 export permits were issued. Of these, 12 were for research samples (feathers or blood samples from turtles or iguanas) and 17 for exports of conch meat or products and shells.

Strategies, policies and plans: The National Biodiversity Strategy and Action Plan was completed in 1997. This document is currently under review by the Biodiversity Subcommittee to develop mechanisms for the implementation of some of its recommendations. In 2002, a project will begin to develop a National Invasive Species Strategy with funding support from the British Government.

Major Group Involvement: NGO activities have helped to create a framework for conserving and managing the use of many forms of terrestrial and marine biodiversity.

Programmes and Projects: The Biodiversity Data Management Project and the National Biodiversity Strategy and Action Plan project have been completed. The Bahamas has recently received GEF funding through UNEP for Biodiversity Enabling Activities. These activities will involve assessment of capacity-building needs with respect to taxonomy, preparation of the Second Nation Report and linkage to the Clearing-House Mechanism. Work has already commenced on this project and will be completed in 2003.

As a part of the Inter-American Biodiversity Information Network (IABIN), The Bahamas has been able to receive funding from the Government of the United States to complete surveys of invasive plant and animal species in the country. The completion date of this project is September 2002. Surveys completed will be linked to the IABIN website.

Status: Over the past decade, there has been increasing recognition of the significance of biodiversity to The Bahamas. This was originally viewed as the creation of national parks for conservation of wild species of plants and animals. However, many sectors of the country, both public and private, have come to realize its importance in the tourism, agriculture, fisheries and forestry sectors. Biodiversity has also been recognized as a principal source of food, especially on the Family Islands, in the form of substance harvesting. Creation of parks and protected areas continue to play a role in biodiversity conservation with five new areas being established in 2002.

Capacity-Building, Education, Training and Awareness-Raising: The Government is taking steps to coordinate monitoring and widen public awareness of the economic values and importance of managing biodiversity sustainably so as to ensure continued use. National Land and Marine Parks (Protected Areas) have been established but poaching remains a problem. Not only is the poaching of fish a continuing concern, but also the poaching of

snakes and iguanas for the pet trade. Orchids are also being depleted by collectors. The Government is active in taking steps to coordinate monitoring and regulate activities which impact on biodiversity. It is seeking to widen public awareness of the value and importance of biodiversity.

Information: In addition to reports submitted to the Commission on Sustainable Development and the United Nations Development Programme, The Bahamas Government has submitted to the Conference of Parties of the Biological Diversity Convention its first national country report covering measures taken relative to the implementation of the Convention. Its Second National Report will be submitted in late 2002.

Research and Technologies: The Government is also exploring possibilities through which The Bahamas may derive further economic benefits through the sustainable use of biodiversity. For example, it proposes to develop a biotechnology industry based on the use of its biological resources. Towards this end the Government of The Bahamas established The Bahamas Environment, Science and Technology Commission (BEST) in 1995. With the support of a GEF/UNEP grant of \$150,000, The Bahamas completed the Biodiversity Country Study in 1995 with significant upgrading and revision in 1996.

Financing: In addition to the grants mentioned above, The Bahamas has received a grant of \$300,000 from GEF/OAS for its participation in the Caribbean Adaptation to Climate Change Project that monitors coral reefs and sea level rise.

Cooperation: The Bahamas has been selected by UNEP as one of ten countries to serve as a model for the implementation of the Biodiversity Convention and for the development of pilot studies on biodiversity with the College of The Bahamas. Cooperative efforts also include work with the Inter-American Biodiversity Information Network, the Governments of the United States of America and of the United Kingdom.

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CHAPTERS 16 AND 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

Decision-Making:

Technologies: No information available.

Biotechnologies: Responsible for biotechnology issues are the agencies involved in decision-making in the Bahamas Environment, Science and Technology (BEST) Commission, especially the Ministry of Agriculture and Fisheries. The Bahamas proposes to draft legislation to ensure equitable returns for the exploitation of Bahamian biodiversity by foreign entities, to protect intellectual property rights, and to provide safeguards against the uncontrolled release of living modified organisms.

Programmes and Projects:

Technologies: No information available.

Biotechnologies: No information available.

Status:

Technologies: No information available.

Biotechnologies: No information available.

Capacity-Building, Education, Training and Awareness-Raising:

Technologies: No information available.

Biotechnologies: No information available.

Information:

Technologies: No information available.

Biotechnologies: No information available.

Research and Technologies:

Technologies: No information available.

Biotechnologies: The Bahamas is presently exploring the application of biotechnology to the protection and sustainable use of its reserve of biological resources. This includes the application of tissue culture to the possible exploitation of plants and marine organisms for pharmaceutical purposes.

Financing:

Technologies: No information available.

Biotechnologies: No information available.

Cooperation:

Technologies: No information available.

Biotechnologies: No information available.

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CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

Decision-Making:

Coordinating Body: The Department of Fisheries is responsible for the conservation and management of marine resources; the Department of Lands and Surveys and the Department of Agriculture, for wetlands; the Ministry of Foreign Affairs has certain responsibilities for the Economic Zone; and the Departments of Lands and Surveys, Public Works and Port are all involved with aspects of coastal management. They are all members of the BEST Commission that is responsible for coordinating sustainable development activities.

Legislation, regulations and policy instruments: The Bahamas ratified the UN Convention on the Law of the Sea in 1983. Precautionary measures have been taken with respect to marine and coastal activities. It is now official policy to require an Environmental Impact Assessment prior to any major activities or development projects. If developers are guilty of negative practices, permits to operate are revoked. The same applies to fishermen, and heavy fines are applicable to cruise ships and boat owners for failure to comply with the laws and regulations. Commercial fishing within the 200 miles exclusive fishing zone is reserved for Bahamian nationals.

Strategies, policies and plans: Ocean and coastal biodiversity are addressed in the National Biodiversity Strategy and Action Plan. The Government, in cooperation with the Inter-American Development Bank, plans to develop a coastal zone management plan for The Bahamas. Plans have also been made to develop a National Environmental Management and Action Plan that will address ocean and coastal issues. The policy of EIAs for large-scale developments has contributed greatly to sustainable development in coastal zones and mitigating against negative impacts to the ocean and coastal areas. The National Creeks and Wetlands Restoration Initiative has contributed greatly to increasing awareness of the significance of wetlands as an important coastal habitat and also to their preservation and restoration.

Programmes and Projects: Approximately 80% of The Bahamas is within five feet of mean sea level. Thus, rising sea levels, temperatures and the projected increase in the number and intensity of tropical cyclones are of concern. The loss of corals by bleaching and heat stress is also of concern. These issues are being dealt with in the context of a GEF/OAS regional project on the Adaptation to Climate Change (CPACC)--in which the sea level rise and coral reefs are being monitored. The Bahamas is also involved in the Regional Integrated Coastal Zone Watershed Management project that is currently seeking funding from donor agencies. Concerning commercial fishing, with the ever increasing demand for certain species, a number of projects have been undertaken to optimise sustainably the yield while not endangering future harvesting of crawfish, stone crab and conch fisheries.

Status: As a result of its geographic configuration, the protection of the ocean is of considerable importance to The Bahamas. The archipelago covers 100 sq. miles, 90% of which is water.

Challenges: The dumping of sewage, garbage, and other matter, from cruise and cargo ships is an ongoing problem for The Bahamas. While discussions with such companies are frequent, and heavy fines are imposed if detected, policing 100,000 sq.mi. of water is virtually impossible. Recommendation has been made for The Bahamas to become party to the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas when finalized.

Capacity-Building, Education, Training and Awareness-Raising: The Bahamas has adopted a voluntary Code of Conduct for Responsible Fisheries which sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. The Department of Fisheries has an ongoing public awareness campaign with respect to conservation and sustainable use of marine resources.

Information: A Biodiversity Data Management database has been developed by the BEST Commission assistance from GEF/UNEP assistance. It is now necessary to update this information and this is being made possible through GEF funding for Biodiversity Enabling Activities. There is also a need to update existing databases. These cover

the following: resources, cultural and socio-economic characteristics, activities, uses, habitats, protected areas, coral reef ecosystems, wetlands including mangroves, sea grass beds and other spawning and nursery areas.

Research and Technologies: The Government has access to technologies that serve to identify the major types of pollution of the marine environment from land-based sources. There are databases used by the Department of Fisheries and the College of the Bahamas for integrated coastal management and information purposes.

Financing: No information available.

Cooperation: The Bahamas is currently honouring the provision of the Code of Conduct of Responsible Fishing. It participates actively in the International Coral Reef Initiative, and other scientific activities of the Commonwealth Secretariat, OAS, UNESCO, UNEP, among others. The Bahamas has undertaken climate change activities through the UNEP/GEF Caribbean Adoption to Climate Change Project and the World Meteorological Organization. It is actively involved in activities under the Convention on Biological Diversity, including UNEP/GEF Biodiversity Country Study, the Biodiversity Data Management Project, the National Biodiversity Strategy and Action Plan and Biodiversity Enabling Activities.

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CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES

Decision-Making:

Coordinating Bodies: The Bahamas Water and Sewerage Corporation is the government body responsible for coordinating water resource management and development. Its mandate covers Water Supply, Waste Water Treatment, Water Sector Conservation, Development, Management and National Policy Development in the Water Sector. There are no other bodies at the sub-national level.

Legislation, regulations and policy instruments: The Government is developing a New Water Act and Promulgation Regulations to control the water sector. At present, the general legislation and regulatory framework for water management is still the Water and Sewerage Corporation Act of 1976. The legislation covering the use of water in agriculture is the Agricultural Land Leases Water Supply Provision(s). Legislation pertaining to household use includes the Water and Sewerage Corporation Act(1976) and the Building Control Regulations. A National Disaster Preparedness Office has been established in the Cabinet office. As more development occurs in New Providence, flooding is becoming a major issue with wetland habitats and natural drainage areas being altered. Under the New Water Act, National Water Resources Advisory Council will provide for participation of all major stakeholders in the decision-making process. This council will also deal with the resolution of conflicts surrounding water resource management and development. The pricing policy being implemented by the Government for cost-recovery is a Punitive Rate Structure for industry and household use. There is no pricing policy in place for the use of water in agriculture. Approximately 85% and 50% of water costs are recovered through pricing in New Providence and the Family Islands respectively. The special needs of the poor are addressed through (1) Government subsidy and (2) pricing designed not to penalise the poor. Water is supplied free of charge in economically depressed areas.

In order to prevent the pollution of freshwater resources, and to conserve freshwater supplies, the government is undertaking the enactment of a new Water Act and the promulgation of Regulations to control the Water Sector.

Major Group Involvement: The private sector plays an important role in water supply expansion, and water resources development is under concessionary arrangement with Government.

Programmes and Projects: No information available.

Status:

Groundwater resources: The quantified freshwater resources of thirteen of the larger islands of the Commonwealth comprise 28% of their total land area. The groundwater resources of the Commonwealth are comprised of the fresh, brackish, saline and hypersaline water found in the shallow and deep subsurface, and in the lakes and ponds that occur on the surface. The freshwater resources occur as three-dimensional lens-shaped bodies that float on and overlie brackish and saline water. These lenses do not occur in subterranean lakes, rivers, or ponds. Groundwater permeates the rock and all its pores, fissures, and interconnected cavities. More than 90% of the freshwater lenses are within five feet of the surface.

Water supplies: Groundwater resources in the Bahamas have always been easy to exploit, and regular usage dates back to the earliest settlers. Today, water is still privately obtained by bucket from shallow hand-dug wells; public supplies are obtained from mechanically cut trenches, pits and seasonal freshwater marshes. Concerning water supplies, World Health Organization (WHO) Water Quality Guidelines are used to measure water quality. There is capacity to treat approximately 20,000 m³ of wastewater. The capacity for recycling wastewater is less than 5,000 m³. Approximately 15% of urban sewerage is treated. Eighty five percent of water is treated for drinking purposes and it is intended to increase this percentage to 100%.

Sewerage: In The Bahamas there are sewer collection systems serving approximately one fifth of the capital Nassau; on the other islands these are limited to a few small subdivisions as well as some private developments and hotels. Septic tanks are used most commonly on the major islands, though these do not always conform to the Building Code and therefore may not function in the manner that they should. In the less developed areas, pit latrines may be used and there are some places where direct discharge to the sea is still used as a means of disposing of wastes. The use of septic tanks is usually combined with a drain field or disposal wall. Where

sewerage mains exist the wastes are normally treated to primary or secondary levels, and the effluent is then disposed of in a deep disposal well. Many different types of deep disposal wells are utilized, discharging a wide variety of liquid wastes. The wells that are used to dispose of large volumes of effluent are normally cased down to about 200 metres and are open below this depth. Tourist areas usually include golf courses, and these require considerable volumes of irrigation water. In such situations the wastewater from the hotels is usually treated and reused on a nearby golf course. The waste disposal methods used in The Bahamas are presently far from satisfactory, and studies have shown that the groundwater underlying urbanized areas shows relatively high levels of pollution. There is also evidence of seawater pollution, particularly in some enclosed harbours that are important tourist destinations or may be involved in the seafood industry.

Challenges: The Bahamas comprises several hundred low lying limestone islands that are well suited to, and heavily dependant on, the tourism industry. Unfortunately, water supplies and liquid waste disposal present serious problems in such an environment, and these have had deleterious impacts on the economic development of the islands. Specific problem areas include the availability and distribution of freshwater resources. Water systems are difficult and costly to develop, and few residential communities can afford the full cost of water supplied by alternate methods such as reverse osmosis. Groundwater resources in this environment are also very prone to human abuse, and they are exceedingly vulnerable to pollution. Mistakes have been made which have resulted in serious long-term damage. Liquid and solid wastes are difficult to manage and dispose of, and appropriate technology needs to be applied where conventional methods are found to be unsatisfactory. The low-lying nature of the islands, and the narrow unsaturated zone between the groundwater and the surface, render the freshwater lenses (please refer to their explanation under '**Status**') highly susceptible to contamination by pollutants percolating down to the water table. Industrial pollutants, solid wastes and sewerage discharges in cesspools, septic tanks, pit latrines and disposal wells, endanger the purity of the water, and, when it is used without disinfection, pose a serious health hazard. Urban, agricultural, and industrial encroachment into public well fields poses an additional hazard. The lack of centralized wastewater treatment facilities results in approximately 90% of the residents using septic tanks. Along with the high number of private water supply wells, estimated at between twelve and twenty thousand, this makes the largest threat to water quality that of human origin.

The major constraints faced by the Government in reaching its objectives in the sector of groundwater resources include both the high cost of capital development in marginal water resource areas, as well as the need to duplicate facilities across 30 inhabited islands. The disposal of organic wastes and the use of fertilizers, herbicides, and pesticides, in addition to waste or spilled petroleum products and discharges from industrial and food processing operations, impact water quality and are a cause of concern. Contaminated water from these sources drains directly to the water table as storm water runoff. These concerns are heightened in the environment as a result of the lack of controls. There control system is deficient in the regulation of drilling companies as well as the overall regulation of groundwater. Fuel and oil spills have become a common feature of groundwater contamination complaints, and the reported spills range in volume from several hundreds of gallons to more than one million US gallons in the case of a spill that persisted over a ten-year period.

The Bahamas is fairly young as an independent nation. In its efforts to achieve economic and environmental sustainability, assistance will be needed from the international community in building capacity to conduct research and monitoring and to manage its resources.

Capacity-Building, Education, Training and Awareness-Raising: As a part of its public awareness programme, the Sewerage Corporation organizes an annual Water Week. This began in 1990. The objectives of Water Week include providing information and increasing awareness on issues such as water supply and demand in The Bahamas, water conservation, and the role of the Corporation.

Information: The Bahamas Land Resources Study (BLRS) continues to be the benchmark evaluation of the country's natural resources, including its groundwater. With the assistance of the United Nations Development Programme (UNDP) the Water and Sewerage Corporation has prepared a framework for the long-term sustainable development of these resources, and there is an ongoing need to upgrade these data and extend them to include non-potable water resources. Information on the Water Sector is collected by The Bahamas Water and Sewerage Corporation on the agricultural, household and industrial sectors. The information is distributed through the World Health Organization.

Research and Technologies: The specific target established for coverage of water supply and sanitation is 100%. In order to achieve these targets, there is an essential need to address the present inadequacy of the relevant technology. With regards to wastewater treatment, this means development of a low-cost infrastructure, small diameter sewers, cost effective wastewater treatment and management, and waste disposal alternatives. Regarding water purification, technological concerns need to address systems of water purification technologies such as reverse osmosis. In addition to on-going activities related to the testing of water quality, quantity, distribution, loss, etc., research related to water management is conducted on an ad-hoc basis with the help of interested research institutions and scientists. This research takes place in external universities in the United Kingdom and the United States and is supported by external funding. The results are being used in planning and management of the Water Sector.

Financing: Bilateral funding is being sought to assist in the development of a regulatory framework in The Bahamas. It is estimated that it would cost US\$45 million in 1990 to achieve universal coverage of water supply in The Bahamas, and US\$400 million in 1990 to ensure full coverage in terms of sewerage. The ratio between domestic expenditures for water resource management and development and external funds is approximately 3:1. The flow of external resources into water resource management and development in 1997 consisted of US\$2 million for technical cooperation, US\$17 million in loans, and another US\$15 million in private loans.

Cooperation: The Bahamas participates in WMO's efforts in the water sector regionally and internationally. PAHO also assists in water quality and water resources issues.

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CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS

Decision-Making:

Coordinating Bodies: At present there are no mechanisms in place to address the designation of restricted or prohibited chemicals. The BEST Commission is responsible for all coordinating activities related to the Environment, while the Department of Environmental Health Services (DEHS), Bahamas Customs and Excise, and the Ministry of Agriculture all play a role in the day-to-day monitoring and investigation of related problems.

Legislation, regulations and policy instruments: The Bahamas has made a provision under the Environmental Health Act (1987) for regulations governing the manufacture, disposal, and use of toxic wastes. These regulations are currently in draft form. Traditionally, there has been no regulatory mechanism designating restricted or prohibited chemicals for importation or use in The Bahamas. In order to address this deficiency, The Bahamas is presently investigating the establishment of a permit system for the control of hazardous and toxic chemicals. The Bahamas became a signatory to the Stockholm Convention in 2002.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Bahamas has participated in meetings of the Intergovernmental Negotiating Committee for an Internationally Binding Instrument for the Application of the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. The Bahamas has also participated in many of the Intergovernmental Negotiating Committee meetings for the Stockholm Convention on Persistent Organic Pollutants.

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CHAPTERS 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES

Decision-Making:

Hazardous wastes: Coordinating Bodies: The Department of Environmental Health Services (DEHS) is responsible for the daily monitoring of activities in this area. DEHS is represented on the BEST Commission. National legislation to protect the environment, inclusive of hazardous waste, has been drafted and is awaiting approval. Hazardous Materials Regulations are also being drafted. The Environmental Act of 1987 gives the Department of Environmental Health Services (DEHS) the authority to control the use, manufacture, and disposal of toxic chemicals, and the DEHS has the responsibility for hazardous waste management. Legislation, regulations and policy instruments: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was ratified in 1992. The Bahamas operates within the guidelines of this Convention with respect to the transport of hazardous wastes out of the country. It does not accept hazardous wastes from other countries for disposal.

Solid wastes: Solid Waste and Sanitation fall within the mandate of the Department of Environmental Health Services. Solid waste is disposed of at landfill sites designated by the Department on the inhabited islands. As the Government only provides collection services to residential areas (not commercial or industrial establishments), waste collection and disposal at these sites is performed by some private companies. Some private establishments do some solid waste treatment on-site, such as compaction and recycling. Legislation, regulations and policy instruments: The Environmental Health Services Act addresses the issue of solid waste and sanitation. Strategies, policies and plans: The Bahamas has for several years had a policy of not accepting waste of any kind to be imported into the country. This policy is regardless of whether the waste is for disposal or recycling. The recent change in the Government policy towards solid waste and the change in management structure has allowed for a more realistic budget for the management of the service. This has resulted in more operational equipment and better-trained personnel and a better and a more broadly based management structure for the Division, with the separation of cleaning of public areas from waste collection. Consideration now has to be given to re-introducing some cleaning aspects. The Government has completed a project in 2000 in consultation with Stantec International of Canada to designate appropriate landfill sites on each inhabited island and to develop sites for the proper disposal of hazardous wastes. Many of these landfill sites have been developed and are now operational.

Radioactive wastes: No information available.

Programmes and Projects:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Status:

Hazardous wastes: The Bahamas is largely dependent on groundwater for agricultural, domestic and industrial water supplies, and, as such, there is great concern over the possibility of its contamination from improper management.

Solid wastes: Disposal of garbage and sewage is particularly difficult for small islands. Increasing amounts of waste, resulting from growing consumption and urbanization, have frequently led to pollution of lagoons and oceans, and contamination of ground water. Limited land areas make the option of landfill unsustainable in the long term. The disposal of toxic and hazardous or radioactive waste by other countries on small islands has also generated much concern. Their isolation and dependence on marine and land resources make small islands highly vulnerable to contamination. Solid waste management in the Bahamas has historically been plagued with several major problems, including: (1) poor equipment which has been highlighted by bad purchasing decisions and which cause repair difficulties, keeping equipment out of service for long periods of time; (2) gross under-funding; (3) lack of properly trained management and technical staff; (4) a poorly organized system of waste storage and lack of waste separation at source; (5) an inefficient system of revenue management and collection from commercial customers; and (6) a poorly designed disposal site layout. Improper waste disposal has resulted in atmospheric pollution, forest and bush fires; unobstructed breeding of disease vectors; pollution of waterways, coastal areas and

swamp ponds; pollution of water resources by leachates; increased population of stray animals, dogs, cats and resulting threat to biodiversity by feral animals; pollution of marine environment by waste disposal in the sea or in mangrove wetland areas. **Challenges:** The major constraints in implementing sound waste management policies and programmes have to do with the high cost and need to introduce and implement a sound waste management programme in over 30 major population centres. These constraints include: limited manpower resources; lack of a national public education programme; inadequate solid waste management programme; financial constraints; lack of trained personnel; lack of available appropriate technology; lack of financial resources, lack of appropriate technology; need for mobile treatment facility for hazardous waste applicable to The Bahamas. The technology needs for sound waste management include: personnel trained as engineers; leachate testing equipment and training; maintenance training for tractors, dumpsters; training in chemical treatment/thermal treatment; pozzolanic fixation and biological treatment of solid waste; and management information systems.

Radioactive wastes: No information available.

Capacity-Building, Education, Training and Awareness-Raising:

Hazardous wastes: The Department of Environmental Health Services, being aware of the widening scope of environmental health and The Bahamas' involvement in international agreements, has made a concerted effort to increase its staff of qualified inspectors. The increase in qualified staff will allow for closer monitoring of issues such as solid and hazardous waste management.

Solid wastes: No information available.

Radioactive wastes: No information available.

Information:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Research and Technologies:

Hazardous wastes: No information available.

Solid wastes: A survey to categorize the waste has been done, and a system for involving the private sector is being finalized. A detailed plan for the layout and management of the main disposal site in New Providence has been completed and development has begun.

Radioactive wastes: No information available.

Financing:

Hazardous wastes: The estimated cost of operation and maintenance of hazardous waste facilities to be provided during the next two years is in excess of \$2.5 million. It is anticipated that financial aid will be received from international organisations.

Solid wastes: No information available.

Radioactive wastes: No information available.

Cooperation:

Hazardous wastes: The Bahamas is involved in international cooperative efforts and actions related to the sound management of hazardous wastes. For example, The Bahamas is:

- A signatory to the Basel Convention;
- Participating actively in meetings related to various aspects of the Basel Convention;
- Participating in negotiations for a treaty on liability and compensation for damage resulting from transboundary movements of waste;
- Serving, for the fourth year, as a chair of the Committee for the Implementation of the Basel Convention; and
- Participating in the discussions on the Regional centre for Training and Technology Transfer.

Solid wastes: The Bahamas was a leader at the Second Meeting of the Conference of the Parties to the Basel Convention, on the transfer of hazardous wastes from developed to developing countries. The country is actively participating in the negotiations for a treaty on liability and compensation for damage caused by transboundary

movements of wastes. The Bahamas is presently Chair of the Ad Hoc Open-Ended Committee of the Extended Bureau of the Convention and has been asked to chair the Implementation Committee of the Convention.

Radioactive wastes: No information available.

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CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

Women: Decision-making: Policies and strategies for achieving equality in all aspects of society and to eliminate obstacles to full participation of women in sustainable development will be in place by 2000. Status: From 1992 to 1996, the percentage of governmental positions held by women (Permanent Secretary) increased from 38% to 61%; their percentage in parliament (Members of Parliament) increased from 8% to 15%; and among Cabinet Ministers it remained at 23%. At the local government level, the percentage of women among decision makers was 20% in 1996. Cooperation: The Bahamas ratified the Convention on the Elimination of All Forms of Discrimination Against Women on 6 October 1993.

Children and youth: Decision-making: The goal set in Agenda 21, that by the year 2000 more than 50% of youth (gender balanced) has access to appropriate secondary education or vocational training, has been met. With respect to decision-making, youth participate on an ad-hoc basis in the national process.

Indigenous people: The Government of The Bahamas deems this topic as not relevant.

Non-governmental organizations: Decision-making: The primary NGO that actively participates in programmes for sustainable development is The Bahamas National Trust (BNT). The BNT, which was established by Act of Parliament in 1959, is a self-funded NGO. It represents a unique collaboration of governmental, private sector, and scientific interests dedicated to the conservation of the natural and historic resources of The Bahamas for the enjoyment and benefit of the Bahamian people. The Trust has made major contributions to the environmental process in The Bahamas by managing the National Park System of The Bahamas, as mandated by Act of Parliament. There are at present 12 National Parks and Protected Areas, and the Trust is developing recommendations for 52 additional parks sites to protect the country's biodiversity and significant historic and natural resources. Additionally, the Trust is preparing a proposal for The Bahamas National Strategy for Environment and Development, Submitting recommendations at the request of the Government for the promotion of ecotourism and the protection of the country's tourism product, and conducting an initial assessment of the feasibility of establishing protected areas within the Andros Barrier Reef System. Furthermore, the Trust is submitting recommendations on Bahamas fisheries regulations, including a successful campaign to halt bng line fishing methods in territorial waters, Serving on the Board of Directors of The Bahamas Environment, Science and Technology Commission (BEST) Executive Director), and developing and monitoring the successful management of the white-crowned pigeon game bird population. Status: Within The Bahamas, mechanisms exist to facilitate the participation of NGOs in the decision-making process, and their inputs are important. Unfortunately, financial constraints prevent major groups from participating in the national delegations to the CSD and major conferences. When the subject is relevant, an NGO is permitted to represent The Bahamas in place of a Government official.

Local authorities: Decision-making: The Government supports Local Agenda 21 initiatives.

Workers and Trade Unions: Decision-making: Workers do not yet participate in National Agenda 21 discussions or implementation. Cooperation: ILO Conventions have been ratified.

Business and industry: Decision-making: The Bahamas Council of Light Industries, the Bahamas Chamber of Commerce, the Bahamas Institute of Professional Engineers, and the Grand Bahamas Port Authority are all advisory and ad-hoc members of the National Sustainable Development Coordination Mechanism. Oil companies, labour unions, and others are not members of this coordination mechanism. Major group organizations participate in environmental impact assessment projects at the national and local level. The Government sent representatives from major groups to the SIDS Global Meeting in Barbados, in November 1994. There are governmental policies to encourage increased efficiency of resource use, including reuse, recycling, and reduction of waste per unit of economic output. Most big enterprises and a few small and medium sized enterprises have adopted sustainable development policies.

Scientific and technological community: Decision-making: The BEST Commission has established a Science and Technology Committee to address the issue of improving the exchange of knowledge, as well as the concerns between the S&T community and the general public, among others.

Farmers: No information available.

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CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Decision-Making: A number of new environmental laws have recently been introduced in The Bahamas. In addition to existing laws, recent legislation has been passed, e.g., “The Conservation and Protection of the Physical Landscape of The Bahamas”, which levies very heavy fines, charges for illegal removal of sand, trees, vegetation, excavation, etc. An Environmental Court was established in 1995 where cases are heard relative to infractions of all legislation passed to protect the environment. Those found guilty of environmental abuse are prosecuted and heavily fined. The EIA process requires developers to go to the additional expenses of submitting detailed environmental impact reports/statements. This is a requirement both for foreign and national investors.

Programmes and Projects: No information available.

Status: While activities are woven into the budgets of many Departments and Ministries, it is impossible to give a specific amount of domestic resources made available for sustainable development. There is no separate budget for this. Since 1992, the Government of The Bahamas has received new additional grant funding for sustainable development. These include, from GEF via UNEP, the equivalent of US\$400,000 and US\$150,000. UNEP has advised that preliminary approval of this amount will be awarded to the Bahamas for the development of a National Strategy on Biological Diversity. There is additional funding from GEF via Caricom/OAS equivalent to US\$500,000. This amount may be awarded to The Bahamas via the GEF project “Caribbean: Adoption to Climate Change”. Finally, there are awards from GEF via UNEP equal to US\$20,000, which is to be awarded to assist in conducting the Ozone Country Study, and an award from CFTC in the amount of US\$50,000.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Cooperation: No information available.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: The Bahamas Environment, Science and Technology Commission (BEST) and the Bahamas National Trust are the institutions that facilitate dialogue among the scientific community, the Government, and the public at large with respect to issues related to sustainable development. Science is incorporated into decision-making for sustainable development in conducting Environmental Impact Assessments with respect to all new developments.

Programmes and Projects: See under **Information**.

Status: The Bahamas does not currently possess the human and financial resources to expand and further develop the sustainable use of its natural resources. Collaborative efforts in marine and terrestrial ecology, geology and hydrogeology will help to expand The Bahamas' scientific knowledge. Research activity is largely driven from the point at which non-national academic priorities coincide with the interests of The Bahamas. The Bahamas Government provides logistical support in exchange for the sharing of the results of the academic findings of reputable international scientific endeavours. Approximately five to ten scientists are engaged in research and experimental development through activities sponsored by the College of The Bahamas. This includes work conducted both within the College's confines and in the field station it maintains on San Salvador (the Island which was the first landfall of Columbus in the New World). In addition, it is estimated that on an annual basis ten to thirty persons assist indirectly in various scientific endeavours covering the marine and terrestrial environment.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: In 1997, the Bahamas will produce a metadatabase of existing scientific information on Bahamian Biodiversity through the GEF funded Biodiversity Data Management Project. The metadatabase is expected to indicate the coverage of various scientific research efforts. It is anticipated that the project will also provide indications of where efforts are required in order to address deficiencies and assign scientific research efforts in the future. The Bahamas presently has limited access to scientific information, but increasingly the value and importance of accessing the Internet, and the availability of information on BioNet, CARINET, and other regional networks is being recognized. Increasingly, a local training component is being included in the research permit proposals, and research permit holders are sending reports and other material back to The Bahamas. The stock of local information is therefore increasing.

Research and Technologies: Research permits are required for scientists wishing to carry out ecological and biological research in The Bahamas, and several research stations already exist (in San Salvador and North Andros for example).

Financing: No information available.

Cooperation: See under **Information**.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: The Ministry of Education and Training (MOET) encourages partnerships, mobilizes resources, provides information, assesses the needs of different population groups and prepares a National Education Strategy. The existing MOET Committee for the national strategy on education consists of technical officers in science, the Bahamas National Trust (BNT) and the Bahamas Reef Environment Education Foundation (BREEF). Legislation to affirm the rights of indigenous people to play a part in education and training in environmental and development issues are being enacted. The Bahamas has a national strategy on education. The Bahamas Environment, Science and Technology (BEST) Commission plans to work with the Ministry of Education and Training/COB to expand materials and subjects in curricula to be a permanent part of education in The Bahamas, including curricula for teachers trained at the College of the Bahamas, so that they in turn will be sensitised and committed to teaching these principles when they graduate and enter the school system. The Bahamas Environment, Science and Technology (BEST) Commission's Education and Public Awareness Committee consists of Commission members and a cross section of individuals from throughout the country, including women, men, NGOs, and technical officers of Government agencies. They assist with the development of resource materials and teacher upgrading in schools. Schools and universities are part of a national network addressing environment and development issues. At the national level, there is an association of NGOs, including the Bahamas National Trust (BNT), the Bahamas Reef Environmental Education Foundation (BREEF), and Friends of the Environment Conservation Groups that provide educational upgrading for teachers and students via resource materials, workshops, field trips and assistance with science clubs.

Programmes and Projects: See under **Status**.

Status: Awareness-raising is carried out by agencies such as the Departments of Agriculture and Fisheries, Environmental Health Services, and the Water and Sewerage Corporation. Additionally, awareness-raising is done through the curricula for Agriculture Science, General Science, Health and Family Life and Social Studies, as well as entities such as BNT, BREEF, and other private sector agencies. At the primary and secondary school level, curricula have been reviewed and revised to adequately address environment and development as a crosscutting issue. Tools for environmental education like printed material, audiovisual tools and special classes, workshops, and seminars have been occasionally used at primary and secondary level. Education is freely accessible in the Bahamas. All children are encouraged to finish high school and to go on to university if possible. It is mandatory for children to attend school up to the age of sixteen. Education is provided at no cost through high school and at the tertiary level for those aspiring to be teachers. Students in other fields at the tertiary level are required to pay a nominal fee. In addition to the above, efforts to combat poverty are made through programmes for training and skill building in technological and vocational areas. Evening classes at educational institutions are strongly attended by young and middle-aged women. At the primary and secondary school levels, environmental health, sanitation, ecosystems, recycling and energy saving are dealt in part, and safe drinking water and food are dealt with fully.

With specific regards to educating the public about issues of water conservation and management, the adult population is targeted through The Bahamas National Water Week Activities, while for school children, Components of Waste Management and Water Conservation are part of Bahamian schools' instructional programmes. Other approaches have also been taken to raise awareness in local communities and to enhance their participation in planning and implementing education-related action plans. This has been done through television programmes, through community meetings, and through displays and exhibitions in public places. Some innovative educational, public awareness, and training activities related to sustainable development have been conducted through the Vector Control Programme, a Solid Waste Management programme, as well as a programme for Reef Conservation. Pre-service and in-service training programmes are available for teachers, administrators, educational planners and non-formal educators in all sectors concerning the nature and methods of environmental and developing education. Activities such as environmental workshops, seminars, on-site supervision, and field trips are conducted and facilitated by NGO's and technical officers. Recently, a scholarship for teachers' upgrading in an environmental education workshop was granted. Funding for teacher and student attendance to the global youth forum (UNEP) and UN conferences is also given periodically. The Ministry of Education and Training's

Committee utilizes radio and television broadcasts, as well as in-service workshops on environmental education for school administrators, parents and teachers. The BEST Committee will use Internet, television, radio and the press for public awareness, and intends to co-author pamphlets and other materials that relate exclusively to the Bahamian children and the need for sustainable development to protect their heritage.

Information: No information available.

Research and Technologies: The Government intends to activate the Science and Technology Resources Network, which will serve as a liaison between schools, resource persons, and sites of scientific and technological interest to the community. The purpose of the Network is to develop partnerships among educators, scientists, NGOs, industry, youth, the media, and other major groups in order to foster the communication of the key messages of sustainable development.

Financing: No information available.

Cooperation: The UN agencies have supported educational programmes on environment and sustainable development issues by providing public awareness information on environmental issues, but more UN support is needed.

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CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES

This issue has been covered under the heading **Capacity-Building, Education, Training and Awareness-Raising** in the various chapters of this Profile.

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CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

This issue deals mainly with activities undertaken by the UN System.

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CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

Decision-Making: The BEST Commission is establishing an administrative and legal process to identify the relationships and overlaps among international agreements. Legislation is to be drafted to ensure that regulations are in force to support the provisions of the conventions. The BEST Commission's Committee on International Obligations is mid-way through an in-depth study of all the obligations under each Convention ratified by The Bahamas, with a view to coordinating all sustainable development issues.

Programmes and Projects: No information available.

Status: Among the relevant Conventions ratified by the Government of The Bahamas are the following:

- Convention for the Protection and Development of the Marine Environment in the Wider Caribbean;
- Protocol on Specially Protected Areas and Wild Life (SPAW);
- Protocol for Combating Oil Spills;
- Convention on Biological Diversity, 1992;
- United Nations Framework Convention on Climate Change, 1992;
- Copenhagen Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, 1992;
- London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, 1990;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 1989;
- Montreal Protocol on Substances that Deplete the Ozone Layer, 1987;
- Vienna Convention for the Protection of the Ozone Layer, 1985;
- Treaty on the Non-Proliferation of Nuclear Weapons, 1986;
- United Nations Convention on the Law of the Sea, 1982;
- Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 1976;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973;
- Protocol Relating to the International Convention for the Prevention of Pollution from Ships, 1973;
- Convention for the Prevention of Pollution from Ships, 1973;
- International Convention for the Prevention of Pollution of the Sea by Oil, 1954, and Amendments of 1969 and 1971;
- International Convention for the Establishment of an International Compensation Fund for Oil Pollution Damage, 1971;
- International Convention on Civil Liability for Oil Pollution Damage, 1969;
- The Treaty regarding Principles Governing the Activities of States in Exploration and Use of Outer Space including the Moon and other Celestial Bodies, 1967;
- Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco), 1967;
- Treaty Banning Nuclear Weapons Tests in the Atmosphere in Outer Space and Under Water, 1963.

The main constraints to the implementation of international legal instruments related to sustainable development have been the lack of resources, technical expertise, and funding.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

Decision-Making: The public sector is experiencing a process of adjustment, driven by the need to acknowledge the facility with which information can be accessed and manipulated. Emphasis is placed on structures that merge information, knowledge and action. There has been an effort to establish an overall policy and framework for information at the national level, by integrating environment and development information.

Programmes and Projects: In the context of the rapid evolution of information technology, The Bahamas supports the development of a Small Island Developing States Information Network (SID/NET) to facilitate the exchange of experience among islands. The Bahamas is currently conducting a Biodiversity Data Management Project to develop a database to assist in the decision-making process. Progress has been made with the introduction of a new Geographic Information System by the Ministry of Finance and Planning. In finding rational solutions to equip decision makers with information that would promote sustainable development in The Bahamas, it was recognized that GIS technology is the information system that may be utilized to manage a wide range of land resource/spatial applications. High national priority was therefore given to the development of an “Enterprise Wide G.I.S.” in a multi-agency environment. Technical assistance was provided by the Inter-American Development Bank and funding and technical assistance was provided by the Japanese Government. The overall objective of The Bahamas National GIS Project is geared to strengthening the GIS Unit (anticipated new name: The GIS Center), and to expanding the use of GIS technology in Government agencies. It was therefore decided that The Bahamas Government would proceed with the B.N.G.I.S. Project as a forerunner to an overall land use project.

Status: The problems that have mitigated the effective guidance and control of the use of land have been identified as follows: weak town planning legislation; weak institutions responsible for control and land development, particularly in the Family Islands; and a dearth of data. Action is now being taken to correct these weaknesses, particularly in respect to data collection. Preparation of a comprehensive Land Use Plan and Enforcement Instrument is a top priority for New Province and the major Family Islands. This is a major undertaking but is needed to complement the land use/transportation study now in progress. The Government does not have a programme to develop or use indicators of sustainable development at the national, regional, or international levels. The BEST Commission is involved in the work on indicators of sustainable development, but work has just begun. The self-rating of available data on the conservation of biological diversity and of data on biotechnology is very good. As information technology explodes, greater specialization is needed to master these changes, while at the same time greater teamwork is required to recombine it into meaningful output. Rapid response requires leanness in the organizations.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Research and Technologies: See under **Programmes and Projects**.

Financing: No information available.

Cooperation: The main sources of information on sustainable development are UN agencies.

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CHAPTER: INDUSTRY

Decision-Making: The Bahamas Council of Light Industries, the Bahamas Chamber of Commerce, the Bahamas Institute of Professional Engineers, and the Grand Bahamas Port Authority are all advisory and ad-hoc members of the National Sustainable Development Coordination Mechanism. Oil companies, labour unions and others are not members of this coordination mechanism. There are governmental policies to reduce the impact of development through encouraging increased efficiency of resource use, including reuse, recycling, and reduction of waste per unit of economic output. Major group organizations participate in environmental impact assessment projects at the national and local levels. The Government sent representatives from major groups to the SIDS Global Meeting in Barbados, in November 1994. Most big enterprises and a few small and medium sized enterprises have adopted sustainable development policies.

Programmes and Projects: No information available.

Status: The principal threat to human health or the sustainable use of natural resources associated with industrial activity is the contamination of freshwater by agricultural chemicals, herbicides and pesticides. Industrial pollution is largely thermal pollution, discharge of oils, greases, and small quantities of organic contaminants.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER: SUSTAINABLE TOURISM

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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