

JOHANNESBURG SUMMIT 2002

JAMAICA



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)

LIST OF COUNTRY-SPECIFIC ACRONYMS

CARICOM	Caribbean Community
ENACT	Environmental Action Programme
GoJ	Government of Jamaica
JaNEAP	Jamaica National Environmental Action Plan
MLE	Ministry of Land and Environment
NEPA	National Environment and Planning Agency
NIP	National Industrial Policy
NLP	National Land Policy
NPEP	National Poverty Eradication Programme
PIOJ	Planning Institute of Jamaica
ROSE	Reform of Secondary Education
SDC-J	Sustainable Development Council of Jamaica
SIDS	Small Island Developing States
STATIN	Statistical Institute of Jamaica
WSSD	World Summit on Sustainable Development

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

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

Decision-Making: The Government, through the Ministry of Foreign Affairs and Foreign Trade, in response to the post-Doha trade and environment negotiating agenda, has established an inter-ministerial committee to examine the agenda, monitor developments in the WTO Committee on Trade and Environment and formulate the country's negotiating position on the issues.

The National Environment and Planning Agency (NEPA), with the assistance of the relevant public sector agencies, will be conducting a review of the domestic environmental regulatory framework to assess its impact on trade. The output of this exercise and the discussions arising from the inter-ministerial committee on trade and the environment will provide the basis for a proposed national symposium on the topic involving the public and private sectors and civil society. The symposium will serve as a consultative process thereby sensitising players to the broader issues, creating linkages and informing the country of the negotiating position.

Programmes and Projects: No information available.

Status: Countries such as Jamaica, with relatively high commodity or manufacturing production costs need to increase skill/knowledge based activities, services, niche markets, product and service differentiation, and add value to goods and services before export. The goal today should be to build competitive (not comparative) advantage. Comparative advantage is dependent on costs of labour and materials. Competitive advantage requires diverse skills: knowledge, dynamism, flexibility, innovative ability, marketing, branding, positioning etc.

If we are to develop a competitive advantage, however, we need to develop the necessary skills, innovative and technological dynamism, decision-making capacity and knowledge networks/business clusters to develop, disseminate and capitalise on information, and thereby support 'techno-preneurialism'. This in turn will require a range of institutional reforms and cultural changes, and a massive investment in education.

Another issue of concern is trade and the environment. The Doha Declaration¹ speaks to "mutual supportiveness of trade and environment" which is in keeping with the tenets outlined in Chapter 2 of Agenda 21. Twenty of the two hundred recognised Multilateral Environmental Agreements have trade implications, including several to which Jamaica is either a signatory or a party see Appendix IV).

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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¹ World Trade Organisation Ministerial Declaration adopted in Doha, Qatar on November 14, 2001.

CHAPTER 3: COMBATING POVERTY

Decision-Making: Welfare assistance continues to be high on the agenda for poverty eradication, but significant focus is being given to initiatives aimed at enabling and empowering groups and individuals who are poor. Among such initiatives are:

- The Jamaica Social Investment Fund which provides infrastructure support to needy communities all over the island and for organisational development and social services;
- The Micro-investment Development Agency that has been providing funding to small and micro-enterprises;
- Other programmes and projects such as: the Rural Electrification Programme, the Catchment Tank Rehabilitation Programme, the Jamaica Drugs for the Elderly Programme, the Social and Economic Support Programme, the Food Stamp Programme, and the New Horizons for Primary Schools Project.

Programmes and Projects: By the end of the 2000/2001 financial year, approximately J\$24 billion (US\$498 million)² had been spent on poverty eradication projects and programmes since Rio. Since the mid 1990's, the flagship social programme has been the National Poverty Eradication Programme (NPEP), which can be credited for some of the success in reducing the rate of poverty. The NPEP emphasises: strategies of human resource development and employment generation; community empowerment; geographic targeting; and safety net and income transfers. Currently, there are approximately forty-five projects and programmes operating out of eleven government ministries.

The Government is currently undertaking a reform of the Social Safety Net Programme. One facet of this reform is the Programme of Advancement through Health and Education (PATH), which is intended to improve the targeting mechanisms used to identify the poorest segments of the population, to increase the effectiveness of welfare and related programmes, and to streamline the delivery of services. The principal objective of PATH is to improve human capital development by increasing the access of children in poor families to education thereby breaking the cycle of inter-generational poverty. It also seeks to improve the health status, productivity, and longevity of the poor. PATH is to be implemented in different phases, the first of which involves the consolidation of three existing income support programmes into a unified programme, as well as a considerable increase in the level of benefits that will be disbursed on a phased basis.

Status: The poverty rate declined from a high of 44.6% in 1991 to a low of 15.9% in 1998. By 2001, the incidence of poverty rose slightly to 16.9%.

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

Information: The Jamaica Human Development Report, 1998 was prepared by the PIOJ with support from the UNDP. This document developed customised indicators to monitor progress in overall human development, and particularly the eradication of poverty and the mainstreaming of gender in the formulation of policy.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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² 1 USD = J\$ 48.24

CHAPTER 4: CHANGING CONSUMPTION PATTERNS

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 4: CHANGING CONSUMPTION PATTERNS - ENERGY

Decision-Making: No information available.

Programmes and Projects: The Government has pledged to address energy management issues through the Jamaica Energy Sector Policy. The Jamaica Public Service Company, through the implementation of its Demand Side Management Project, assists customers in energy conservation. The Energy Sector Policy supports Demand Side Management programmes by reducing or eliminating duties applicable to energy efficient devices.

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 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT

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 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: Jamaica had a resident population of approximately 2.6 million at the end of 2001, 57% under 30 years of age.³ About 55% of the population live in urban areas. At the end of 2001, the population was growing at an estimated rate of 1% per annum, and the density was 236 per square kilometre.

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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³ PIOJ. 2001. Economic and Social Survey of Jamaica, 2001.

CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

Decision-Making: The National HIV/AIDS Strategic Plan 2002-2006, an updated version of the 1997-2001 medium term plan recently received bipartisan support. It strengthened the national HIV/AIDS effort and sets the framework for the country to act to reduce the spread of HIV/AIDS. Broad policy issues on stigma and discrimination, protection of privacy and confidentiality and access to care are addressed by the national plan.

Programmes and Projects: With the Caribbean ranked second in the world behind southern Africa in terms of AIDS infection rate, the issue of HIV/AIDS has become a national priority especially in a country that accommodates a large number of visitors year round. Local programmes such as Jamaica AIDS Support (JAS) to assist those individuals infected with the virus have in recent time been struggling financially. The fight against HIV/AIDS and the reorganisation of the public health system are therefore now the major thrusts of policy.

Status: The Health sector experienced budgetary constraints in 2000/2001, but despite this there were new levels of achievements. These included the continued decline in vaccine preventable diseases attributed in part to the increase in national immunisation coverage; decline in sexually transmitted diseases; and expanded targeted intervention in client services at public hospitals.

The high incidence of HIV/AIDS continues to be cause for grave concern and concerted action by the government and international agencies. The rate of reported AIDS cases in Jamaica showed a 4% increase in 2001 compared to 2000, with females accounting for 54% of the reported number.

Table 1. Recent Trends in Selected Health Indicators

Parameter	Unit	1997	1998	1999	2000
Population	000	2553.2	2573.0	2589.0	2605.0
Access to Safe Water	%	81.2	81.2	81.2	81.2
Sanitary Facility	%	99.5	99.5	99.5	99.5
Infant Mortality Rate	/ 000 live births	24.5	24.5	24.5	24.5
Life Expectancy	Yrs	72.2	72	72.2	72.2

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: With regard to human shelter, Jamaica's commitments to Habitat led to the preparation of a National Shelter Strategy, a National Housing Policy and a National Habitat Report for the year 2000 which was published in 2001.

A comprehensive settlement policy is also in place to guide the use of areas for settlement development. Out of a total of 1150 towns and villages throughout Jamaica, 120 have been chosen for concentrated urban development based on the level of existing infrastructure and services. They consist of 96 district centres, 17 sub-regional centres, 6 regional centres and one national centre. This settlement policy is supported by existing development plans and orders. These plans and orders are policy and legal instruments that are used to guide development. New plans and orders, which are policy and legal instruments used to guide development, are currently being prepared to replace some of the outdated and non-existent ones. Land use zoning based on these plans and orders is also used as policy guides for other use of land including industrial, commercial, mining, conservation, tourism etc.

Greater enforcement, compliance and monitoring of existing laws and regulations is sorely needed. In general, the lack of adequate technical, human, financial, and other resources are the greatest barriers to achieving better land utilisation and management. The creation of a new Municipal Force and institutional strengthening are the major actions now being taken to address these problems.

Programmes and Projects: In the area of housing development a number of projects are being undertaken to ensure shelter is available to all sectors of the society. Chief among these is the Special Indigent Housing Project, which began in 1999 and is coordinated by a unit in the Office of the Prime Minister. The Project involves the construction, repair or rebuilding of the domicile or sanitary conveniences for indigent persons or institutions which house the indigent. The Programme Coordinating and Monitoring Unit (PCMU), in the Office of the Prime Minister is responsible for coordinating the programme.

Another major housing programme is the Programme for Resettlement and Integrated Development Enterprises, known as Operation Pride, which was implemented to make available government-owned lands at reasonable prices to low income earners for various types of uses. The beneficiaries enter into a legal agreement to undertake the development of infrastructure to an acceptable standard (over a period of time) on an incremental basis.

The Land Administration and Management Programme (LAMP) - a GOJ/Inter-American Development Bank programme, aims at promoting the efficient administration and management of land resources in an integrated and sustainable manner. The project has a Land Titling and Cadastral Mapping Component. Within the next two years, 25,000 parcels in St. Catherine (the project area) will be mapped and registered titles prepared for delivery to 50% of landowners in the project area. Digital cadastral maps with reliable geographic location and a legal record of land ownership will also be created.

There are four components to the LAMP project. The Land Registration Component will use modern and appropriate land surveying technologies such as GPS to update a section of the Cadastral Index being prepared and create digital Cadastral maps. This will provide reliable and specific geographic location of properties and record land ownership amongst other things thus facilitating an efficient and streamlined land tenure regularization process. The Cadastral maps will be used as the base to develop and maintain all land and land related information.

The Public Land Management Component will develop comprehensive computerized systems for the inventory of state lands and buildings, including data on possession, use, land suitability, financial and other relevant matters.

The Land Use and Development Component aims at reforming the planning process and establishing a participatory approach to development planning. This reformed approach will facilitate the integration of the various components of the development process with environmental, physical and socio-economic considerations as well as inputs from the various sector agencies.

The Land Information Management Component will identify and commence the implementation of several activities in the area of the networked GIS for Jamaica. Activities to be accomplished include the creation of digital base maps for priority urban areas and the establishment of a geodetic infrastructure required for mapping, surveying, marine and air navigation, traffic and fleet management and emergency planning among others.

Status: The weak connections between the protection and conservation of natural resources and the long-term social and economic benefits are easily eclipsed by the exigencies of survival in the immediate. Thus, it is difficult to dissuade poor landless farmers who squat on hillsides from using slash and burn techniques, from the wanton cutting of trees to produce charcoal for household cooking and sidewalk vending of charcoal cooked foods, or desist from the cultivation of steep slopes, when they have no readily accessible options for income generation.

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: See under **Programmes and Projects**.

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CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: The coordinating mechanism for sustainable development is the Sustainable Development Council of Jamaica (SDC-J) with a mandate to: monitor the progress of Jamaica towards sustainable development in the context of the implementation of Agenda 21 and the Programme of Action of Small Island Developing States; assist in the development and shaping of policies and programmes for the effective management and use of the environment; and facilitate dialogue or build alliances among sectors and participants.

The SDC-J has broad participation. Among the ministries and government agencies are the Natural Resources Conservation Authority (NRCA); Ministry of National Security and Justice; Ministry of Environment and Housing; Jamaica Information Service (JIS); Tourism Product Development Company (TDPCO); Jamaica Promotions Limited (JAMPRO); Ministry of Agriculture; Jamaica Bureau of Standards; Ministry of Labour, Social Security and Sports; Ministry of Local Government and Works; Ministry of Foreign Affairs and Foreign Trade; The Jamaica Tourist Board (JTB); Ministry of Education, Youth and Culture; Ministry of Public Utilities and Transport; The Meteorological Services; Ministry of Finance and Planning; The National Planning Council (NPC); Office of the Prime Minister (OPM); Ministry of Industry and Commerce; The Planning Institute of Jamaica (PIOJ); The Attorney General's Department; and The National Commission on Science and Technology (NCST).

Jamaica has a variety of statutes dealing with the environment. The NRCA Act (1991) has direct jurisdiction over environmental matters. The Government recognizes the need to draft additional regulations and strengthen existing ones for more effective environmental laws. The NRCA Act, the Wildlife Protection Act and the Beach Control Act are to be amended. A new Forest Act was enacted in 1996. An environmental warden service was established in 1995 with responsibility for monitoring and enforcement of environmental laws. A number of institution-strengthening projects are currently underway which have targeted governmental environmental management agencies, NGOs and the private sector.

Para-statal bodies, institutions and non-governmental organizations which participate in the Sustainable Development Council include the following: The Private Sector Organization of Jamaica (PSOJ); Jamaica Manufacturers Association of Jamaica (JMA); Jamaica Exporters Association (JEA); Jamaica Employers Federation (JEF); University of the West Indies Centre for Environment and Development (UWICED); University of Technology (UTECH); The Joint Trade Union Research and Development Centre; Telecommunications of Jamaica Limited; The National Water Commission (NWC); The Jamaica Public Service Company Limited (JPSCO); the Association of Development Agencies, and the National Environmental Societies Trust (NEST).

In the National Industrial Policy of 1995, the government committed itself to establishing an Environment and Sustainable Development Unit in the Planning Institute of Jamaica (PIOJ) to ensure the integration of social, economic and environmental policy. This has recently been implemented.

Jamaica has established since 1995, a three-year National Environmental Action Plan (JaNEAP), which is reviewed annually. It deals with diverse environmental and sustainability issues, as well as the implementation of commitments under Agenda 21, and the Programmes of Action for SIDS.

Apart from the JANEAP, plans for the management and development of several different aspects of Jamaica's environment have been prepared, and there has been one planning exercise that formed part of a regional project on climate change. All of the subjects of the other plans are also integral to sustainable development.

Programmes and Projects: No information available.

Status: The government has enjoyed mixed success with coordinating committees of representatives from the public sector, the private sector and civil society. However, there is still a challenge to fashion methods or modes of governance to facilitate the preparation and implementation of sustainable development strategies, policies, plans and programmes.

While environmental deterioration, such as deforestation and land-based marine pollution continue, the society is now more equipped to reverse some of these negative trends. Environmental Impact Assessments are now standard requirements, although there are cases in which developments have been started without an EIA being done. Recent flooding in the eastern end of the island wreaked immense damage that can be traced to the denudation of the hillsides for agricultural purposes and the obstruction of natural waterways by unplanned and illegal construction, incorrect disposal of solid waste and human settlement patterns. The disaster brought the inevitable and immense costs of environmentally unfriendly practices once more into sharp relief.

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

Information: To obtain information about Jamaica's Natural Resources Conservation Authority (NRCA) there is the following Internet address: <http://www.sdn.undp.org/~eclac/CARMIN/DOCS/jamaica.htm>.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making: The Government of Jamaica signed the United Nations Framework Convention on Climate Change on 12 June 1992 and ratified it on 6 January 1995. Jamaica ratified the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol on Substances that Deplete the Ozone Layer, and the London Amendment to the Montreal Protocol on 31 March 1993, and the Copenhagen Amendment to the Montreal Protocol on 6 November 1997.

Programmes and Projects: No information available.

Status: The main issues relating to climate change in Jamaica are increased rise of the sea level, increased levels in the risks to human health, higher frequency of storms and floods, and increased levels of salt-water intrusion. Jamaica is affected by sea-level rise. The main road to the town of Morant Bay in St. Thomas is threatened by encroachment of the sea, a threat that did not exist when the roadway was constructed.

It is predicted that the change in global climatic conditions will result in increased temperatures, rainfall and sea level rise and more frequent hurricanes, droughts, etc. Climate change will impact not only on biodiversity and natural resources but also on social development. The impact of sea level rise on the tourism industry could be profound if it results in increased beach erosion. The island's two major international airports are at sea level.

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

Information: It is proposed under the project Caribbean Planning for Adaptation to Climate Change (CPACC) in May, 1998, to provide information on Climate Change and Sea-Level Rise on the Internet, at the address: <http://www.sdn.undp.org/~eclac/CARMIN/DOCS/jamaica.htm>

Data on air quality are scarce in Jamaica, as a system for routine air quality managements has not been established. The energy sector is the single largest contributor to air pollution and greenhouse gas emission in Jamaica. The phasing-out of leaded gasoline in 2000 was the major initiative over the last decade.

Research and Technologies: No information available.

Financing: See under Cooperation.

Cooperation: Jamaica and ten other CARICOM countries are involved in the four-year project, Caribbean: Planning for Adaptation to Global Climate Change. Financing for the four-year project Caribbean Planning for Adaptation to Global Climate Change, at a cost of 6.3 million US dollars, is provided by the Global Environmental Facility, through the World Bank. The executing agency is the Organization of American States.

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

Decision-Making: The Government of Jamaica has developed a comprehensive National Land Policy, outlining policies, strategies, projects and programmes relating to land in Jamaica. It has prepared Town Plans for major urban land areas and integrated rural development plans to zone and govern various land users (although a lot more plans are needed). Jamaica has implemented a programme known as Operation PRIDE to make available government owned lands at reasonable prices to low income earners for various types of uses and enter into legal agreement with the beneficiaries to assist with development of the infrastructure on an incremental basis to an acceptable standard. The existing Town and Country Planning Act has been reviewed to make it more effective, and the National Resources Conservation Authority/Act has been strengthened to enable greater enforcement of environmental laws.

In preparation of the National Land Policy a series of nationwide fora were held and comments and recommendations from community groups and the general public were incorporated in the policy where feasible. Participation of community groups are encouraged in the preparation of Development Plans, land management projects, etc. These groups, which include NGOs, play an important role in the implementation of environmental conservation projects, promotion of sustainable development and pollution monitoring and control.

The Office of the Prime Minister in its capacity as facilitator of policy development and formulation utilised a participatory process to develop a comprehensive National Land Policy which was tabled in the Houses of Parliament in 1996. It identifies the implementation of sustainable strategies, including the regulatory framework, for land resources. The National Land Policy addresses, the following:

- The establishment of a national networked Geographical Information Management System;
- The provision of affordable and legally secure access to land for the majority;
- The development of innovative and more dynamic approaches to land use planning and development;
- The protection and conservation of scarce and sensitive resources, while pursuing development initiatives in an environmentally sound manner;
- The disaster mitigation and preparedness;
- The pricing, taxation and incentives for property development;
- The management of taxes;
- The acquisition and divestment; and,
- The legal and institutional matter.

Programmes and Projects: No information available.

Status: The main issues relating to land use in Jamaica are: limited affordable and accessible land for low income earners; the lack of a comprehensive cadastral map; and a lengthy and costly land titling process which has resulted in approximately 50% of total land parcels existing without titles. Roughly fifty to seventy percent of all development takes place outside the formal system (i.e. without approval). In addition, there is a high incidence of squatting, lack of sufficient Town Plans, a lengthy and cumbersome planning approval process, under utilization of large areas of arable lands and small and inefficient fragmentation of others, and scattered small human settlements and linear developments with poor infrastructure.

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

Information: For information about land management in Jamaica refer to:
<http://www.sdnf.undp.org/~eclac/CARMIN/DOCS/jamaica.htm>

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 11: COMBATING DEFORESTATION

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: Concerns about the annual deforestation rate led to a review by the Forestry Department, which has established that the rate of deforestation is only 0.1%⁴. Thirty-five percent of Jamaica's forested land is designated as Forest Reserves and another 2% is proposed for protection in the near future. Significant capacity-building in the forestry sector has taken place, and projects have been developed (Trees for Tomorrow, and the Spinal Forest Project) that are aimed at restoring forest cover across the island.

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

Information: No information available.

Research and Technologies: No information available.

Financing: In 2001, a new funding mechanism, the Forest Management and Conservation Fund was established, as a supplement to the resources provided by the Government, to provide long term funding for re-forestation and forest conservation. The Fund will be used exclusively for activities specified in the National Forest Management and Conservation Plan. Another funding mechanism, the Tropical Forest Conservation Fund was created to receive funds from a planned debt-for-nature swap. This Fund will be managed similar to the EFJ resources and will be used primarily to support forest-related projects being implemented by NGOs.

Cooperation: No information available.

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⁴ Jamaica's Environment 2001.

CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

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: The Government of Jamaica ratified the United Nations Convention to Combat Desertification on 12 November 1997.

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

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 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

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 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making: To protect and conserve biological resources, the Government of Jamaica has adopted a Policy on land use and management plans for endangered species, a Policy on a System of Protected Areas, a National Environmental Action Plan, and a National Forestry Plan, as well as the following laws and other measures: a new Forest Act which includes Biodiversity Conservation; Draft Bills for Trade in Endangered Species Convention and Fisheries Industry; a Permitting and Licensing System for the use of Jamaica's resources; development of an atlas of an integrated approach to coastal zone management; and regulations for the importation of plants that have been genetically modified. In addition, there has been an increase in budgetary allocations for this purpose and the establishment of a National Park Trust Fund that is managed by a Local Environmental Non-Governmental Organization (ENGO). Community participation is encouraged in the review process of Policies and Environmental Impact Assessment (EIA); in Environmental Committees for the formulation and implementation of management plans for protected area and species, and through representation on the NRCA Board of Directors.

Programmes and Projects: No information available.

Status: The main issues relating to biodiversity management in Jamaica are: removal of mangrove forests, sedimentation in bays and coastal areas from coastal erosion and degraded upland watersheds; increases in coastal development and human pollution; discharge of nutrient rich waste into the sea; and over-fishing.

The country has a rich diversity of flora and fauna and is fifth among islands of the world in terms of plant endemism. Even though Jamaica enjoys this rich biological diversity of marine and terrestrial species and ecosystems, particularly forest types, there are at least six species of terrestrial vertebrates which are thought to have become extinct over the last 150 years and many more are considered endangered, threatened or rare.

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

Information: The information available on coastal and terrestrial biological resources is limited. However, as it relates to marine resources, there has been extensive scientific research conducted in this area over the years. Information is available on the following: (1) Biological data on fish catch and effort; (2) Distribution and population of Sooty Tern birds, bats, manatee, iguana, etc.; (3) Status of the resources in the Blue and John Crow Mountains National Park and the Montego Bay Marine Park; (4) Corals and Coral Reefs; and (5) Wetlands and mangrove forests.

Presently there is no biodiversity Internet service available. The government agency that is responsible for the Clearing House Mechanism under the Convention of Biological Diversity (CBD) is the Institute of Jamaica (IOJ). IOJ is presently awaiting funding from CBD/Global Environmental Foundation (GEF) Enabling Activity Project to establish an Internet service on biodiversity.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Government of Jamaica signed the Convention on Biological Diversity on 11 June 1992 and ratified it on 5 January 1995. Jamaica ratified the Convention Concerning the Protection of the World Cultural and Natural Heritage on 14 June 1983 and the Convention on International Trade in Endangered Species of Wild Fauna and Flora, on 22 June 1997. It is not a Party to the Convention on the Conservation of Migratory Species of Wild Animals [as of 1 September 1997].

The Government of Jamaica participates in regional arrangements on biological diversity, such as the Contaminated Bays and Harbors of the Wider Caribbean (Cuba, Jamaica, Costa Rica and Columbia). This regional cooperative arrangement will provide a framework for an integrated investment action plan.

The government receives international assistance for the following projects:

- Institution strengthening for the implementation of the new Forestry Act under the Trees for Tomorrow Project (Grant)
- CIDA/CARICOM project on the collection of biological data on fish catch and effort
- USAID Development of Environmental Management Organizations PARC I and II project
- OAS Multinational Project on the Environment and Natural Resources.
- Sweden Coastal Zone Planning/Management Project.

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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: A Sustainable Development Council has been established, and a National Commission on Science and Technology is in the process of conducting a review of Science, Technology and Innovation Policies (STIP) to develop recommendations. In the area of waste management, the Scientific Research Council (SRC) is working on the technology, and the Natural Resources Conservation Authority (NRCA) is working on standards and legislation. Sectoral strategies that also incorporate science and technology include the Sustainable Tourism Development Project and a draft policy prepared and under review by the Ministry of Water for the promotion of environmentally-sustainable technologies (ESTs) in the area of freshwater resources management.

Biotechnologies: No information available.

Programmes and Projects:

Technologies: The Integrated Wastewater Programme at the SRC addresses the issue of technology for Environmentally Sound Wastewater Management for all sectors. Its overall goal is to reduce the adverse environmental effects of pollution from wastewater. Private sector companies have been established to provide requisite technical information and expertise in order to help further the transfer of ESTs.

Biotechnologies: No information available.

Status:

Technologies: In Jamaica, ESTs are most urgently needed in the area of Mining.

Biotechnologies: No information available.

Capacity Building, Education, Training and Awareness-Raising:

Technologies: No information available.

Biotechnologies: No information available.

Information:

Technologies: Information on environmentally-sound technologies and technology transfer is available on the Internet at <http://www.src-jamaica.org>.

Biotechnologies: No information available.

Research and Technologies:

Technologies: No information available.

Biotechnologies: No information available.

Financing:

Technologies: No information available.

Biotechnologies: No information available.

Cooperation:

Technologies: No information available.

Biotechnologies: No information available.

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: Most of Jamaica's watersheds are considered to be in critical condition. A National Integrated Watershed Management Council was established to implement rehabilitation of the watersheds based on a new Watersheds Management Policy. Special attention has been directed at conservation of Jamaican coral reefs and wetlands through Jamaica's participation as a partner in the International Coral Reef Initiative (ICRI) and its accession to the Ramsar Convention.

Jamaica was among the first island states to create a coral reef action plan (JCRAP). The percentage of live coral cover on Jamaican reefs has increased marginally over the last 4 years.⁵ The Black River Wetlands were designated as the national Ramsar site in 1998. Mangrove wetland acreage has remained relatively constant over the last 10 years even though instances of wetland modification still occur.

The competent authorities and stakeholders have actively collaborated in regional initiatives to introduce a 'Blue Flag' type scheme for the Caribbean. Coastal water quality initiatives have been initiated and Jamaica has also developed an approach to the management of land-based activities that affect the marine environment.

Programmes and Projects: No information available.

Status: The main issues relating to climate change in Jamaica are (1) increased rise of the sea level; (2) increased levels in the risks to human health; (3) higher frequency of storms and floods; and (4) increased levels of saltwater intrusion. The main road to the town of Morant Bay in St. Thomas is threatened by encroachment of the sea, a threat that did not exist when the roadway was constructed.

In the past decade, there has been a significant increase in the total of terrestrial and marine protected areas. Following the development of a White Paper on Protected Areas, eight such areas have been declared. Protected areas now cover 13.3 % of Jamaica's land area. Marine protected areas amount to 181,500 hectares or 1.1% of the exclusive economic zone.

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

Information: It is proposed under the project Caribbean Planning for Adaptation to Climate Change (CPACC) in May, 1998, to provide information on Climate Change and Sea-Level Rise on the Internet on <http://www.sdnpu.org/~eclac/CARMIN/DOCS/jamaica.htm>

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Government of Jamaica ratified the United Nations Convention on the Law of the Sea on 21 March 1983. Jamaica and ten other CARICOM countries are involved in the four-year project, Caribbean: Planning for Adaptation to Global Climate Change. Financing for the four-year project Caribbean Planning for Adaptation to Global Climate Change, at a cost of 6.3 million US dollars, is provided by the Global Environmental Facility, through the World Bank. The executing agency is the Organization of American States.

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⁵ Edmunds P.J. and R.C. Carpenter. 2001. Recovery of *Diadema antillarum* reduces macro algal cover and increases abundance of juvenile corals on a Caribbean Reef. *Proc. Natl. Acad. Sci. USA* 98 5067-5071.

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: The Water Resources Authority is responsible for managing, protecting and allocating the water resources of Jamaica. There are no other agencies, either at regional, district, local, or river basin levels established for this purpose.

The regulatory framework is provided in the Water Resources Act of 1995, the Water Act of 1922, the Watershed Protection Act, 1963; the Natural Resources Conservation Authority Act, 1991; the Irrigation Act, 1949 (amended 1955, 1956, 1989), the Milk River Bath Act, 1927 (amended 1961), the National Water Commission Act, 1963, and the Water Supply Act, 1953 (amended >65, 1973, 1980, 1988). Of particular relevance to the use of water for agriculture are the National Irrigation Commission Law, 1990; the Parishes Water Supply Act, 1957; and the Parochial Water Works Charges Act, 1913. The National Water Commission Law of 1980 addresses water use by both industry and households. New water legislation allows the declaration of water quality zones to prevent pollution and force clean up if pollution occurs, based on the Polluter Pays Principle. New environmental legislation also protects the water supply by requiring permits and environmental impact assessments for development. The cost of water use is subsidized; only about thirty-five percent is recovered through pricing. The Government intends to increase this percentage gradually.

The National Water Resources Development Master Plan identifies the resources and demands and proposes integrated scenarios and simulation models for development. There is also a policy for disaster preparedness, and the Office of Disaster Preparedness and Emergency Management (ODEPM) has established a flood and a drought Task Force. The allocation of water is determined in the light of the National Industrial Policy. Special needs of the poor are taken into account through "locally social water," which is of high quality, subsidized by the Government and supplied to a central collection point or water shop.

Programmes and Projects: No information available.

Status: Freshwater is conserved both by controlling allocation through a system of permits that are renewable annually and through public education of water users. Freshwater supplies are augmented through the repairing and upgrading of water catchment tanks to harvest rainfall. The private sector is involved in the freshwater sector primarily through the use of consultants and the provision of expertise at cost. The major constraints faced by the Government in achieving its objectives in these areas are lack of financial support and lack of qualified personnel to implement policies. Between 1997 and 2000 the percentage of persons with access to safe water and sanitary facilities remained constant at 81.2 % and 99.5 % respectively. Ground water is the most significant source of irrigation and potable water and the quality of this source is suitable for such use and with little treatment. Surface water contaminated by agricultural runoff and industrial and municipal point and non-point source pollution has remained an issue.

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

Information: Each agency and private user submits abstraction data to the Water Resources Authority. Well construction, water quality, water levels, and stream flow are all monitored by the WRA on a monthly-basis, island-wide. Information is distributed in quarterly reports, annual reports and special data reports of the WRA. It is available electronically, in a database, as well as on the World Wide on <http://www.wra-ja.org/>.

Research and Technologies: There is sufficient technological capacity to treat and recycle wastewater.

Financing: The Kingston Harbour Rehabilitation is estimated to cost US\$ 400M over a period of twenty years.

Cooperation: The Ramsar Convention on Wetlands came into force in Jamaica on 7 February 1998. WHO standards are used to measure water quality. In addition to the Ramsar Convention, the Government of Jamaica is a party to the following international legal agreements of relevance to both freshwater and oceans: the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters (London); MARPOL 73/78; the Cartagena Convention, 1983; the Convention on the Law of the Sea, 1982; and, at the regional level: the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean and the Protocol on Cooperation in Combating Oil Spills.

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

Decision-Making:

Hazardous wastes: The Natural Resources Conservation Authority (NRCA) is in the process of identifying a hazardous waste disposal site. Currently, the NRCA recommends that hazardous waste be stored or exported to a country that can dispose of these substances.

Solid wastes: The Ministry of Local Government is responsible for solid waste management. Sewage effluent standards are in place for the disposal of sewage, supporting regulations to be completed by March 1998. The Natural Resources Conservation Authority (NRCA) is working with other agencies to develop guidelines and codes of practice for waste management in the industrial sectors such as chemicals, food and agro- industries and medical wastes. A plan for solid waste disposal has been completed and awaits implementation under the auspices of the Solid Waste Management Act and Authority. In addition, a start has been recently made to correct the discharge of untreated sewage into Kingston Harbour from faulty sewage treatment plants.

Radioactive wastes: No information available.

Programmes and Projects:

Hazardous wastes: No information available.

Solid wastes: The National Solid Waste Management Project is being implemented to rationalize disposal sites, upgrade two existing dumps to landfills and to develop two new landfill sites for a total of four regional disposal sites. There is also a need for widespread public education on waste management. Rapid changes in consumption patterns and the increasing use of non-biodegradable packaging for both local and imported consumer goods have overwhelmed the traditional systems for solid waste disposal. Special efforts have been made to foster recycling and/or export of PET bottles used for soft drinks and other liquids, and the government continues to search for the appropriate mix of sanctions and market incentives to promote the proper disposal of these containers.

Radioactive wastes: No information available.

Status:

Hazardous wastes: Major constraints encountered by Jamaica in implementing sound waste management policies and programmes are financing, human resources, and competing priorities. Technology needs for sound waste management include hazardous waste disposal technology, air quality management and incineration.

Solid wastes: The main issues relating to waste management in Jamaica are air pollution from motor vehicles and industry, improperly treated sewage, and solid waste disposal (lack of sanitary landfills and hazardous waste disposal facility). The waste problems have several impacts. Water-borne diseases persist in rivers, which are used as a sink for waste, and are also used as a source of untreated water supply- particularly for low income persons. Mangroves and the coastal water quality are adversely affected, and this also ultimately impacts on the health of swimmers. Finally, coral reefs and sea grass beds are affected, thereby reducing the fish population. Major constraints encountered by Jamaica in implementing sound waste management policies and programmes are financing, human resources, and competing priorities. Technology needs for sound waste management include hazardous waste disposal technology, air quality management and incineration.

Radioactive wastes: No information available.

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

Hazardous wastes: No information available.

Solid wastes: The capacity and systems required to manage solid and special wastes as well as sewage and ship-generated wastes, however, still remain a challenge. A National Solid Waste Management Authority has been created and is taking the lead in dealing with solid and special wastes. Significant investments have been made in sewerage infrastructure in coastal areas including Negril, Ocho Rios and Montego Bay. Plans are well advanced for similar infrastructure for the Kingston Metropolitan Area and Port Antonio.

Radioactive wastes: No information available.

Information:

Hazardous wastes: Information on waste management is available on the Internet:

<http://www.sdn.undp.org/~eclac/CARMIN/DOCS/jamaica.htm>

Solid wastes: Information on waste management is available on the Internet:

<http://www.sdn.undp.org/~eclac/CARMIN/DOCS/jamaica.htm>

Radioactive wastes: No information available.

Research and Technologies:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Financing:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Cooperation:

Hazardous wastes: The Government of Jamaica has not signed or ratified the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal [as of 3 March 1998]. However, the NRCA is working on local regulations to become a signatory.

Solid wastes: No information available.

Radioactive wastes: No information available.

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CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

A goal of Agenda 21 is to foster greater cooperation and policy integration among international and national institutions in order to rationalise the legal regimes at various levels and to ensure better, more participatory and informed decision-making.

The GoJ has used a participatory approach involving the private sector, professional bodies, NGOs and other stakeholders to assist in the preparation of policies, plans, projects and programmes. In many instances, members of the international community have also participated. The consultative approach was an innovation of the government of the 1990s. For example, NGOs form a part of the environmental policy development teams, and sometimes have been involved in the implementation process. Work with environmental NGOs is more pronounced in the rural areas, as they serve as key advisors on issues, and strategies for solving them.

In addition, there have been instances⁶ where the government withdrew controversial policy positions on the advice of *ad hoc* committees of civil society appointed by the government to review the policy proposals, in light of the negative public response to the proposals. While in each case the strong reaction of the public was attributed to lack of sufficient prior consultation with stakeholders by the government, the subsequent response of the government to the recommendations of the *ad hoc* committees indicates a willingness to heed the advice of civil society.

The National Policy on Protected Areas, the National Land Policy, the National Industrial Policy and the National Poverty Eradication Programme mentioned earlier are examples of some of the policies and programmes whose development involved the participation of civil society at all stages of policy design, drafting and implementation.

Women: Decision-Making: The Planning Institute of Jamaica developed a Gender Equity Instrument to be used in mainstreaming gender into the Government's project cycle. The Government has developed Guidelines for Cabinet Submissions which requires that due consideration be given to gender issues in policy development. This should ensure the inclusion of gender considerations in all submissions. To support this, the Policy Unit, Cabinet Office has organized training in gender awareness for policy analysts within the public sector. Cooperation: The Government of Jamaica signed the Convention on the Elimination of All Forms of Discrimination Against Women on 17 July 1980 and ratified in on 19 October 1984.

Children and youth: No information available.

Indigenous people: No information available.

Non-governmental organizations: Decision-making: To be able to channel the inputs of a broad range of environmental NGOs, an attempt was made by some of them in the early 1990s to form an NGO Council with representatives from the community of NGOs. The Council has not been very active in recent years, but from time to time it has been used for advocacy around various issues, a most recent one being to formulate an NGO position on a controversial tax on gasoline. Status: NGO activity levels and capacities have declined in some areas in the latter part of the decade, predominantly for want of resources. Two recent surveys⁷ of NGO participation in preparations for the WSSD have identified the decline in NGO activity over the decade. Nonetheless, some of the critical technical work done in formulating environmental and social policies and preparing the several plans mentioned above have benefited from NGO involvement through their professional members.

⁶ In one instance the Hope Estates Development slated for land adjoining Hope Gardens was relocated to Long Mountain as a result of NGO advocacy.

⁷ Agatha Addy, 2002; Michael Witter, 2002.

In general, this consultation has been widest and deepest on environmental issues with the Environmental NGOs, and in particular those with the relevant expertise for each issue. Further, there are several current cooperation agreements (or Memorandum of Understanding) between the government and some NGOs and CBOs to assist with the management of protected areas (e.g., the Blue and John Crow Mountains National Park and the Montego Bay Marine Park).

Local authorities: No information available.

Workers and trade unions: No information available.

Business and industry: Decision-making: The most established consultation process is between the government and the leaders of the business community on economic policy. The National Planning Council, chaired by the Minister of Finance and Planning, brings together business leaders, government technocrats, professional organisations, NGOs, and other representatives of civil society in a monthly forum for discussion of public policy. Status: The business community has been increasingly active since 1997 in the promotion of public education on sustainable development and partnership in the implementation of projects such as the promotion of environmental management systems and the preparation of a sustainable development plan for Greater Montego Bay. The Jamaica Institute of Environmental Professionals completed the Information Network in support of the private sector training. A Business Council of the Environment was recently formed.

Scientific and technological community: No information available.

Farmers: No information available.

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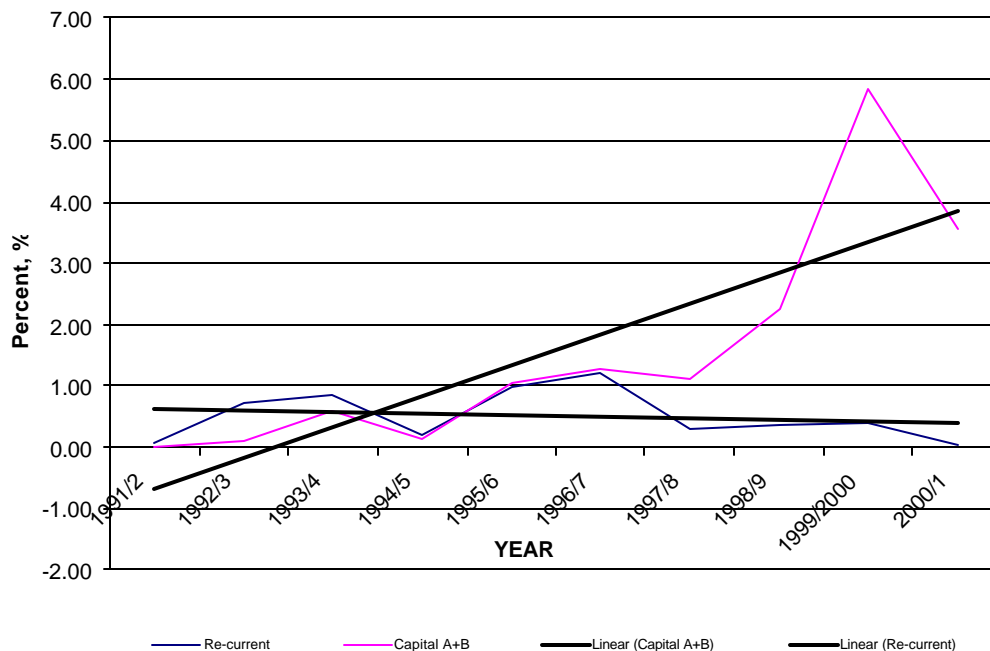
CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Decision-Making: The Government of Jamaica has not introduced environmental taxes, levies or charges, nor has it identified any environmentally unsustainable subsidies.

Programmes and Projects: No information available.

Status: The share of public expenditure allocated to sustainable development activities and programmes rose steadily through the decade of the 1990s and particularly sharply after 1997 [See Figure 1]. In 1992, expenditure on three broad areas of sustainable development – “Environmental protection and Conservation”, Forestry and Wildlife Management” and “Solid Waste Management”, was less than 0.1% of public expenditure. However, the share of public expenditure allocated to these sustainable development activities rose sharply after 1997 to 6.23% in 1998, averaging 3.26% between 1996 and 2001. Inadequate financial resources have been a major constraint to programmes such as the NPEP. International funding to the government and all sectors of civil society has played a major role in the realisation of achievements in sustainable development. Still though, Ministries and relevant agencies cite insufficient financial resources to meet the increasing demands of properly servicing international agreements. The Earth Summit was held one year after the government accelerated the pace of liberalisation of the economy with the deregulation of the foreign exchange market. This was the final major step in the more than a decade long structural adjustment process that had been precipitated by the effects of the oil crisis and national debt crisis at the end of the 1970s. Three years after the Earth Summit there was a major financial crisis which led the government to intervene to contain the scope of the “crisis” in the financial sector. The years of efforts towards stabilisation and structural adjustment left Jamaica with a large debt to the multilateral financial institutions. The intervention of the government to save the financial sector drove up the indebtedness of the government to holders of government securities. Servicing the debt has for several years been the major component on some 60% of public expenditure leaving the minor share for everything else including the social services. Of the balance, the major share goes to education and health, and to the government’s main social programme, the National Poverty Eradication Programme (NPEP). There has been and will continue to be in the foreseeable future a severe constraint on the availability of public resources on account of this problem.

Figure 1: Sustainable Development Expenditure as a Percentage of Recurrent and Capital Expenditure



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

Information: No information available.

Research and Technologies: No information available.

Financing: Sustained adequate funding was a limitation for the implementation of sustainable development. A number of creative funding sources were, however, developed. These include the funding window for environmental Non-Governmental Organizations and for child survival and child welfare through the Environmental Foundation of Jamaica, established under a debt-for-nature swap in 1993; and the Jamaica National Park Trust Funds with the aim of providing extra-budgetary support for long-term environment conservation investment.

Cooperation: In the past two years, bilateral support for sustainable development projects has been received from the Canadian International Development Agency, amounting to a grant of Canadian twelve million dollars (Can\$12M). This grant is being used to provide technical assistance to develop Jamaica's capacity for solving environmental problems and promote and pursue sustainable development.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: The Scientific Research Council facilitates dialogue among the scientific community, the Government and the public at large with respect to issues related to sustainable development. The co-ordinating body is the National Commission of Science and Technology (NCST). Science is incorporated into decision-making for sustainable development through regular reporting to Government from its Agencies engaged in Science and Technology, one of which is the Scientific Research Council (SRC).

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: Research takes place through the SRC Scientific Research Council, Hope Gardens, Kingston, Jamaica. And is funded by the Governments of Jamaica and Germany. Currently, the results are being used to upgrade stakeholders' environmental management, and will be used to put practices, policies and strategies in place in the long term. One of the many areas of research being undertaken at the Scientific Research Council is the Integrated Wastewater Management Programme, part of an overall Environmentally Sound Wastewater Management Programme. The Science sector take into account the special needs of the poor in its research on sustainable development and, through this research, is able to help support such benefits to the poor as increased chances of employment, better municipal community services, overall environmental preservation and availability of resources such as water.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: The National Environmental Education Committee (NEEC), which was convened by the Natural Resources Conservation Authority (NRCA), has developed a National Environmental Education for Sustainable Development Action Plan. A coordinated program was put in place by using the combined resources of an expertise of the committee members, a consultant provided by the Environmental Action (ENACT) Programme and community representatives.

The National Environmental Education Action Plan is the national framework document which seeks to harmonise environmental education action towards measurable results related to Jamaican citizens in a sustainable future. It embodies the elements of knowledge, attitudes, and skills together with an orientation which encourages action to achieve improved environmental health in the cause of sustainable development.

The policy on education, 2001: “The Way Upward - A Path for Jamaica’s Education at the Start of the New Millennium,” represents the commitment by the GoJ to engage the people of Jamaica in the development of human resources as a primary tool for economic and social development.

Programmes and Projects: The Negril Coral Reef Preservation Society has initiated an Environmental Warden Programme that makes students into caretakers of the environment in their communities. Participants were trained and have graduated from a programme that teaches them about the environment and what they must do to protect it. In St. Thomas, an anti-litter programme was initiated by the St. Thomas Environmental Protection Association (STEPA). The group placed signs at strategic points in the parish and placed containers for garbage on the buses. They report behavioral changes in the general public in the handling of waste generated during travel. The Jamaica Conservation Development Trust (JCDT) in partnership with the Jamaica Environment Trust (JET) has developed a programme called Earth Schools which trains teachers to carry out environmental education activities in schools with the support and guidance of the trainers.

Education is freely accessible to the poor in Jamaica, up to Grade 7 level. The Social and Economic Support Programme aims at alleviating the economic hardships experienced by students attending educational institutions, as well as assisting in the establishment of income generating projects. The Programme comprises the following components: Financial assistance to students; School bus transportation programme; and Income generating projects. The School Feeding Programme provides at least one meal a day to students in recognized Basic Schools, Infant, Primary, All Age and New Secondary schools. Free textbooks are provided for all students in the Primary grades and a textbook rental scheme is being implemented at the Secondary level. Two training programmes have been mounted recently in Participatory Rural Appraisal (PRA) methodologies for persons working in the area of community development and environment. One was for staff of the NRCA and selected NGOs, and the other was for a mix of Community Development Workers from Government agencies and NGOs in related fields, including the environment. Participants were exposed to both the theory and the practice of PRA.

In terms of environmental education, teacher education syllabuses in Physics, Biology, Chemistry, Environmental Studies and Early Childhood Education were re-written to incorporate environmental education for sustainable development (EESD). Some are now being tested in teachers’ colleges. NGOs have also developed programmes to build awareness in schools through the Schools Environment Programme.

Education is critical for national progress. There is a major on-going programme, the Reform of Secondary Education (ROSE) funded by the World Bank, to upgrade the secondary school curriculum.

Status: Average enrolment in schools stood at 95.5% in the public education system and 4.5% in private institutions at the end of 1999. Enrolment was near universal for early childhood education, and children of the poor made the largest gains. Between 1989 and 1999 tertiary level enrolment increased by 55.0% to 6.2% of total enrolment at the end of 1999. The literacy rate at the end of 2001 was 79.9%.

Environment and sustainable development issues have been integrated into the Grades 1-9 curriculum, as follows: At the Primary Level: Grades 1-3 devote fourteen percent of total subject time for Social Studies to one theme, "the Environment." Grades 4-6 use fourteen percent of Social Studies time for " Exploring the Environment." In Grade 6, six percent of total subject time is spent on the theme, "Investigating the Environment."; At the Secondary level, fourteen percent of the total subject time in science is spent on this area in Grades 7-9. Two of six themes are related to the environment, i.e., "Exploring the Environment", a continuation from Grade 6, and "The Earth's Resources". Two are related to resources and technology: Agriculture and the Environment and "Living and working together." Others are Social and Environment issues, including the impact of Farming, Fishing, Pollution, Marine and Mining along with good health practices, Tourism, Climate and Vegetation.

Environmental issues are raised by the Caribbean Examinations Council (CXC) in all four of the CXC Sciences, including Biology, Chemistry, Integrated Science, and Physics, as well as Agricultural Science. For example: Biology - Ecology/Environmental issues is one of the focus areas especially for School Based Assessment, and students are expected to devote at least 4-5% of the total subject time on activities in this area for topics directly stated in the syllabus; Chemistry and Integrated Science both have environmental issues/themes as part of their subject area, and thus students should have spent at least 5% of their total subject time doing activities, directly related to topics in the syllabus; Physics makes reference to alternative energy sources as one in its six subject sections. Approximately 1% of subject time deals with alternative energy sources and other environmental issues, e.g. disposal of alkaline batteries, for topics directly related to the syllabus; Agricultural Science deals with environmental issues in areas such as pesticides and deforestation. Students spend approximately 5% of their total subject time on environmental issues.

Members of the National Environmental Societies Trust (NEST), an NGO active in the area of environmental education, have formed themselves into a Sustainable Development Focus Group for the purposes of developing joint activities and information dissemination. The members of the Focus Group have been developing and promoting an approach to working with communities which will empower the communities to identify and articulate their problems and to search for solutions through existing agencies. NEST and one of its member organizations, the Jamaica Conservation Development Trust (JCDDT), have pooled resources to develop an environmental resource centre. The book and audio-visual of both organizations will be housed in the centre which will link into the Documentation Centre of the Natural Resources Conservation Authority (NRCA) The Centre will serve schools, student teachers members of both organizations and the general public.

The Coalition for Community Participation in Governance is an alliance of several organizations that are committed to ensuring that the proposed reform of local government in Jamaica unfolds in such a way as to benefit communities. To that end the Coalition has convened public fora to create awareness as to the need for communities to become involved in the process. The Coalition is scheduled to undertake a series of cluster workshops across the island to bring communities into the process and a national workshop to come up with a plan of action.

Table 2. Trends in Selected Educational Indicators

Parameter	Unit	1997	1998	1999	2000
Population	000	2553.2	2573.0	2589.0	2605.0
Literacy Rate	%	75.4	75.4	75.4	79.9
Unemployment Rate	%	16.5	15.5	15.7	15.5
Enrolment in primary Institutions	000	306.2	318.2	318.6	325.3
Enrolment in Secondary Institutions	000	219.3	227.2	228.5	226.4
Enrolment in University	000	15.7	16.2	15.8	18.6

Information: Information on education and sustainable development is available on the Internet: <http://www.nrca.org/education/neec.htm>

Research and Technologies: No information available.

Financing: After debt repayment, 30-50% of the balance of public expenditure has been committed to education and health in the last five fiscal years as key elements in the strategy for human development. The Jamaica Social Investment Fund was established in February 1996 as part of the Government of Jamaica's programme to reduce and eradicate poverty. The fund is an autonomous Government company designed to provide investments in social sector projects across the country. Priority is placed on areas with a high incidence of poverty in selecting projects presented by community groups.

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

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

Decision-Making: Through ENACT, most Ministries and Agencies have prepared corporate and strategic plans as reference guides to executing sustainable development initiatives. A major environmental training programme for the public sector entitled “Holistic Governance – Sustainable Development in Action”, started in April 2001 has been providing training to all sections of the public sector in key areas. During 2001, approximately 1000 individuals across all ministries and agencies of government and representing varying levels of staff were sensitised to environmental and or sustainable development issues, through workshops, seminars, meetings etc.

Programmes and Projects: Several major programmes for capacity building in environmental organizations have been carried out since the Rio Summit. The goal of the GoJ/CIDA-funded Environmental Action (ENACT) Programme, for example, is to promote sustainable development through supporting the sound management and use of Jamaica’s natural resources. Its objective is to develop the capacity of key strategic players at the government policy, private sector, community and general public levels to identify and solve their environmental problems, in a sustainable way.

Status: As it pertains to trade and the environment there needs to be capacity development- but this can only happen if international assistance is given in the following respects:

- Assistance in undertaking sector specific and general public sensitisation programmes to identify the synergies between trade and the environment
- Assistance in conducting research on the effects of trade and trade liberalisation on Jamaica’s environment
- Technical and financial assistance to assess the environmental impact of trade agreements which Jamaica will be engaged (including FTAA, the WTO post-Doha, the Canada-CARICOM, Cotonou).

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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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

This issue has been covered under the heading **Cooperation** in the various chapters of this Profile.

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

Decision-Making: No information available.

Programmes and Projects: There is a need to develop nationally agreed sustainable development indicators as well as a database to support these indicators. To begin the process, the Statistical Institute of Jamaica (STATIN) began a programme of collation of environmental statistics in collaboration with the NEPA.⁸ Realistic flexible targets and appropriate linkages between national and local priorities have to be set. There is also need to increase public access to information via web pages, cable television, libraries and schools.

Status: In 2001, for the first time, a detailed quantitative *Environment Statistics and State of the Environment Report* was produced, following earlier State of the Environment reports done in 1995 and 1997. Policies have been developed to guide industrial practices and urban management, and government has embarked upon a programme of environmental stewardship of its own operations.

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

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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⁸ Jamaica's Environment 2001 – Environment Statistics and State of the Environment Report.

CHAPTER: INDUSTRY

Decision-Making: The government has favoured voluntary compliance to standards in all spheres of the economy. Thus, firms are encouraged to get ISO 14000 certification⁹ to make them compliant with the requirements for sustainable development. The recently enunciated Green Paper: Towards a National Policy and Strategy on Environmental Management Systems (EMS), strongly emphasises market incentives to prevent and manage pollution, and in general, encourages environmentally friendly behaviour by individuals, households and productive enterprises as well as the public sector. Hotels are encouraged to seek international certification such as ISO 14000 or Green Globe.¹⁰

Programmes and Projects: No information available.

Status: In the re-ordering of priorities, due attention must be given to enhancing the competitiveness of Jamaican businesses. Without economic growth, the pressure from the poor and vulnerable on the natural resource base will increase. Nor can Jamaica afford a pattern of growth that undervalues natural and human resources, for that will undermine the drive for sustainable development. There is therefore a need to demonstrate to the business community how the adoption of sound environmental practices can improve their bottom line and ultimately increase economic growth.

Other important aspects of policy in the post Rio decade have been the development of standards for air, water, sewage and trade effluent and a permit and licensing system administered by the National Environment and Planning Agency (NEPA) for activities impacting on the natural environment. Environmental Impact Assessments (EIAs), permits or licenses are now required for a variety of development activities.

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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⁹ ISO 14000 is an international standard dealing with environmental management systems within businesses.

¹⁰ Green Globe certification is an international award measuring the environmental performance of hotels, evaluated by the World Tourism Organisation.

CHAPTER: SUSTAINABLE TOURISM

Decision-Making: The Master Plan for Sustainable Tourism Development, 2001-2011, was completed in November 2001. This is the first sectoral plan informed by a holistic approach. It was driven by concern about the fragility of the natural resources essential to the tourism product and the interference of tourist activities with coastal and marine ecosystems. The plan incorporates elements for the preservation of cultural heritage, seeks to facilitate social interaction between Jamaican communities and visitors, and proposes to develop greater linkages between the tourism sector and the other productive sectors in the economy. An important thrust of the plan will be the further development of community tourism and the strengthening of small hotels, which are consistent with the national drive for sustainable development in all sectors. The plan proposes the implementation of a voluntary environmental management certification programme known as the Blue Flag programme. This programme has been endorsed by the United Nations Environment Programme (UNEP) and the Caribbean Tourism Organisation (CTO), and rewards “local government and private sector partners for providing safe, clean beaches and marinas.” There is also the plan for the sustainable development of the south coast of the island that will incorporate elements of tourism, fishing, and the management of protected areas and the requisite infrastructure.

Programmes and Projects: The Government is implementing a Sustainable Tourism Development Project.

Status: No information available.

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

Information: For information on tourism in Jamaica’s Country Profile for the implementation of SIDS/POA you can refer to <http://www.sdn.undp.org/~eclac/CARMIN/DOCS/jamaica.htm>.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The USAID funded pilot project Environmental Audits for Sustainable Tourism (EAST) has legitimate claims for success in demonstrating the positive impact of environmental management systems on the bottom line of the hotels. In this example, enhancing the tourism product to stimulate the growth of the industry has been a principal driver. It is here that the use of market incentives to encourage environmentally friendly and socially responsible activities can best be demonstrated.

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