

**SUSTAINABLE DEVELOPMENT LAWS
AND INTERNATIONAL TREATY OBLIGATIONS**

**DISCUSSION PAPERS, AND COMMENTARIES FROM PARTICIPANTS IN A SUSTAINABLE
DEVELOPMENT LAW SEMINAR (KINGSTON, JAMAICA)**

CONCERNING

**A LEGISLATIVE FRAMEWORK FOR DEVELOPING
SUSTAINABLE MANAGEMENT OF THE ENVIRONMENT
IN JAMAICA**

<<<FINAL REPORT>>>

(JUNE 30, 1998)

PREPARED FOR:

**THE MINISTRY OF ENVIRONMENT AND HOUSING (MEH)
AND
NATURAL RESOURCES CONSERVATION AUTHORITY (NRCA)**

IN ASSOCIATION WITH

**Land Administration and Management Project (LAMP)
National Environmental Societies Trust (NEST)
Office of the Attorney General (OAG)
Sustainable Development Council of Jamaica (SDCJ)
Ocean and Coastal Zone Council (OCZC)**

WITH SUPPORT FROM:

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SUSTAINABLE DEVELOPMENT LAWS AND INTERNATIONAL TREATY OBLIGATIONS

A LEGISLATIVE FRAMEWORK FOR DEVELOPING SUSTAINABLE MANAGEMENT OF THE ENVIRONMENT IN JAMAICA

INTRODUCTION

General

AGENDA 21, the *Programme of Action for Sustainable Development* worldwide, was adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, held in Rio de Janeiro, Brazil, June 1992. It

"stands as a comprehensive blueprint for action to be taken globally....by Governments, United Nations organizations, development agencies, non-governmental organizations and independent sector groups, in every area in which human activity impacts upon the environment".

Recognizing that the needs, capabilities, resources and interests of small island developing states required special consideration if sustainable development was to be achieved, the world again came together at the United Nations Conference on the Sustainable Development of Small Island Developing States (Bridgetown, Barbados, May 1994) to formulate the *Programme of Action for Small Island Developing States*.

These two documents highlight the need to establish a variety of programs, initiatives and strategies so that sustainable development can be achieved at the national, regional and international levels. They also highlight the point that:

"laws and regulations, suited to country-specific conditions, are amongst the most important instruments for transforming (sustainable development) policies into action". (Section 8.13, Agenda 21). It is recognized that Jamaica,

like many other countries, has been affected by shortcomings of laws and regulations in the area of environment, planning, development and resource management. For sustainable development to be achieved in Jamaica

"it is essential to develop and implement integrated, enforceable and effective laws and regulations that are based upon sound social, ecological, economic and scientific principles". (Section 8.14, Agenda 21).

For these reasons an initiative to review and evaluate Jamaica's legislative framework for sustainable development was established by the Ministry of Environment and Housing (MEH), in collaboration with the Natural Resources Conservation Authority (NRCA), the Land Administration and Management Project (LAMP), the National Environmental

Societies Trust (NEST), the Office of the Attorney General (OAG), and the Sustainable Development Council of Jamaica (SDCJ). Funding to support this initiative (Phase II), as well as Phase I of the Sustainable Development Law Project, was provided by the International Development Research Centre (IDRC) and the Strategy for International Fisheries Research (SIFR), Ottawa, Canada. Funding for local activity was provided from sources within Jamaica.

This initiative resulted in the preparation of fifteen (15) "draft discussion papers" which were subsequently reviewed at the National Seminar on Sustainable Development Law held in Kingston, Jamaica, during June 9-11, 1998. Prior to that, the Papers were widely distributed to government departments, agencies, NGOs and individuals with a keen interest in and knowledge about legal reform leading to sustainable development. For two weeks before the Seminar, interviews and meetings were held to receive feedback and commentary on the Papers.

The Seminar itself consisted of broad-based consultations with almost 200 participants from various government departments, NGOs/ENGOS, community-based organizations (CBOs), professional associations and the private sector. The lively discussions in the Seminar's plenary sessions and three on-going workshops helped to identify and prioritize areas where national legislation needs to be revised, consolidated, "sunsetting", improved or even developed from scratch, with the goal of establishing a comprehensive legal framework for sustainable development in Jamaica.

The State of Legislation in Jamaica

An examination of Jamaica's legislative enactments which govern environmental or natural resource management, planning or development shows the incomplete and often contradictory nature of much this legislation. Jamaica already has many laws (see Annex 1: A List of Relevant Laws) related to environmental or natural resource management, planning or human development. Jamaica also has signed, or is interested in becoming party to, a number of international conventions and agreements (see Annex 2: A List of Relevant International Conventions, Treaties, and Agreements and Annex 3: A List of International Agreements Signed by Jamaica) in order to implement its sustainable development obligations undertaken at the Earth Summit. Despite these, many gaps, conflicts, inconsistencies, and overlaps in these laws exist, especially when looked at in the context of the strategies outlined in *AGENDA 21* and the *Programme of Action for Small Island Developing States*.

The recent reviews of Jamaica's legislation found considerable fragmentation of legislation existed, which thus tends to counteract the move towards an integrated and comprehensive legal framework for sustainable development:

"In many instances, legislation pertaining to one issue occurs in more than one legislative enactment.... This fragmentation of legislation is related to a lack of distinction between areas of responsibility, and reflects the ad hoc and piecemeal development of the law.

"In Jamaica, legislation that relates to the subject of environment and development is often biased in terms of particular interests. Biases tend to reflect particular attitudes of the era in which the legislation was made, and should now be revised in light of an increasing sensitivity towards environment and sustainable development". (Country Environmental Profile. Page 2.3-19. Government of Jamaica. September 1987 - as revised August 1994).

The range and scope of deficiencies in the existing laws underscores the need for a comprehensive and planned approach to the development and implementation of co-ordinated and modern sustainable development legislation.

Seminar on Sustainable Development Law

It is recognized by many in Jamaica that there is an urgent need to update and harmonize Jamaica's legislation if sustainable development is to be achieved. To accomplish this would also mean more clearly defining the roles of, and improving collaboration among, the key agencies responsible for the administration of environmental management, natural resource management, and sustainable development, while strengthening their institutional and enforcement structures.

To facilitate the review and evaluation of Jamaica's current legislative framework in the context of sustainable development, the National Seminar on Sustainable Development Law was convened in Kingston, Jamaica, during June 9-11, 1998. Its purpose was to:

- (a) review existing environmental, resource management and planning laws to identify deficiencies or shortcomings with the existing legal framework;
- (b) review commitments under various international and regional agreements and treaties so as to identify priority areas where national legislation needs to be established, "sunsetting", or improved to give effect to those commitments, or where Jamaica might become a party to certain new treaties;
- (c) prioritize areas where national legislation or regulations need to be revised or developed to address identified shortcomings or deficiencies;
- (d) identify administrative, legal and other criteria that should be included in priority national legislation or regulations, thereby establishing the "framework" for the proposed laws; and,
- (e) discuss and design an action plan to facilitate the development and drafting of priority national legislation or regulations.

The National Seminar was intended to establish a foundation for achieving the broadest stakeholder participation in the development and drafting of national environmental and resource management legislation. It was also anticipated that this initiative might serve as a model for other countries in the Caribbean Region which are considering the establishment of legislative frameworks for sustainable development. Accordingly representatives from other regional and international agencies participated in the Seminar.

Since it is intended that this Report and its Recommendations will be a "living document", which will continue to evolve in both hard copy and diskette form, additional inputs and comments may be sent to:

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Meanwhile, this Report incorporates the comments of a number of representatives from both the public and private sectors made during a series of meetings in Kingston, as well as the findings and recommendations of Seminar participants (see List of Participants - Annex 4). Both the Ministry for Environment and Housing and the Natural Resources Conservation Authority indicated that the Report will be submitted to Cabinet for its consideration regarding the appropriate measures necessary to implement the Seminar's recommendations. Seminar participants strongly endorsed the need to move forward with a sustainable development law framework and were positive about the lead Jamaica has taken in this area.

Acknowledgements

As with any initiative many people were responsible for making the National Seminar on Sustainable Development Law a success. Sincere thanks for all their assistance, cooperation, collaboration, and unstinting efforts must go especially to: Ms. Leonie Barnaby, Ministry of Environment and Housing, and her staff; and Mr. Franklin MacDonald, Natural Resources Conservation Authority, and his staff, including Ms. Carole Stephens, Ms. Laleta Mattis-Davis, Ms. Elaine Kelly, Ms. Elizabeth Emmanuel, and many others in the NRCA. Not only were they involved in the preparations, but they were active participants in the Seminar as organizers, presenters and rapporteurs.

The willingness of many different people to meet and discuss a variety of legal and environmental issues, and to share information, with the authors of this report was greatly appreciated. "Thank you" to Miss Gladys Young, Ministry of Foreign Affairs, who not only was a rapporteur but also prepared the list of international treaties signed onto by Jamaica; Ambassador Donald Mills and the members Council on Oceans and Coastal Zone Management for their insights on coastal and oceans issues; Professor Anthony Clayton, Ms. Winsome Townsend, Professor Tim McBride, Mr. Craig Lawrence, and Mrs. I Smith, in addition to those named above, for facilitating workshops and/or making presentations.

Over the past years Dr. Brian Davy, of the Strategy for International Fisheries Research and International Development Research Centre, Ottawa, Canada, not only found funding for Phases I and II of the Sustainable Development Project, but provided on-going support and encouragement for this new initiative in legal reform and good governance.

The presenters at the Seminar made wonderful, knowledgeable presentations (their names, affiliations and titles of their presentations are noted in Annex 3); the facilitators and rapporteurs captured the essence of the lively discussions; and the participants contributed their expertise, knowledge, passion and good humour to the three days of intense work - a debt of gratitude is owed to all.

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Chapter 1 *****

Administrative, Legal and Institutional Structures for Sustainable Development

Background

Growing national, regional and international concerns about the harmful consequences (environmental, social and economic) of human development activities led to the convening of two important international conferences: the United Nations Conference on the Environment (convened in 1972 in Stockholm, Sweden) and the United Nations Conference on the Environment and Development (UNCED) (1992, Rio de Janeiro, Brazil). One of the most important outcomes of UNCED was *AGENDA 21*, a comprehensive blueprint for the global, regional and national actions needed for the transition to environmentally sustainable development. This blueprint was adapted to the needs, capabilities, resources and interests of small island developing countries at the United Nations Conference on the Sustainable Development of Small Island Developing States (Bridgetown, Barbados, May 1994), which resulted in the *Programme of Action for Small Island Developing States*.

The 1990s saw Jamaica, along with the rest of the world, embrace the concept of "environmentally sustainable development". Basically this concept means meeting present human needs without compromising the Earth's ability to provide for the needs of present and future generations. *Agenda 21* and the *Programme of Action for Small Island Developing States* helped set the framework for the *Jamaica National Environmental Action Plan* (1995), which measures progress, establishes priorities, and identifies actions to guide national policies, program planning, investment decisions and budget preparation towards sustainable development.

Many constraints to sustainable development exist, including inadequate legislation, contradictory and outdated laws, uncoordinated planning and resource management, insufficient levels of public awareness, illiteracy and poverty. The erosion of traditional values and attitudes that uphold nature, and the introduction of new high consumption lifestyles are also major obstacles.

Overview of Legal and Institutional Framework

Jamaica has made steady progress along the path to sustainable development in the six years since the Rio Conference. Jamaica's aspirations towards environmentally sustainable development are demonstrated in the passing of the *Natural Resource Conservation Act*, the establishment of the Natural Resources Conservation Authority (NRCA), and the subsequent development and implementation of a number of policies, institutional arrangements, programs and projects.

Under the provisions of the *Natural Resources Conservation Authority Act*, the Natural Resources Conservation Authority (NRCA) has been given a broad mandate. It is granted power to provide for the effective management of the physical environment so as to ensure the conservation, protection and proper use of Jamaica's natural resources. The Authority has powers to develop, implement and monitor programs relating to the management of the environment, and to formulate standards and codes of practice to be observed by different sectors or interest groups for the improvement and maintenance of the environment. The NRCA can investigate pollution-causing, waste disposal and waste management activities that impact on the environment.

The NRCA, in just six years, has emerged as a credible and effective national lead agency on the environment and sustainable development. The NRCA has experienced considerable growth, and now has functioning units dealing with Coastal Zone Management, Watershed Management, Wildlife and Biodiversity Conservation, Protected Areas, Pollution Control and Waste Management, and Enforcement. These Units are supported by Legal Services, a Public Education and Documentation Centre, a laboratory, and a Data Management System with expanded Geographic Information System (GIS) capability.

The Natural Resources Conservation Authority developed and established a number of programs and initiatives to give effect to *AGENDA 21*, including:

- (a) the formulation and publication of a range of regulations, policies, standards, and guidelines;
- (b) the development of a National Protected Areas System (with two national parks established and seven other protected areas under study) that will ensure that 25% of the national land area is protected by the end of the century;
- (c) the establishment of an environmental permit and licence system to monitor and minimize the negative effects of development on the environment through a process of environmental audits and impact assessments (EIAs); and,
- (d) the establishment of the public's "right to know" through full disclosure using EIAs and public pollution registers, thereby aiding civil society's capacity to address environmental problems.

In addition, in association and consultation with other government agencies, the Authority has supported the development of new legislation and policies related to water resource management, pesticide regulation, forestry management, fisheries management, energy conservation and use, industrial development and land management/use.

The Government of Jamaica has taken steps to accede to or ratify a number of international conventions and treaties, including those on climate change, biodiversity, wetland protection, trade in endangered species, and ozone protection. (See Annex 3: A List of International and Regional Conventions and Treaties signed by Jamaica.) It has initiated programs to phase out environmentally damaging substances such as lead in gasoline (by the year 2001), ozone depleting substances (by the year 2005) and certain pesticides.

To ensure coordination and harmonization in the development and implementation of environmentally sustainable development policies and programs, the Government of Jamaica established the Sustainable Development Council of Jamaica. The Council's role is to officially link all stakeholders in national development through a multi-stakeholder approach to sustainable development. The Council has wide representation from players in the public and private sectors, and has a mandate to:

- (a) sensitize key players and decision-makers at all levels of society by facilitating dialogue on the importance of sustainable development, the responsibility it imposes on Government and all other sectors and interests, and the need for all to work in an integrated and coordinated manner;
- (b) monitor national progress towards sustainable development measured against the dictates of both *AGENDA 21* and the *Programme of Action for Small Island Developing States*;
- (c) identify policy gaps, influence policy-makers, and promote research, policy reform, programs and legislation for sustainable development;
- (d) advise the Government on international cooperation issues regarding the promotion of sustainable development;
- (e) promote and facilitate capacity-building and awareness programs on sustainable development; and
- (f) coordinate and harmonize sustainable development activities nationally.

Besides the work of the NRCA and the new Council, significant efforts towards sustainable development in Jamaica have been undertaken, such as:

- (a) the development of an Environmental Planning and Sustainable Development Unit in the Planning Institute of Jamaica (PIOJ);
- (b) the establishment of a National Environmental Education Committee currently engaged in develop a vision for a sustainable Jamaica and a National Action Plan for Sustainable Development Education; and
- (c) various capacity-building initiatives by various public and private sectors bodies, non-governmental organizations (NGOs) and the NRCA, facilitated by the United States Agency for International Development (USAID) (under the Development of Environmental Management Organization (DEMO) Project) and by the Canadian International Development Agency (CIDA) (under the Environmental Action (ENACT) Project).
- (d) the devolution of management responsibilities for national parks and protected areas by the NRCA to local and community levels; and,
- (e) encouragement by the NRCA of various initiatives by the NGO and business community, including:
 - (i) the establishment of the Environmental Foundation of Jamaica as a key to financing local environmental programs;
 - (ii) the creation of new environmental NGOs (ENGOS) and the expansion of the activities of existing environmental or sustainable development NGOs; and,
 - (iii) growing corporate sector participation in specific environmental management, pollution abatement, and waste reduction initiatives.

The work of the NGO community continues to complement and support the work of the Government. The National Environmental Societies Trust (NEST), formed in 1989 as a non-profit, umbrella organization comprising 42 environmental non-government organizations (ENGOS), plays a vital role in influencing environmental policy formulation and implementation in Jamaica, and provides technical assistance and training towards the institutional strengthening of members. NEST established an Environmental Standards Unit to encourage greater participation in and more effective implementation of

Environmental Management System Standards within the national productive and service sectors.

It is increasingly recognized that the goal of environmentally sustainable development cannot be achieved without the strong involvement of the general public. The public can play a vital role in furthering government's objectives by undertaking such voluntary initiatives as: teachers teaching students about the importance of local wetlands; children and adults cleaning up beaches; new parents reviving old traditions by planting a tree upon the birth of a child; citizens becoming volunteer NRCA Game Wardens; consumers avoiding buying products with excessive packaging; etc. Many such actions can give effect to the government's environmental protection, resource management or sustainable development policies, and implementing policies and programs, but much more public education and involvement are needed.

The Government has initiated the *Administrative Reform Programme*, designed to reform the public service, and thereby to improve the public sector's efficiency and effectiveness. This program is expected to bring about closer harmonization of agencies' roles, duties and responsibilities in environmental and resource management, and achieve greater levels of accountability by the public sector.

Commentary

AGENDA 21 outlined a wide range of programs that should be undertaken at the national, regional and international level to achieve environmentally sustainable development.

AGENDA 21 called upon governments to:

"Adopt a national strategy for sustainable development ... this strategy should build upon and harmonize the various sectoral, social and environmental policies and plans that are operating in the country ... its goals should be to ensure socially responsible economic development while protecting the resource base and the environment for the benefit of future generations. It should be developed through the widest possible participation." (Section 8.7.)

Despite this key objective, it is recognized that the legal and institutional framework for promoting sustainable development in Jamaica is both fragmented and inadequate in many aspects.

Interviewees and participants alike noted that it was difficult to treat administrative, institutional, and legal structures as separate entities, since these structures tended to overlap and even compete with each other. A number of institutions with actual or possibly overlapping dimensions were identified:

- * Courts and administrative tribunals;
- * Statutory agencies and/or ministries;
- * Natural Resources Conservation Authority (with its environmental warden service, rangers, game wardens);

- * Office of the Prime Minister;
- * Forestry Department (and its wardens);
- * Fisheries Department (with its fisheries officers);
- * Town and Country Authority;
- * Jamaican Heritage Trust;
- * Ministry of Foreign Affairs;
- * Ministry dealing with Maritime Areas, Exclusive Economic Zone (EEZ) Act, and the Port Authority;
- * Water Resources Authority;
- * Jamaican Tourist Board;
- * the Police;
- * the Sustainable Development Council of Jamaica, the National Council on Oceans and Coastal Zone Management, the Land Information Council of Jamaica.

Over and over again it was emphasized that many of the problems that Jamaica is experiencing is traceable to the fragmentation of legal, administrative and institutional structures and due to politics, politicization of the issues, turf wars between agencies, statutory authorities and ministries, and the differences between organizations and their cultures or philosophies. Comprehensive, integrated legal reform thus becomes difficult to initiate, let alone achieve. This difficulty is aggravated by the general lack of political will to undertake a substantive, holistic approach to legal reform that would lead to meaningful change and long-term sustainability. Moreover, it was mentioned that many of the present organizational structures, along with a body of laws, are out-dated and thus unsuited to the demands of a fast- changing world and Jamaican society. Cohesive, coherent and stream-lined legislative, administrative, and institutional frameworks were seen as vital to ensuring Jamaica's ability to adapt to those changes and to progress forward in a demanding world.

Recommendations

To address the above-mentioned deficiencies, it is recommended that a strengthened, comprehensive and cohesive legislative framework be established, with particular consideration being given to the following:

(a) Public Sector Reform and "Green" Government

(i) Undertaking a review and analysis of all environmental and natural resources institutions (including commodity boards and local government bodies), with a view to eliminating and reducing the overlapping, duplication of, and competition between such institutions, so as to move towards the integration of environmentally sustainable development concepts and functions within such harmonized institutions, and then,

* establishing the legal and institutional structures necessary to ensure that sustainable development policy formulation, planning and management become an integral part of government, rather than only the responsibility of a few agencies;

(ii) Undertaking sustainable development policy formulation, implementation and harmonization through broad-based public participation, and ensuring that a participatory approach is used in developing legislation and implementing guidelines;

(iii) Providing access to information to organizations, government, and to the general public on all aspects relating to environmental and resource management or planning; and,

(iv) Establishing a system of Environmental and Natural Resource Accounting, which is regularly reviewed and made enforceable through regular "sustainable development audits" (meaning that every government agency's annual budgetary allocation would be evaluated in terms of environmental or sustainable development goals, criteria, or indicators).

(b) Legal Status to the Sustainable Development Council of Jamaica

(i) Giving legal status to the Sustainable Development Council of Jamaica, so as to ensure the Council's sustainability and increased effectiveness, including:

- mechanisms for the appointment and payment of Council members;
- the structure of the Council (sessions, frequency of meetings, reporting structures, working groups, committees, technical support, etc.);
- the designation of the roles, duties and functions of the Council encompassing:
 - * the development and implementation of policies and strategies for furthering environmentally sustainable development (ESD);
 - * co-ordination of sustainable development programs, etc.;
 - * facilitating dialogue, consultation, and consensus-building regarding sustainable development;
 - * follow-up and monitoring of the implementation of *AGENDA 21* and the *Programme of Action for Small Island Developing States*;
 - * identifying policy gaps, influencing policy-makers, and promoting research, policy reform, programs and legislation for sustainable development;
 - * advising the Government on issues related to international cooperation and the promotion of sustainable development;
 - * promoting and facilitating capacity-building and awareness programs on sustainable development;
 - * providing a forum for dispute resolution in development, environmental and resource management conflicts;
 - * promoting research on sustainable development;
 - * establishing public awareness and education program;
 - * coordinating and harmonizing sustainable development nationally;
 - * creating linkages with the national policy and planning processes.
- establish a Secretariat to effect the Council's decisions; and,
- outline broad-based consultation, policy formulation and dispute resolution processes to be used by the Council.

- (ii) Mandating the SDCJ to work towards reducing the fragmentation problems presently inherent in Jamaica's administrative and institutional structures, including by putting into place a consultation and coordination mechanism between and among public sector and private sector entities.
- (iii) Incorporating the Land Information Council of Jamaica into the SDCJ to centralize data gathering and analysis.

(c) Integrating Environmental, Social and Economic Considerations in Decision Making

(i) Establishing legal and institutional structures to provide for the integration of environmental, social and economic considerations in **all** decision-making activities, including:

- * using broad-based consultations for the development and implementation of all national and sectoral plans and policies, with the requirement that environmental, social and economic issues be identified and addressed (e.g. in National Development Plans, Tourism Master Plan, Urban Development and Land Reform Plans, etc.);
- * the implementation of a system of National Environmental Accounts and Audits, so that the National Account system reflects the real value and contribution of natural resources to the economy, plus the real cost and loss due to resource degradation and use;
- * the undertaking of environmental and social impact assessments for all policies, programs, plans and projects instituted by the public and private sectors, with broad consultation;
- * making all development approvals and environmental impacts assessments (EIAs) consistent with the Land Use Management Plan, developed through broad-based consultation and reflecting environmental, social and economic considerations; and,

- (ii) Establishing civil liability and "standing" for environmental offences to achieve more and better accountability at all levels, and ensuring that enforcement agencies are familiar with the offences and penalties;
- (iii) Putting in place incentives that promote positive compliance with sustainable development principles and laws, and that encourage both the public and private sectors to take positive steps to solve problems at their source; and,
- (iv) Assessing the need for and the viability of an "Environmental Court" and/or "Environmental Ombudsman", along with related mechanisms, training, etc., to relieve the pressures on existing civil and criminal courts and to recognize the special dimensions of of environmental and/or natural resource law cases.

(d) Environmental Management Systems and Environmental Auditing

- (i) The establishment of legal and institutional structures that will make the implementation of environmental management systems (EMS) a basic component of public and private sector operations;
- (ii) The promotion of regular environmental audits as a means of ensuring constant review, revision and upgrading of such systems.
- (iii) The basing of EMS on the International Organization for Standardisation's (ISO) 14000 series standards.

(e) Establishment of Mechanisms for Co-ordination and Consultation

- (i) The harmonization of all approval, licensing, permitting, monitoring and enforcement activities which impact upon the environment or natural resources.
- (ii) Clear identification of the respective roles of the private sector, NGOs/ENGOs, academic institutions and professional associations, and community groups in development and planning;
- (iii) Establishment of dispute resolution mechanisms relating to environmental and resource management, particularly alternate dispute resolution processes, as viable alternatives to litigation.

(f) Environmental Information, Education and Awareness

- (i) Develop mechanisms for sensitizing, informing, and training the judiciary, legal profession (including law faculties), constabulary, and enforcement agencies about Jamaica's existing and proposed natural resource and environmental laws and policies, sustainable development concepts, the importance of the environment to human survival, and the need to enforce applicable laws properly; and then,
 - * implement the necessary legal requirements to establish a National Environmental Education Policy and Implementation Plan, using broad-based consultation and participation;
- (ii) Creation of an Environmental Database and Access to Information legislation to give the public access to information on environmental matters, EIAs and social impact assessments, and on developments with environmental or social impacts;
- (iii) Development, by the Department of Education, of environmental education programs, curricula, and materials, including distance learning courses for the judiciary and legal profession (in conjunction with such institutions as the Commonwealth of Learning); and,
- (iv) The establishment of continuing education programs on environmental management in the private sector (e.g. factories, mines, tourism facilities) and for professionals (e.g. lawyers, judges, law faculty members, police officers, policy-makers).
- (v) Encouragement of law faculties to provide courses in environmental and sustainable development law, and law firms to provide opportunities for young lawyers to train and work in those new(er) areas of law.

Sources

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- *Jamaica National Environmental Action Plan*. Ministry of Environment and Housing/ Natural Resources Conservation Authority. June 1997.
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Chapter 2

Sustainable Human Development

Background

A clear relationship between humans, their development, and the environment exists. It is increasingly recognized that population growth, with its concomitant pressures of meeting basic human needs - food, water, fuel, employment, housing, waste management, roads, education, health services, etc. - usually results in both environmental and social degradation. A growing population with limited access to land and other resources has led in Jamaica to increased squatting and more farming on unsuitable terrain (steep slopes, water catchment areas, wetlands, etc.), and unsustainable use of natural resources (trees, fish, wildlife, plants, and water). More people without jobs forces them to cull what they can from the natural resource base just to survive. This stresses natural resources, often beyond the point of recovery, and the environment. Without sound economic and social policies and support structures, the stress on both humans and natural resources becomes intensified and leads to unwanted environmental, social and economic impacts.

Jamaica's population at the end of 1996 numbered over 2.5 million. Estimates place the population over 3 million in 1998. Over one million people live in the Kingston, St. Andrew and St. Catherine area, making for a population density of 1,528 people per square kilometre. National fertility rates are high (2.9 children per woman), with the level of adolescent fertility the highest in the English-speaking Caribbean. The increase in population has resulted in noticeable pressure on housing, education facilities, employment opportunities, and delivery of quality health care. The gap between housing demand and supply is significant - an estimated 15,500 new housing units and the upgrading of 9,700 units are needed each year to eliminate overcrowding and reduce the current shortage of shelter, which has contributed to widespread squatting. The lack of a comprehensive urban development management strategy has resulted in some of the best agricultural land being lost to housing and business development. The movement of people from rural to urban areas has adversely hurt food production, as the very young and elderly, who predominate in the rural areas, cannot meet the agricultural production needs of Jamaica.

Migration from the country to the urban areas has often led to more poverty and other social problems, evidenced by overcrowded tenements, mushrooming of squatter settlements, garbage proliferation, and severe stress on existing water supplies, sewerage systems and garbage disposal. Both environmental and human health are increasingly at risk. Infant mortality rate stands at 18 per 1000 live births, and average life expectancy is 71 years.

Jamaica's Gross Domestic Product (GDP) amounted to J\$162.6 billion for 1995-1996, marking a 1.7% decrease over the previous year. Economic growth in Jamaica has not

kept pace with population growth (estimated at 1.1% growth per annum). Combined with high interest rates (30-50%), relatively high inflation (15.8%), and high external debt servicing charges (representing 46% of the total government budget), this has led to a substantial erosion of people's real income and a reduction in services provided by government.

Unemployment amongst Jamaica's labour force of 1.15 million currently stands officially at 17%, an increase from 15.4% recorded in 1994, though some estimates place it closer to 25%. In 1989 it was estimated that approximately 33% of the population lived below the poverty line; more recent figures are not available. The expected rapid expansion of the elderly segment of the population (60 years and over) will increase reliance upon old age dependency programs, while the fast growing segment of the population under 15 will place added burdens on educational and health budgets. Together both will strain the overall social budget.

A total of 195 industrial disputes were reported for 1996, registering an increase of 7.7 % over 1995. The number of reported work stoppages declined by 14.5% to a total of 59 for 1996. Worker participation in work stoppages showed a large decline in 1996 compared with 1995, falling almost 82% to 13,265 from the high of 73,468 reported in 1995. Industrial disputes resulted largely from issues related to wages and conditions of employment. A major disparity continues to exist in employment figures between male and female members of the country's workforce, with on average 553,300 males in paid employment, compared to 406,500 females. However, this may be due to under-reporting of women's work and the lack of gender-disaggregated statistics. A considerable differential exists between male and female wages or income, making life very difficult for women who are often the sole providers for their children. Female-headed households also are often the most impoverished and lacking in the basics.

Bauxite/alumina, manufacturing and tourism constitute the basis for Jamaica's economy, with tourism now being the principal foreign exchange earner (US\$965 million in 1996). The service sector in Jamaica presently contributes 76.6% of real Gross Domestic Product (GDP). However, there is a growing realization that, in order to remain competitive, all Jamaican goods and services will have to comply with international environmental requirements such as those mandated under recent international and regional trade agreements (e.g. the General Agreement on Trade and Tariffs (GATT) concluded after the Uruguay Round), and international standards (e.g. International Organization for Standardization (ISO) 14000 standards for environmental management systems). Clearly Jamaica's economic and social development relies more than ever on the sound, sustainable management of its natural resources and its environment.

Overview of Legal and Institutional Framework

Jamaica is a party to a number of international conventions and agreements in the area of human rights, and the protection of the rights of women, children and workers (See Annex 3: A List of Regional and International Conventions and Treaties signed by Jamaica), including:

- (a) *Universal Declaration of Human Rights*;
- (b) *Nairobi Forward Looking Strategies for the Advancement of Women*;
- (c) *World Declaration on the Survival, Protection and Development of Children*;
- (d) *Freedom of Association and Protection of the Right to Organize Convention*;
- (e) *Forced Labour Convention*; and
- (f) *International Labour Code*.

The protection of basic human rights and needs is provided for under the *Jamaica (Constitution) Order in Council 1962*, including the protection of the right to life, liberty, security of the person, enjoyment of property, and protection of the law without prejudice to race, colour, creed, sex or political opinion. The Constitution also protects the right to freedom of conscience and expression, to peaceful assembly, respect for private and family life, the right from arbitrary arrest, to freedom of movement, to protection from inhuman treatment, and from compulsory acquisition of property (except by law and with compensation).

Under the provisions of section 3 of the *Labour Relations and Industrial Disputes Act*, it is required that a Labour Relations Code be prepared, and that it include provision for collective bargaining, dispute resolution and human resource management structures. The right of workers to trade union membership is provided under section 4 of the Act. Part III of the Act establishes the functions of the Industrial Disputes Tribunal.

Efforts have been made to influence the direction of human population growth through the establishment of the Urban Development Corporation, which is vested, under the provisions of the *Urban Development Corporation Act*, with authority to stimulate orderly and progressive urbanization. The majority of the Corporation's projects are concentrated in the Kingston Metropolitan Area, Montego Bay, Negril and Ocho Rios, in addition to a number of shelter programs in other areas. The Corporation has implemented the Rural Township Comprehensive Development Project which has resulted in the upgrading of schools, hospitals, health centres, roads and drainage systems in growth centres identified in the National Spatial Strategy. Upgrading schools in the rural areas to the high school level is an ongoing concern for the Government of Jamaica - approximately thirty schools have been upgraded since 1993.

Jamaica participated in the 1974 World Population Conference (held in Bucharest, Romania) and subsequently pursued an integrated approach to the development and implementation of population policies. This resulted in the establishment of the Population Policy Coordinating Committee (PPCC) in 1982, and the subsequent formulation and adoption of an explicit population policy in 1983. Following on from the 1984 International Conference on Population and Development (Mexico City, Mexico), Jamaica formulated a Plan of Action to implement the Population Policy. Between 1989 and 1992,

the Population Policy was extensively reviewed, and after extensive consultation the Jamaica National Population Policy was produced in 1992. The general goal of the policy is:

"To improve the satisfaction of basic human needs and the quality of life of the Jamaican people in areas such as housing, health and nutrition, education, transportation and environmental conditions."

To reach this goal, the policy provides that certain levels of fertility, mortality and external migration be achieved and maintained. And, to ensure that the population is economically sustainable, growth in the Gross Domestic Product (GDP) of at least 1% per annum must be maintained over the medium term. The policy advocates promoting and maintaining equity in the distribution of benefits to achieve an adequate quality of life for the entire population. The 1992 population policy continues by stating that "it is also necessary to ensure that the spread of population and resources is such as to minimize the adverse effects on the environment". To achieve this objective, the following goal is outlined:

"To foster and promote the most responsible, productive and sustainable use of natural resources by the population, and to minimize practices having negative environmental impact".

The Population Policy expressly recognizes the importance of ensuring that women are given equal opportunities to attain basic human needs, and accordingly establishes the following goal:

"To promote an adequate quality of life for both sexes; a primary concern is equity between the two in social, cultural and economic matters including family life (particularly reproductive behaviour), legal status, educational opportunities, employment and income levels. Equal access decision-making processes is considered an essential element of this goal."

However, Section 3 of the old *Women (Employment of) Act* (1942) prohibits the employment of women for night work except in certain circumstances. This may now be in contravention of some international conventions and agreements or protocols.

The Population Policy Coordinating Committee was designated with the responsibility of advising on laws relating to population, and continues to do so. In 1967 the National Family Planning Board (NFPB) was established as a statutory body under the provisions of the *National Family Planning Act*. In 1970 the Board was empowered to act as Government's principal agent in all family planning related activities, that is, to prepare, carry out, promote, coordinate and monitor all plans related to family planning and family life education.

The Government has heavily invested in community development as part of the *National Poverty Eradication Programme* which establishes a number of initiatives aimed at poverty alleviation or eradication, including the Skill 2000 Program, the Social Investment Fund, Operation PRIDE, and various micro-credit schemes. The Programme for Resettlement and Integrated Development Enterprise (PRIDE) started in 1995, and has spent \$300 million on planning and site improvements for low-income housing. The aim of

the program is to reduce the incidence of squatting in Jamaica. Over the long term these programs are expected to lead to an improvement in human well-being and the health of the environment by ensuring that the process of development is focussed on the income groups that are most in need and, thus, by reducing stress on the environment.

The rights of workers and labour relations are controlled by a series of laws which set out the conditions governing industrial and human relations, and setting minimum standards of conduct, namely, the *Minimum Wage (Trade) Act*, the *National Minimum Wage Order*, the *Shops and Offices Act*, the *Factories Act*, the *Holidays with Pay Act*, the *Maternity Leave Act*, the *Women (Employment of) Act*, the *Workmen's Compensation Act*, and the *Employment (Termination and Redundancy Payments) Act*.

A function of the Ministry of Labour, Social Security and Sport is that of monitoring establishments falling under the jurisdiction of the *Factories Act*, to ensure the maintenance of conditions conducive to workers' health and safety at the work place. In pursuance of this mandate, the Ministry carries out periodic inspections of factories, building sites, docks, and cargo ships docked at Jamaican ports. The Ministry also carries out special investigations in response to complaints of breaches of safety provisions under the *Factories Act*, and reports of industrial accidents which prevent an employee from working for more than two days and/or result in loss of life or disability. An Environmental Standards Unit was established, to encourage greater participation and effective implementation of Environmental Management System Standards within the national productive and service sectors.

In July 1996, the National Land Policy was developed through a broad-based participatory and consultative mechanism, and presented to Parliament. In developing the Policy, consideration was taken of both Jamaica's terrestrial areas and territorial waters. The lack of sound rural and urban land policies and land management practices remain a primary cause of inequity and poverty, degradation of forests, unplanned urban development, squatting, occupation of hazards prone areas, increased living costs, and environmental pollution. All of these increase the vulnerability of the Jamaican population, especially disadvantaged and vulnerable groups, and low-income earners.

The goals of the Policy are to:

- (a) correct those deficiencies and ensure the sustainable, productive and equitable development, use and management of the country's natural and human-made resources; and,
- (b) promote comprehensive and integrated development in urban and rural areas through such measures as equity and fairness in land, economic diversification and the development of centres of growth.

The aim of the Policy is to complement socio-economic development plans and programs, while challenging and removing inefficient, onerous and outdated legal, administrative, management and other barriers. Specific objectives outlined in the Policy include:

- (a) the development and implementation of land information systems and practices for all planning, development and management of land and natural resources;

- (b) measures and programs to ensure affordable access to land and legal security in tenure as strategic prerequisites for a variety of uses by the majority of the population;
- (c) the development of sustainable human settlements and the provision of adequate shelter in both urban and rural areas;
- (d) the introduction of property taxation measures that will provide greater efficiency in the provision of necessary services;
- (e) the promotion of efficient, effective and more dynamic approaches to land use, planning, development and management which will involve a participatory and consultative approach; and
- (f) the protection and conservation of sensitive areas and scarce resources, while pursuing development initiatives in an environmentally sound manner.

The Land Administration and Management Project (LAMP) was established to give effect to and implement the National Land Policy of Jamaica. One specific outcome of the project is the review and reform of land use planning and resource management legislation and institutional structures.

Commentary

According to participants and interviewees, the legal and institutional framework for the promotion of sustainable human development in Jamaica is fragmented and piecemeal; is inadequate in a number of aspects due to inconsistencies between laws; and is incompatible with modern trends due to the out-dated nature of some laws. Moreover, the linkages between sustainable human development and well-being, natural resources, and the environment are not drawn, and an integrative approach has not been well established or consolidated. Overall there is still avoidance of the intersection between Jamaica's continuing relatively high population growth rates, increasing consumptive rates (despite the existence of a large portion of Jamaicans still living at or below the poverty line), the impact on the rich natural resources of the Island of more people and more unplanned or uncontrolled economic growth, and the degradation of the environment - and what it all means for the country's future.

Recommendations

To counteract some of the problems, it is recommended that:

(a) International Conventions and Agreements

(i) Jamaica consider becoming party to the following international conventions and agreements, and establishing the legal and institutional structures to provide effective implementation:

- * *Convention on the Elimination of All Forms of Discrimination Against Women;*
- * *Convention on the Rights of the Child;*
- * *Equal Remuneration Convention;*
- * *Programme of Action on Human Rights;*
- * *Programme of Action on Population and Development; and*

* *Right to Organize and Collective Bargaining Convention*, subject to ascertaining the benefits and advantages, as well as financial costs, to Jamaica in becoming a signatory to and/or acceding to or ratifying such treaties.

(ii) A legal basis be established to ensure the integration of gender, population growth, demographics, labour and human development considerations into all national and sectoral planning activities, and in the formulation and implementation of environmental and resource management policies and plans of action.

(iii) A systematic reporting mechanism be established to ensure that such integration occurs and that sustainable human development is properly provided for in revised or new laws purporting to deal with the human condition.

(b) Implementation of the National Industrial Policy

The legal and institutional structures necessary to implement the National Industrial Policy are created, including:

- * support for the development of the Micro and Small Enterprise Sector;
- * the development and implementation of the National Poverty Eradication Programme;
- * providing access to and ownership of land;
- * establishing the Social Investment Fund;
- * providing women with access to credit, equity and equality in wages, equal opportunity, and equality in the work arena;
- * the creation of Commission on Gender and Social Equity;
- * establishing a system of incentives for companies to support environmentally friendly technologies and practices;
- * improving the institutional structure of environmental and resource management agencies;
- * introducing, implementing and enforcing the "polluter pays" and "user pays" principles in all environmental and resource management policies and laws.

(c) Labour Reform

(i) Legislation should be enacted to give effect to the report of the Labour Market Reform Committee, including:

- * establishing structures to ensure environmental health and safety at work;
- * establishing the legal and institutional framework for collective bargaining and a new industrial relations order in Jamaica, including the increased use of alternate dispute resolution (ADR) mechanisms.

(ii) The *Women (Employment of) Act (1942)* should be "sunsetting" and a new law written that reflects the realities of modern life and trends, the obligations under international agreements, the multi-faceted role of women, and the need to ensure that equality and equality principles are applied to women in the workforce.

(iii) A monitoring mechanism should be set up to ensure that women are treated fairly and equitably in all aspects of work and employment, including in and among the legal and judicial professions.

(d) Policy Implementation

Legislation be enacted that would:

- (i) integrate the overall goals of sustainable development with population policy goals taking into account present and future human needs, the pressures of population growth on resources, and the needs of Jamaica's fragile environment;
- (ii) ensure that the population policy is regularly reviewed, its implementation monitored, and revised to ensure compatibility with national sustainable development policies, goals and programs;
- (iii) ensure social, environmental and human development indicators are developed and used by agencies in development planning;
- (iv) require all development applications and EIAs to include assessments of social and economic impacts, through broad-based consultations and participation;
- (v) ensure improved enforcement of laws and regulations governing development planning, land tenure, land use, access to credit, security of tenure and affordability of housing, so as to address the proliferation of squatting, environmental degradation and other undesirable social consequences.

(e) Providing for Basic Human Rights and Needs

- (i) Enactment of employment equity legislation, including equality of gender participation on statutory boards, agencies, and committees, to ensure the full integration of women into the development process, and to counter the under-representation of women at the highest levels of decision-making;
- (ii) Equity be legally established between the two sexes in social, cultural and economic matters including family life (particularly reproductive behaviour), legal status, educational opportunities, employment and income levels. (A major step towards the elimination of illegal abortions is to provide women who so desire access to a full complement of contraceptive devices and to legal, safe abortions.)
- (iii) Legislated protection be given to children - from forced labour, abuse, neglect (including parents and guardians who abandon or leave young children unattended);
- (iv) The National Council for the Aged and other organizations for the elderly be strengthened through legislation and appropriate programs, including through subsidies for health care, housing, transportation, etc.; and,
- (v) The Sustainable Development Council of Jamaica (SDCJ) address the intersections between sustainable human development, the environment, population growth and economic development, and propose approaches for handling problems between those various dimensions.'

(f) Management of Urban Migration and Growth

- (i) Legal and institutional structures necessary to address urban migration be established, including:
 - the strengthening of urban, rural and regional planning agencies to enable them to function effectively and to enforce laws and regulations;
 - the assessment of social, spatial and environmental impacts of major sectoral policies and projects as part of the planning process;

- establishing legal and institutional structures to promote collaboration among agencies working in urban/rural development and physical planning;
- addressing internal migration with laws that create economic and social incentives for private sector investment in rural areas and small towns;
- requiring environmental and social impact assessment (EIAs/SIAs) for large scale tourism development, while requiring that its impact on local housing and social services, on local people and migrants seeking work is fully accounted for.

(g) Managing the Social and Environmental Considerations of Trade

(i) To protect local producers from unfair trade practices, the establishment of:

- anti-dumping laws;
- a legal framework for applying countervailing duties where necessary; and,
- legislation to establish quality and environmental standards for goods entering the island.

(ii) To address the increasing number of Technical Barriers to Trade (TBT), the creation of a regulatory framework to encourage the implementation of ISO 14000 series standards by mining and manufacturing facilities, service and export industries: and,

(iii) Rationalization and harmonization of customs and other trade-related legislation within the CARICOM Region.

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Chapter 3

Disaster Contingency Planning and Management (Natural and Human-made Disasters)

Background

Due to its physiography, geological history, and geological location, Jamaica is susceptible to a variety of natural hazards, including earthquakes, hurricanes, tropical storms, flooding and landslides. These usually result in loss and damage to human life, property, crops and ecosystems. Intensity VII earthquakes are expected in Jamaica on average every 38 years, with the last being on January 13, 1993 which resulted in extensive damage. There is a 27% probability of a hurricane affecting Jamaica in any given year. Direct damage from Jamaica's last major hurricane, Gilbert, in 1987, stood at US\$956 million due to 50% of the island's beaches being seriously eroded, 60% of the mangrove trees destroyed, 50% of the oyster resources unsalvageable, a marked deterioration of the marine water quality, and extensive landslides. Flooding in 1995 affected 416 families with an estimated loss of J\$250 million.

Compounding the problems associated with these natural hazards, the country has experienced a number of human-made disasters including fires, oil and chemical spills (including chlorine gas releases in 1991 and 1995). While it is not possible to control natural hazards, it is recognized that careful management and preventative measures can reduce their impact. Expanding urbanization of reclaimed land along Jamaica's narrow coastal fringe, in its watersheds, and on its steep slopes has increased the risks from natural disasters.

Overview of Legal and Institutional Framework

Jamaica has signed the following international conventions related to disaster contingency planning and management:

- (a) *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region*; and,
- (b) *Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region*.

To provide awareness of requirements under the *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region*, the *Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region*, and the *International Convention on Oil Spill Prevention, Response, and Cooperation (OPRC)*, a series of international seminars and workshops on oil spill contingency planning and management was hosted by the Petroleum Corporation of Jamaica (PCJ). These seminars

facilitated increased awareness, interaction between concerned parties, and supported critical decision-making and agreements between Latin American and Caribbean countries.

An Office of Disaster Preparedness and Emergency Management (ODPEM) is established under the provisions of the *Disaster Preparedness and Emergency Management Act* (1995). OPDEM was given the following functions:

- (a) developing and implementing policies and programs to achieve and maintain a state of national and sectoral preparedness for coping with all emergencies affecting Jamaica;
- (b) encouraging and supporting disaster preparedness and mitigation measures in all parishes;
- (c) providing training programs on and support services for all aspects of disaster preparedness, mitigation and management, and loss reduction;
- (d) planning and implementing public awareness programs to improve public understanding of disasters, as well as emergency prevention and management;
- (e) identifying and analyzing hazards or emergency situations, and conducting operational research into their effects; and
- (f) establishing, maintaining and managing mutual assistance and co-operation agreements.

It is the duty of the Office to advise the Minister on all matters relating to disaster mitigation, preparedness, warning systems and emergency management, and to prepare guidelines for disaster relief and response. The Office also initiates, co-ordinates, inspects, evaluates and supports the development of a National Disaster Plan, and the development and testing of emergency response plans and equipment. (Section 12 of the Act authorizes the Minister to declare disaster areas in any part of - or throughout - the Island threatened with or affected by natural or technological hazards. The Minister can make regulations to effect the Act's requirements (Section 13). Section 14 exempts equipment or article imported for use by the OPDEM from customs duties, and transfer taxes.)

The National Contingency Plan for Oil and Chemical Spills was developed and later tested by OPDEM. It is presently being revised. A series of national and regional meetings on oil spill response have been convened, as well as mock oil spill response exercises. The training of personnel in the key institutions responsible for responding to an oil spill emergency is ongoing. A computer data-base program and user's manual for oil spill expert and equipment applications has been produced and made available to OPDEM, the NRCA, the Jamaica Defence Force Coast Guard, and the Jamaica Maritime Institute. Investments in equipment and training in environmental accident preparedness and quick response capability, especially for oil spills, continue. Four national response centres have been established, with another three proposed.

Under the provisions of the *Emergency Powers Act*, a State of Public emergency can be declared as a result of earthquake, hurricane, flood, fire, pestilence, or infectious disease. The Act also provides that regulations may be made to secure essential services necessary to life and to the community. Under Part III of the *Housing Act*, the Minister is given powers to establish emergency housing schemes in instances of public calamity, either generally or in any particular area.

The *Flood-Water Control Act* empowers the Minister to declare any affected area a "flood-water control area" necessitating a control scheme being prepared and implemented. The Act can make any Government department, agency or statutory body responsible for the implementation of a flood-water control scheme. (Section 5 requires every flood-water control scheme to provide for the establishment, construction and maintenance of all flood-water control works as may be necessary for securing proper control of, or defence against flood -water. Part III Act establishes powers for designated agencies to implement any approved flood-water control scheme, including the power to enter any land, alter or regulate any watercourse, clean or clear any watercourse, provided that such powers shall not be exercised without the permission of affected land-owners (except in cases of emergency). Section 12 provides that compensation may be paid to and affected land-owner due to any damage resulting from carrying-out any flood-water control scheme.)

The Water Resources Authority (WRA) was established under the 1995 *Water Resources Act*, and replaced the Underground Water Authority. The mission of the Authority is to regulate, allocate, conserve, and manage Jamaica's water resources. The Authority gathers data on streams flow, surface water quality, and other hydrological features, and provides advice to developers and government agencies about water supply and protection. The WRA also has the primary responsibility for ground water quality assessment and risk mapping, and plays a key role in flood-plain mapping and hazard determination.

A number of agencies are establishing a Flood Plain Management System based on flood zone maps. This system would regulate and guide residential development, the location of roads and critical lifeline facilities. The Geography Department of the University of the West Indies (UWI) is undertaking a Caribbean Disaster Mitigation Project, which involves the preparation of a landslide inventory for selected high risk areas. This inventory will result in the preparation of a landslides hazards map, which will assist in disaster contingency planning and management activities within those selected areas.

Commentary

The legal and institutional framework for the management of natural and human-made disasters is inadequate in a number of aspects. A major problem is that many of the above-mentioned initiatives are "post-facto", that is, they happen after the event. Disaster management tends not to be integrated into economic planning, yet in a Caribbean island like Jamaica this should be "de rigeur". Much more emphasis needs to be put on preventative measures (i.e. the precautionary principle), especially at the parish level. Little attention is paid to the problems arising from building in or undertaking developments (including golf courses or tourist resorts) in flood plains, watersheds, former mangroves, and on or near beaches. Such developments are often at risk, especially in emergency or disaster situations but even during "normal" times, and frequently contribute to a worsening of natural disasters or emergencies. Often controlling or mitigating disasters in such areas requires an inordinate, or disproportionate, allocation of resources, to the detriment of other areas.

Recommendations

To address some of the above deficiencies, it is recommended that consideration should be given to the following:

(a) International Conventions

- (i) Jamaica becoming a signatory to the *International Convention on Oil Spill Prevention, Response, and Cooperation (OPRC)* as soon as possible.
- (ii) Establish a National Fund for Disaster Relief and Management as a regular line item in the Government's Budget.

(b) Legal and Institutional Structures for Disaster Preparedness and Response

(i) Establishing legal and institutional structures that adopt and integrate the "precautionary principle" for disaster planning and management, and then provide for:

- the appointment of local disaster co-ordinating committees and on-scene commanders to provide disaster response co-ordination and management in consultation with OPDEM;
- the powers, duties and functions of local disaster co-ordinating committees and on-scene commanders;
- the declaration of a national state of emergency where disasters threaten or affect major parts of the island, along with special emergency powers for local committees and commanders, including:
 - powers to evacuate people in their own interests;
 - powers to mobilize resources and people to undertake emergency actions to save life or property;
 - temporarily entering, acquiring or controlling any property for the purpose of disaster management;
 - supplying and distributing essential relief supplies, medical assistance, shelter or other services;
 - maintaining essential services and transportation;
 - importing and clearing emergency response equipment and personnel provided from external sources; and,
 - documenting disaster response expenses for insurance or indemnity claims.
- the use or acquisition of government resources and equipment in order to respond to any disaster;
- the acquisition of vehicles, vessels, aircrafts, or other equipment to carry out emergency relief services or to combat natural or man-made hazards, with compensation being payable if losses or damage occur to such property;
- creating an offence to obstruct or refuse to co-operate with the orders, directions or requirements of OPDEM, local disaster co-ordinating committees, or on-scene commanders;
- requiring the preparation of a Human and Natural Resource Sensitivity Atlas to aid informed decision-making on disaster contingency planning and management.

(ii) Establishing Disaster Relief Centres, which give priority to the protection of human life in emergencies and immediate assistance to persons injured or at risk. Such a legal framework would:

- Provide indemnity to OPDEM, local disaster co-ordinating committees, and on-scene commanders, if they had carried out their duties in good faith.
- Provide specific powers and duties for the maintenance of water supplies, emergency medical services, the carrying out of any major works, and the removal or disposal of any hazardous material or substance (oil and chemicals).

(c) Guidelines and Standards

(i) Establishing a regulatory framework that empowers the Jamaica Bureau of Standards (in association with the Natural Resources Conservation Authority and other key agencies) to develop, implement, monitor and enforce the following standards:

- the use of oil spill equipment in sensitive ecological areas;
- the recovery and disposal of oily waste for oil spills;
- the use of dispersants in the marine environment during oil spill response; and,
- the management of chemical spills and the disposal of chemicals from such spills, subject to adequate funding being put in place to support their actions.

(d) "Precautionary Principle" and Prevention of Disasters

(i) Adoption of the "precautionary principle" and overall placing more emphasis on prevention of disasters, especially human-made, and preventative measures, which would include **not** developing or building on sensitive, vulnerable and fragile areas or ecosystems and would entail in-depth environmental impact assessments of any areas proposed for any type of development.

(ii) Regular up-dating and distribution of disaster/emergency maps to key agencies and local communities, as well as NGOs and schools, so that all disaster areas can be clearly identified by emergency relief workers and the general populace.

(iii) Provide regular, on-going training and education of key personnel likely to be involved in disaster management and alleviation, and to the general public, especially through the school system.

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Chapter 4

Protecting the Atmosphere, Energy Conservation and Climate Change

Background

In recent years, Jamaica's energy consumption has increased significantly. Energy is needed for such essential services as power for manufacturing and other industrial activity, and for transportation and cooking. The poorly controlled or regulated use of oil and coal for energy production causes a number of environmental problems including water, soil and air pollution, and results in the discharge into the atmosphere of harmful emissions termed "greenhouse gases", which contribute to "acid rain", climate change and global warming.

Growing energy consumption and use have important social and economic implications for the country. 99% of Jamaica's commercial energy demand is met by imported petroleum and coal (amounting to US\$303 million in 1993), representing a significant portion of the country's total imports and foreign exchange. Invariably, the high costs of energy production and supply are passed on to consumers, thereby making efficient and clean energy too costly for many households. Almost 41% of Jamaican household energy needs were still met by fuel-wood in 1996, resulting in a significant deleterious impact on the country's forests. Since forests also act as "carbon sinks" (i.e. areas where carbon is converted to oxygen through natural processes), the loss and degradation of Jamaica's forests have many other far-reaching consequences for the Island and its people.

Energy conservation would bring immediate benefits to Jamaicans, while adequately funded alternate energy sources (solar energy, bagasse, wind, etc.) would bring considerable future benefits to Jamaica in social, economic and environmental terms. Efforts have been made in these areas but much more needs to be done in the face of growing demands. The phasing out of the use of leaded gasoline, the elimination of "subsidies" (lower prices) for leaded gas, and reduced auto emissions would significantly improve air quality and moderate human health risks.

Air pollution in areas of high population density, such as the Kingston Metropolitan Area and Montego Bay, continues to create major health problems in the local population. The number of cases of respiratory tract infection has increased dramatically over the last five years. Mean Total Suspended Particulate (TSP) are well above World Health Organization (WHO) standards for air quality (i.e.60 micrograms per cubic metre). For example, a high of 260 micrograms per cubic metre was recorded in Montego Bay.

Jamaica has signed a number of international and regional treaties relating to energy, the atmosphere, and climate change, and continues to play an active role in international

activities aimed at eliminating the use of ozone depleting substances (ODS) and other substances which harm the atmosphere.

Overview of Legal and Institutional Framework

The international conventions and regional treaties or agreements Jamaica has signed, acceded to or ratified (See: Annex 3) include:

- (a) *Vienna Convention for the Protection of the Ozone Layer*;
- (b) *Montreal Protocol on Substances that Deplete the Ozone Layer*;
- (c) *London Amendment to the Montreal Protocol on Ozone Depleting Substances*;
- (d) *United Nations Framework Convention on Climate Change*;
- (e) *Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Underwater*.

No legislation expressly addresses the issues of atmospheric protection, energy conservation and climate change. However, a number of enactments provide a degree of control over discharges into the air: the *Natural Resources Conservation Authority Act*, the *Natural Resource Conservation (Ambient Air Quality Standards) Regulations*, the *National Resource Conservation (Environmental Protection and Waste Management) Regulations 1992*, the *Clean Air Act*, the *Public Health Act*, the *Road Traffic Act*, and the *Harbour Rules*.

Under the provisions of the *Natural Resources Conservation Authority Act*, the Authority is granted power to:

- provide for the effective management of the physical environment so as to ensure the conservation, protection and proper use of its natural resources.
- formulate standards and codes of practice for the improvement and maintenance of the environment's quality, including the release of substances into the environment. For example, the NRCA published interim standards for air quality, including guidance for existing and future development, and promulgated the *Natural Resource Conservation (Ambient Air Quality Standards) Regulations (1996)* which established maximum levels for certain air pollutants. It is currently developing *Stack Emission Standards*.
- exercise control over the discharge of ozone depleting substances (ODS) and discharges causing greenhouse gas emissions. The *National Resource Conservation (Environmental Protection and Waste Management) Regulations 1992* establishes a licensing process for any discharges into the air that might adversely impact on the environment.

The *Clean Air Act (1964)*, administered by the Central Board of Health, requires persons responsible for discharges or escapes of noxious or offensive gases to use the "best practicable means" for preventing those, and for rendering such gases harmless or inoffensive. Inspectors are empowered to enter premises to conduct necessary inspections or tests to enforce the Act.

The *Public Health Act* empowers Local Boards of Health to establish sanitary districts and to carry out activities to protect public health, including enforcing regulations. The Boards may issue regulations to control nuisances, sanitary collection, and disposal of garbage or other waste. They may impose licence fees and penalties. The Minister of Health is granted a broad power to make regulations relating to air, soil and water pollution, employment health hazards and the control of rodents and mosquitoes. Although the *Public Health Act* provides that Local Boards of Health may carry-out activities and regulate in the interest of public health, no regulations exist for the management of wastes or pollution. The Minister of Health is also empowered by the Act to order the enforcement of public health measures recommended by the Central Health Committee or Local Boards of Health, including removing hazards or dangers to public health.

The Environmental Control Division (ECD) within the Ministry of Health is responsible for the control of air and water pollution, abatement of environmental health hazards, and workplace health and safety. The Division enforces *Public Health Act regulations*, and acts as a development review body by approving all engineering plans for water and wastewater treatment and disposal facilities, subdivisions and development projects.

Section 43 of the *Road Traffic Act* prohibits persons in control of motor vehicles from making an unreasonable noise by honking, and discharging unreasonable amounts of smoke. The *Civil Aviation Act (Section 16)* regulates aerodrome noise and vibration. The *Harbour Rules* (under the *Harbour Act*) prohibits vessels within any harbour's limits from discharging smoke unnecessarily, and makes the Master of such vessels liable for prosecution. No continuous monitoring stations have been set up to document and evaluate air quality, or to record discharges that impact upon human health or the environment. However, a number of adverse impacts from poor air quality have been noted in Kingston and other high density areas. The NRCA is presently implementing a system for collecting information on sources of air emissions in the Kingston area, and intends to expand the system island-wide.

A number of initiatives have been instituted to investigate or harness alternate energy sources, including:

- (a) studies by the Sugar Industry Research Institute (SIRI) to evaluate the feasibility of producing energy sources from sugar gas and wastes;
- (b) continued expansion of the use of biogas utilizing agricultural waste;
- (c) an increase in the use of hydro-electric power;
- (d) expanding the use of solar heaters and solar energy use;
- (e) the development of the Energy Efficiency Building Code (EEBC) for new construction and retrofits in commercial and institutional buildings;
- (f) an evaluation of the feasibility of wind generation as a power source;
- (g) the establishment of the Appliance Testing and Labelling Program to provide information to consumers on energy consumption in major appliances;
- (h) the construction of a wind turbine at Munro College in St. Elizabeth in 1996, which can generate up to one million kilowatt-hours of energy per year.
- (i) a number of initiatives to investigate energy conservation and improve energy efficiency, including a demand side management program by the Jamaica Public Service Company aimed at increasing energy efficiency in residential, commercial and industrial buildings.

(j) the *Jamaica Energy Sector Policy and Strategy* (November 1995) by the Ministry of Public Utilities and Transport which outlines activities for achieving an overall improvement in energy efficiency and an increase in energy use from alternative sources.

Commentary

The legal and institutional framework for the protection of the atmosphere, energy conservation and climate change is particularly fragmented, inconsistent, and contradictory in many ways. One of the areas that is likely to produce the greatest results for the least expenditure of money is energy conservation. But insufficient attention has been paid to it, whether by private enterprise, the public sector, or the general public.

An area not adequately addressed is that of transportation and its relationship to energy use, pollution, and even climate change. With the growing number of cars on Jamaica's roads and highways, the continuing use of (indirectly subsidized) leaded gas, the lack of regulations to control automobile emissions (especially from older, badly maintained cars), and the increase of both costly and polluting vehicular air conditioning, energy use and pollution will increase substantially over the next few years to the detriment of the health of Jamaicans, particularly the ill, the old, the young, and the poor.

Recommendations

Some of the legal and institutional inadequacies might be addressed by undertaking (some of) the following:

(a) International Conventions

(i) Becoming a party to the *Copenhagen Amendment to the Montreal Protocol on Ozone Depleting Substances*, given that Jamaica already is a signatory to other related conventions.

(b) Phase-out of Ozone Depleting Substances (ODS)

- (i) To implement and give effect to the *Vienna Convention for the Protection of the Ozone Layer*, the *Montreal Protocol on Substances that Deplete the Ozone Layer*, the *London Amendment to the Montreal Protocol on Ozone Depleting Substances* (already acceded to by Jamaica) and the *Copenhagen Amendment to the Montreal Protocol on Ozone Depleting Substances*, enacting legislation that will:
- establish the legal and institutional structures to implement and enforce the phase-out of the importation, manufacture, distribution, storage and use of ozone depleting substances (ODS) by predetermined dates;
 - establish standards for capturing ODS and retrofitting ODS equipment;
 - license facilities permitted to store and recycle ODS;
 - provide for training and accrediting technicians permitted to recycle, store and retrieve ODS, and to undertake routine maintenance on ODS equipment;
 - establish penalties for failure to comply with phase-out and other regulations;
 - give adequate powers of inspection and enforcement to key authorities.

(c) Management of Climate Change Activities

(i) Implementation of and giving effect to the *United Nations Framework Convention on Climate Change* through legislation that will:

- establish legal and institutional structures for undertaking inventories of sources of greenhouse gas emissions and carbon sinks;
- establish the procedures and institutional structures to develop a National Climate Change Policy and Action Plan for achieving specific reductions (i.e. within agreed targets and by established dates) in greenhouse gas emissions from all sources, and for conservation and protecting carbon sinks;
- create measures and penalties for failure to comply with emissions reduction targets and regulations regarding conserving carbon sinks;
- empower specific agencies to undertake:
 - * assessments of likely impacts from global warming and climate change;
 - * the development of an atlas identifying areas likely to be impacted by rises in sea levels;
 - * contingency and management plans to address likely impacts from sea level rises;
- give adequate powers to key authorities for inspection, audit, monitoring and enforcement of laws and regulations.

(d) Implementation of Energy Policy

(i) Ensuring that the *Jamaica Energy Sector Policy and Strategy*, which identifies a number of legislative requirements, is implemented in a timely fashion so as to give effect to its energy rationalization and conservation strategies, particularly:

- the establishment of a legal and institutional framework to regulate power utilities; to provide protection to energy consumers, investors and the environment, and to provide liaison and coordination between the Ministry responsible for energy, the Natural Resources Conservation Authority (NRCA), the Office for Utility Regulation (NUR), and other agencies;
- the promulgation and enforcement of the Energy Efficiency Building Code (EEBC) for all new buildings, and to expand that to cover the retrofitting of older buildings;
- the establishment of a regulatory framework that will:
 - * attract foreign and local investment in the power sector, subject to controls;
 - * provide an efficient, reliable electricity supply at an economic cost that properly reflects environmental costs; and,
 - * promote environmentally acceptable operation of the power sector;
- deregulation of the petroleum industry to achieve greater efficiency, subject to proper environmental controls, audits and assessments by the government and, as appropriate, by ENGOs;
- the imposition of international or optimum standards for vehicle fuel performance and electrical appliances, and mandatory appliance testing and labelling;
- regulation of carbon and sulphur emissions from petroleum refinery, power generating facilities and other industrial facilities, establishment of a system of self-regulation (including monitoring and audit) - with on-going government and ENGO monitoring and participation - to ensure compliance with international or optimum emission standards, and a system of positive compliance incentives and penalties;
- promotion of the development and use of alternative energy sources and technologies.

(e) Vehicle Emissions

(i) Ensuring the overall improvement in air quality and reduction of atmospheric pollutants will require legislation that provides for:

- the phasing-out of the importation and use of leaded fuel as soon as possible;
- the elimination of direct or indirect subsidies, by the government or any other body, for leaded fuel;
- regular inspections (preferably no less than annually) of all motor vehicles (old or new) to ensure compliance with air emission standards and standards for vehicle fuel performance; and,
- the establishment of both positive compliance and negative penalties (the “carrot-and-stick” approach) to achieve more efficient use of energy in vehicles and the reduction and/or elimination of vehicular polluting emissions.

(f) Standards and Codes of Practice

(i) Establishing a regulatory framework to empower the Jamaica Bureau of Standards (in association with the NRCA and other appropriate agencies) to develop, implement, monitor and enforce the following standards:

- environmental management systems for petroleum refinery, power generating and other industrial facilities that discharge harmful emissions into the air;
- minimum and optimum standards for vehicle fuel performance;
- minimum and optimum standards for electrical appliances;
- energy efficiency testing and labelling standards;
- standards for ozone depleting substance recycling equipment;
- standards for the accreditation of ODS technicians; and,
- standards for the accreditation of vehicle inspection technicians.

(ii) To the extent possible, employing the best or optimum international standards should prevail when establishing standards in any of the above mentioned areas, rather than the absolute minimum.

(g) Nuclear Weapons Testing

(i) Implementing and giving effect to the *Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Underwater*, will necessitate legislation that:

- prohibits the use of Jamaican ports, airports, land or water for the purpose of undertaking or assisting in any testing of nuclear weapons;
- requires prior notification and approval for the trans-boundary movement of any shipment of materials intended for use in nuclear weapons testing.

(h) Use of Economic Instruments

(i) Assessing the need for and benefits of establishing such regulatory structures that create economic incentives to protect the atmosphere, promote energy

conservation and address climate change, and legislating in those that might be the most effective, such as:

- legislative mechanisms to implement the CARICOM decision to lower the Common External Tariff (CET) on solar equipment from 45% to a special concessionary import duty of 5% on all products from outside the Region;
- expanding concessionary tariffs and import incentives to include "ozone friendly" substances and equipment, alternate energy equipment and technologies, and energy efficient, non-polluting vehicles;
- providing fiscal incentives for phasing-out leaded fuel as soon as possible and allowing in only imported motor vehicles that run on unleaded fuel;
- establishing a "gas-guzzler" tax to reduce the importation of motor vehicles with poor fuel consumption and poor emission standards;
- providing fiscal incentives to encourage compliance with the Energy Efficiency Building Code (EEBC), and to promote the installation (or retrofitting) of solar water heating systems and other alternate energy equipment or technologies;
- providing incentives to manufacturers of solar water heating systems and other alternate energy equipment or technologies;
- providing incentives for persons to undertake training in ozone depleting substance recycling and retrofitting, including in air conditioning and refrigeration;
- providing incentives for private investment in the power sector and alternate energy sector;
- providing incentives and penalties for compliance with air emission standards by petroleum refineries, power generating plants and other industrial facilities;
- establishing both incentives and penalties to discourage the use of charcoal and fuelwood for cooking;
- introducing regulatory measures (e.g. removing monopolies and price controls, enacting anti-dumping legislation, establishing pricing formulas, eliminating special petroleum specifications, enforcing qualification and registration standards for marketers) to ensure that petroleum prices reflect the real cost of motoring;
- establishing incentives for consumers to buy energy efficient and ozone friendly appliances;
- establishing incentives to encourage appliance testing and labelling;
- introducing incentives to encourage power sector Demand Side Management (DSM) programs in industrial, commercial and residential sectors, including tariffs to encourage energy conservation and reduced waste, and recover expenditures made for conservation programs; and
- internalizing the real costs of using natural resources, of environmental protection and rehabilitation, and energy conservation measures in development project costs for tax purposes, including in the area of transportation and highway construction, as well as assessing the deleterious impacts on the environment and people's health of poorly regulated vehicles and utilities.

(i) Harmonization and Integration of Legislation

(i) Undertaking an analysis of existing laws and programs pertaining to energy, climate change, greenhouse gas and related emissions to ascertain which might be "sunsetting" or amended to bring laws up-to-date, in keeping with modern needs and developments and to reduce legal fragmentation and contradiction.

(ii) Putting in place an on-going system to harmonize and integrate such laws and programs to achieve greater effectiveness and efficiency in moving towards sustainability.

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Chapter 5

Integrated Natural Resource Management, Planning and the Built Environment

Background

Population growth, coupled with industrial and commercial expansion (including tourism), has resulted in intense competition for land and natural resources. In many instances, land and other natural resources have not been optimally used in Jamaica. Poor planning and management practices, and development activities or uses which exceed the "carrying capacity" of the environment, has resulted in a severe degradation and reduction of the country's once rich natural resource base. This has contributed to rural/urban drift, human settlement problems in urban areas, deforestation, destabilization of watersheds, and the destruction of such fragile areas as mangroves. This unsatisfactory situation has been exacerbated by such factors as:

- an inadequate land information data-base;
- no inventory of natural resources (soil, vegetation, water, forestry areas);
- inappropriate and poor use of large areas of arable land, and unsustainable agricultural practices;
- the location of small, inefficient farming units low productivity lands;
- over-intensive cultivation on marginal lands and unsuitable lands (e.g. on steep slopes, watersheds, mangroves, sand dunes);
- lack of security of tenure for farmers and inadequate support to develop productive farming operations;
- inefficient use of resources and duplication of efforts by competing government agencies, each with differing responsibility for land and resource management;
- lack of co-ordination between economic, social, environmental and physical planning;
- inadequate planning at the national, regional and local levels; and,
- non-inclusion or little participation in resource planning and management by local communities, parish and community-based organizations, the private sector, and NGOs.

With the rural/urban drift, more human settlements are occurring in the lowland urban areas, while more unplanned hillside communities are directly hurting the environment. Squatting on privately or publicly owned land has led to overcrowded settlements, with poor domestic water and sewerage facilities, and to increased health risks and other social and economic problems. The problems are compounded by lack of adherence to physical planning precepts and the resultant juxtaposition of industries with residential areas. Industrial emissions have substantially affected the air and water quality - and therefore people's health - of nearby residential areas.

Overview of Legal and Institutional Framework

The *Town and Country Planning Act* is designed to establish controls over the development of urban and rural areas and to establish policies for their land use. A Town and Country Planning Authority is established under the Act and has responsibility for approving Development Orders (DOs) with broad-based land-use plans and regulations. Development Orders are prepared by the Town Planning Department (TPD), the implementing arm of the Town and Country Planning Authority and generally responsible for the implementation of the *Town and Country Planning Act*.

The Department prepares national, regional, urban and local development plans and DOs. Moreover:

- Development Orders are prepared by the Town Planning Department to control land development in both rural and urban areas, ensure proper sanitary conditions and conveniences, co-ordinate building of roads and public services, protect and extend amenities, and conserve and develop resources.
- DOs have been prepared for the following coastal areas: St. Elizabeth, Montego Bay, St. James, Hanover, Negril-Green Island, Trelawney, Westmoreland, St. Ann, Ocho Rios, St. Mary, St. Thomas, Portland and Kingston.
- The Town Planning Department advises local authorities on applications for subdivisions, changes of use, and building activities, and also advises the public, developers, and other government agencies on land use matters.
- The *Town and Country Planning Act* regulates land use changes on, or in, under or over land.

The *Housing Act* provides for the orderly administration of housing development. Section 4 of the Act empowers the Minister to declare an area as a "housing area" under a housing scheme. Section 5 empowers the Minister to declare an area as a "slum clearance area" if it is shown that:

- (a) the houses in the area are, due to disrepair or sanitary defects, unfit for human habitation or are dangerous or injurious to human health;
- (b) the most satisfactory method for dealing with the conditions in the area is the demolition of all the buildings; and,
- (c) the clearance of the area can be secured.

Alternatively, Section 6 lets the Minister declare an area as an "improvement area", if it can be improved through demolition, reconstruction or repair. Thereupon clearance or improvement schemes must be prepared for such areas, and must detail work plans. (Section 14 gives the Minister powers to effect and implement such schemes once approved. Part III provides for the establishment of emergency housing schemes in cases of public calamity. Part IV details the obligations arising from the approval of a slum clearance or improvement scheme, including vesting in the Minister the power to order the demolition of unsanitary buildings. Part V provides for the acquisition of land for the purposes of housing, slum clearance scheme, improvement, or emergency housing schemes. Section 41 of the Act gives the Minister of Finance the power to guarantee loans for the erection of dwelling houses in approved schemes, and to advance money for improving or increasing housing. Section 54 grants the Minister the power to make regulations related to:

- (a) preventing and abating overcrowding;
- (b) the prevention of nuisance and sanitary defects; and
- (c) the inspection of houses and land.

Part VIII establishes procedures for approving housing schemes submitted by housing associations.)

Section 3 of the *Towns and Communities Act* prohibits certain activities on highways and thoroughfares, including the defacing of buildings or walls, and the burning of rubbish. Section 5 makes it an offence to discharge noxious wastes. The *Town Nuisances*

Prevention Act empowers Council to remove buildings that may cause harm or present a nuisance to the public.

The construction of buildings in Jamaica's main urban area is regulated by the *Kingston and St. Andrew Building Act*, which applies to all buildings except those under the supervision or control of the Chief Technical Director. The Act outlines the construction standards, regulations, codes of practice and building permit approval process to which new buildings and alterations to existing buildings must adhere (Sections 10, 20). (Section 7 establishes "set back" distances between buildings. The Act provides that the construction or alteration of buildings must be under the City Engineer's supervision. It stipulates that building inspection notices must be given at various work stages, and prescribes a penalty for proceeding with the work without such notice (Section 34). The City Engineer can give notice to rectify deficiencies or non-compliance with the Act, or its standards and codes of practice (Section 38). Measures to enforce such notices are outlined in Sections 39 to 42.. Section 25 lets the Building Authority amend the Act's First and Second Schedules which contain the standards and codes of practice for buildings' construction. Part III outlines procedures for the inspection and renovation of dangerous structures.)

The *Kingston and St. Andrew Water Supply Act* provides for the establishment, protection and maintenance of water supplies in and around Kingston. Section 3 empowers the Commissioners, appointed under the *National Water Commission Act*, may establish and construct dams, reservoirs, pipes, machinery and other works to take, collect, use, divert and distribute the waters of the Ferry River and its tributaries, and the Wag Water River, so as to supply water to the Parishes of Kingston and St. Andrew. This power is subject to compensation being paid to land owners, occupiers or other parties that suffer damage due to such action (Section 4). (Section 7 also lets the Commissioners construct dams and other works so as to obtain additional water supply from the Iron River, the Plantain River, and the Ginger River, subject to not diverting more than five million gallons per day from those rivers during certain times in the year. The Commissioners have the power to acquire rights to and easements over any land to meet the Act's requirements (Section 8), subject to compensation payments for such rights or easements.)

The *Kingston Improvements Act* stipulates that the Kingston and St. Andrew Corporation will be responsible for the care, inspection, maintenance, repair working and management of the sewerage system in the Parish of Kingston and St. Andrew. Section 8 of the Act requires the Corporation to prepare plans, specifications and estimates for Kingston sewerage collection works and "for the disposal of the sewage either by **discharging into the sea** beyond the limits of the parish of Kingston, or by utilizing it for irrigation". Such plans must be submitted to the Minister for approval. (Sections 10 to 13 stipulates that notice must be given to individual households to connect to the Kingston sewer system, and to install water closets/toilets, subject to the Corporation's approval. Section 14 prohibits households from discharging sewage once a sewerage connection system is installed, and imposes a penalty for such conduct (Section 16). Sections 25 and 26 provide that sewerage construction of installation works may only be undertaken by Licensed Sanitary Constructors. Sections 27 and 28 require - and vest powers in - the Corporation to develop plans, specifications and estimates for the restoration of roads or streets in Kingston, subject to the Minister's approval. Section 30 empowers the Corporation to order owners or occupiers of buildings to remove or alter obstructions that obstruct safe and convenient passage along streets. Written permission to construct a new building or alter the frontage of an existing structure must be obtained from the Corporation (Sections 34 and 35). The Act provides for the removal of rain water, lighting, the guttering of houses, the fitting of water or gas works, and the closure of streets for construction.)

The planning, construction and maintenance of roads in areas other than Kingston is provided under the *Parochial Roads Act*, which vests responsibility in the Superintendent of Parochial Roads and Works in the Parish Councils. The Act empowers the Superintendent to require landowners or occupiers to remove rubble, debris or other obstructions that encroach onto roads (Sections 52, 53 and 54), and establishes penalties for failing to do so.

A number of acts and regulations govern land determination and acquisition. Power to compulsorily acquire any land designated as "required for any public purpose" is provided for by the *Land Acquisition Act*. Such acquisition is subject to the compensation payment. Under the *Land Development and Utilization Act*, land may be declared as "idle land" whereupon an owner or occupier of such land would have to submit and implement a plan for its development. In cases of non-compliance, the land can then be compulsorily acquired.

The *Urban Development Corporation Act* establishes the Urban Development Corporation (UDC), which is a major development arm of the government that undertakes mostly large scale urban development projects that private enterprises find too risky or unprofitable, but which may be deemed to be vital to economic and social development. The UDC can also acquire and dispose of land within certain designated areas, and becomes the local planning authority for such.

The *Local Improvements Act* requires that anyone wanting to subdivide lands for building, lease, or sale, must provide the Local Planning Authority with a plan for approval. The Act affects the subdivision of all lands adjacent to or adjoining any part of the foreshore, and thus gives an opportunity to Parish Councils, generally acting in consultation with the NRCA, to impose special conditions for the protection of coastal resources. The *Local Improvements (Community Amenities) Act* establishes administrative procedures for the planning and establishment of community amenities, and provides for compensation payment if land is compulsorily acquired.

The Town Planning Department sends certain development plans to the Natural Resource Conservation Authority for environmental impact assessments (EIA), or a determination if an EIA is needed, before granting an approval. Under Section 9 of the *Natural Resources Conservation Authority Act*, the NRCA, has to send development plans to Town Planning for advice on zoning and land use. Under the *Natural Resources Conservation Authority Act*, the NRCA is empowered to provide for the effective management of the physical environment to ensure the conservation, protection and proper use of Jamaica's natural resources. (It also has powers to develop, implement and monitor environmental management programs, and to formulate standards and codes of practice for the improvement and maintenance of the environment's quality. The NRCA has the power to investigate the effect on the environment of pollution-making, waste management and waste disposal activities. Section 12 stipulates that no person may discharge poisonous, noxious or polluting substances into ground water without a licence; penalties may be imposed for violations. Section 17 states that solid waste disposal facilities must submit regular reports to the NRCA for the purpose of monitoring both the facility's performance and the quality and condition of substances discharged.)

Under the *Natural Resources Conservation (Permits and Licences) Regulations*, a permit must be applied for to and issued by the NRCA to undertake any enterprise, construction or development results in pollution, waste or harm to the environment. Conditions may be attached to permits, with permits being suspended or revoked upon notice being given to the licence holder (Sections 11, 14, 15, 16 and 17). The *Guidelines for Project Proponents - Permit and Licence System* describe the procedure for applying for a licence as well as the obligations and consequences of a permit. Annex A to the Guidelines outlines the range of activities which require a permit. These encompass all industrial, commercial, manufacturing, construction, service/utility, tourism, mining, forestry and agro-food activities likely to cause pollution, waste or discharges into the environment. The new Permit and Licencing System came into effect in January 1997. It requires permits for any enterprise in a prescribed area. On January 1, 1997, the entire island was declared a prescribed area.

The *Quarries Control Act* establishes zones where quarrying may be carried out, and controls the licensing of all quarries. The Act establishes a Quarry Committee and outlines the criteria for refusing to grant a quarrying licence, such as: the preservation of the character of the local environment, including flora and fauna; the need to restrict excessively large total quarry output in the locality; possible effects on the water table or surface drainage patterns; the nature and location of other land uses that could be affected by the quarry operations; the character, location and size of nearby communities; and the danger of pollution to the neighbourhood. The Act also provides for the revocation of a quarry licence and the closing of operations if certain detrimental environmental impacts are not controlled.

Under Section 3 of the *Minerals (Vesting) Act*, all minerals in, on, or under any land or water, whether territorial waters, river or inland sea, are vested in and subject to the control of the Crown. Control over the development and operation of petroleum operations is provided for under the *Petroleum Act*, and over mining operations under the *Mining Act*.

Local government's involvement in physical planning and environmental management occurs primarily through the Parish Councils. Parish Councils function as local health boards and local planning authorities. The physical planning and environmental management functions and programs of the Parish Councils include: public cleansing, the management of dump sites, land use planning and development, maintaining public bathing beaches and monitoring bathing water quality, protection of watershed areas around local water sources, and assisting central government agencies in general environmental monitoring. The Ministry of Local Government mainly sets policy, provides funding, and monitors activities of the Parish Councils. The powers, duties and functions of the Parish Councils in relation to land planning and management is provided under the *Parish Councils Act*. (The Councils may make bylaws for the maintenance of any public buildings or gardens (Section 120), or pass Regulations prohibiting or removing any nuisance, providing for the establishment of "silence zones", regulating building construction, governing the installation of sewers, and regulating or controlling rivers (Section 121). The *Parish Councils Building Act* empowers the Councils to make by-laws as to the erection, alteration and repair of buildings. The *Parishes (Water Supply) Act* grants the Councils authority to construct water works, and empowers Councils to acquire land for the

purpose of any waterworks. Section 22 authorizes the Councils to sell water for rates. The Act creates an offence to damage (Section 38), or tamper (Section 40), with water works).

The regulation and registration of freehold and other interests in land is provided under the *Registration of Titles Act*, which establishes the office of Registrar of Titles for the recording of all such interests. Control of burials within town limits is effected through the *Burial Within Towns' Limits Act*, which prohibits burials other than in designated areas. Section 109 of the *Parish Councils Act* provides that Parish Councils may compulsorily acquire land for public cemetery or other public purposes

In July 1996, the *National Land Policy*, developed through a broad-based, participatory consultations, was presented to Parliament. In developing the Policy, both Jamaica's terrestrial areas and territorial waters were considered, but the terrestrial was emphasized. The Policy recognizes that the failure to adopt appropriate rural and urban land policies and land management practices over the past decades has been - and remains - a major cause of inequity and poverty. (Note: A National Land Use Strategy was developed in 1970, and a National Physical Plan in 1978, but these plans were never implemented.) This failure has also caused the degradation or elimination of forests; rapidly increasing environmental decline, including in the watersheds; unplanned, sprawling urban development; squatting and the human occupation of hazard-prone areas; increased living costs and poor living conditions; and an increased vulnerability affecting much of Jamaica's population of Jamaica, especially the disadvantaged and low-income earning groups. The goals of the Policy are to:

- (a) correct the above deficiencies and ensure the sustainable, productive and equitable development, use and management of the country's natural and human-made resources;
- (b) promote comprehensive and integrated development in urban and rural areas through such measures as equity and fairness in land tenure and title, economic diversification, sound planning, and the development of centres of growth.

The aim of the Policy is to complement socio-economic development plans and programs, while seeking to remove inefficient, onerous and outdated legal, administrative, institutional, management, and attitudinal barriers. Specific objectives outlined in the Policy include:

- (a) the development and implementation of land information systems and practices for all planning, development and management of land and natural resources;
- (b) measures and programs to ensure affordable access to land and legal security in tenure for a variety of uses by the majority of the population;
- (c) the development of sustainable human settlements and the provision of adequate shelter in both urban and rural areas;
- (d) the introduction of property taxation measures to engender greater efficiency in the provision of necessary services;
- (e) the promotion of efficient, effective and more dynamic approaches to land use, planning, development and management through participatory consultation; and,
- (f) the protection and conservation of sensitive areas and scarce resources, while pursuing development initiatives in an environmentally sound manner.

The Land Administration and Management Project (LAMP) was established to give effect to and implement the National Land Policy of Jamaica. LAMP, under the Land Information Council of Jamaica (LICJ), began in April 1997 with the following objectives:

- (a) streamline land titling and registration;
- (b) expand the range and scope of the national cadastral map;
- (c) reform land use development procedures;
- (d) reform land legislation;
- (e) strengthen institutional capacities to facilitate effective land planning and use;
- and,
- (f) expand the national GIS network.

One specific outcome of LAMP has been the review and reform of land use planning, as well as of resource management legislation and institutional structures, by LAMP's Legal Component.

A major objective of the Land Information Council of Jamaica (LICJ) is the co-ordination of all mapping activities being conducted by government agencies. Under the Jamaica Land Titling Project, the Survey Department has embarked on three sets of mapping initiatives, namely:

- (a) cadastral mapping;
- (b) large scale digital mapping; and
- (c) the mapping of Kingston.

The Land Development and Utilization Commission (LDUC) is the agency responsible for ensuring the maximization (but not necessarily the optimization) of land use, and obtains its powers under the *Land Development and Utilization Commission Act*.

The Rural Physical Planning Unit has responsibility for zoning lands according to crop suitability, and so produces maps which show the most suitable land use for different areas of the country. The Jamaican Government's new *National Industrial Policy* provides for the establishment of new industrial lands within urban boundaries, as part of its overall settlement development strategy. Some industrial lands will be located outside Kingston and St. Andrew assist sound human settlement patterns and curb rural/urban drift

The Government of Jamaica has initiated a National Land Resource Database Project under which Land Information Systems will be created. This will be fed into a Geographic Information System (GIS) which, in the form of a Land Information System (LIS), will provide the basis for proper planning and sustainable land use. The Land Information System is being undertaken by the Office of Titles, the Survey Department, and the Land Valuation and Estates Department, and is to be completed by the end of 1998.

Commentary

It is well recognized that the legal, administrative, and institutional framework for integrated resource planning and management is in need of major reform. While a review and reform of land use planning is underway, by the Legal Component of LAMP, it appears that little attention is being paid to the connection of land issues with coastal zone

and watershed management issues. The protection and conservation of the environment generally, and more specifically of sensitive areas and scarce resources (including wildlife), appears to be a bottom priority of the review and the reform and may end up being marginalized.

The laws relating to land use, natural resource planning and management are particularly fragmented, inconsistent, and contradictory one with the other. The responsibility for land use, resource conservation and management is shared among too many agencies with competing, and conflicting, interests. Not only has this resulted in a lack of harmonization and coherency between laws and agencies, but it has resulted in a severe detrimental impact on Jamaica's natural resource base and environment, with telling ramifications for country's present and future generations. Indeed, the extreme fragmentation of the legislation, institutions, and administrative responsibilities pertaining to land use has led to equally extreme enforcement difficulties, including non-implementation, inaction and irresolution. A major problem is the lack of sewage treatment at a tertiary, rather than at the traditional primary (and largely ineffectual), level and the failure to synchronize water treatment projects with sewage treatment projects.

Recommendations

A number of recommendations were put forward to address the problems surrounding inchoate and conflicting land use and natural resources policies, laws and programs.

Overall it was recommended that all environmental considerations be taken into account when development projects are proposed and developed, by employing the full spectrum of environmental screening, environmental impact assessments (EIAs), monitoring, and other analytical tools. In particular it was recommended that:

(a) **Co-ordination and Harmonization in Land Use, and Resource Planning and Management**

- (i) A legal and institutional structure be set up to harmonize and co-ordinate all land use and natural resource management functions, drawing upon the experiences of other countries as and where appropriate;
- (ii) A comprehensive natural resource inventory and a national resource/land use policy for urban and rural areas be developed;
- (iii) New legislation to streamline or "sunset" existing laws and enhance the ability of regulatory agencies to enforce laws on natural resource management be developed and instituted.
- (iv) The National Policy and Plan for Integrated Resource Management ensure that all approvals, programs and projects relating to the use or management of natural resources are within the "carrying capacity" of the resource base and the environment.

(v) Full public consultation and participation be an essential part of all land use, environment, and natural resource management activities.

(b) Zoning, Planning, and Management of Industrial Zones

(i) Appropriate regulatory instruments and a comprehensive set of guidelines and standards for the siting, planning and management of industrial zones under the new National Industrial Policy be established, to ensure that industrial lands within and outside Kingston and St. Andrew are soundly based and contribute to curbing rural/urban drift and healthy human settlements, while respecting the environment.

(c) Registration of Land Title

(i) Legal and institutional structures be established to address existing impediments to the registration of land titles and interests in land.

(d) Implementation of the National Land Policy

- (i) A comprehensive legal and institutional framework be developed so as to provide a sound basis for the Land Information Management System and all subsequent resource planning, management, land use and development activities;
- (ii) Institutional reform for land administration and management, including the promotion of efficient, effective and more dynamic approaches to land use, planning, development and management include a fully transparent, participatory and consultative approach;
- (iii) Security in land tenure and title, and the creation of dispute resolution mechanisms, be established;
- (iv) Harmonized planning approval for built structures; and inspection of built structures conforming to building codes, be established;
- (v) Systems for the updating of land values on a regular basis, and measures for improving property tax compliance be set up;
- (vi) Parish Councils be given more powers and autonomy to use tax revenue for the provision and maintenance of social and infrastructure services in their respective parishes;
- (vii) A system of property tax relief for land-owners, especially the elderly and pensioners, experiencing genuine hardship in meeting their obligations be created;
- (viii) Sustainable fiscal measures and incentives to promote property development in the manufacturing sector be established, and to promote the preparation of forestry land use and action plans, including reforestation and regeneration of resources;
- (ix) Land divestment and acquisition procedures and mechanisms, plus transparent pricing formulae, be set up to ensure greater accessibility to, protection of rights in, and equity in land by men, women and youth.

(e) Building Codes

(i) Building inspection and approval systems be set up in other regions of the country, modelled on the *Kingston and St. Andrew Building Act* and its

regulations, standards, and codes of practice applicable to the construction of new buildings, or alterations to existing structures.

(f) Sewerage Treatment

- (i) High priority be given to the establishment of standards and codes of practice for the collection, treatment and discharge of sewerage; the establishment of fiscal structures to ensure that sewerage treatment will be done on a cost recovery basis; and the creation of user fees for all parts of the country.
- (ii) Specifically, Section 8 of the *Kingston Improvements Act* be amended.
- (iii) All future sewage treatment be undertaken at a tertiary level, rather than at the present primary level; that the apparent expanded costs of tertiary treatment be related to the costs to human health, the environment and natural resources depletion from the out-moded primary system of sewage treatment; and that the savings from the old primary treatment be redirected to tertiary treatment of sewage.
- (iv) All future potable water projects be developed in tandem with tertiary treatment of sewage.

Sources

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Chapter 6

Integrated Coastal Resource Management

Background

Jamaica's coastline is 885 kilometres long, is highly irregular, and contains diverse ecosystems, including bays, beaches, rocky shores, estuaries, wetlands, cays, sea-grass beds, and coral reefs. The country's coastal and marine ecosystems contribute substantially to the Island's fishing and tourism economies. Commercial fish farming in coastal areas has grown significantly since it began in 1976. By 1990 the total area devoted to aquaculture was over 810 hectares, producing approximately 3.4 million kilograms of fish. (See also: Chapter 7 on fisheries.)

Coastal areas typically have complex land use and ownership patterns, as well as overlapping jurisdictions of responsibilities for regulation and management. Coordination of both development and protection efforts involves numerous stakeholders, costs much in time and money, and is often weak and conflictual. Consequently there is generally inadequate control over development activities in the coastal areas. With 65% of Jamaica's total population living within 5 kilometres of the coast, and with the majority of development activities occurring in this band, the coastal areas are under extreme pressure from the many demands placed on them. Their physical environment is being altered rapidly to provide facilities for tourism and development.

Coastal mangroves, wetland areas and seagrass beds which provide breeding, feeding and nursery grounds for fish are being destroyed by uncontrolled and insensitive development, thereby causing major changes to coastal and marine ecosystems and the reduction of fish and fish catches. Beach and coastal erosion is thus accelerating, aggravated by the mining of sea sand. Jamaica's wetlands (mangrove forests and salt marshes) are being destroyed, and as their size steadily decreases, a corresponding decrease in fish and wildlife and increase in coastal erosion is occurring.

Coral reefs, home to a rich variety of sea life and a major tourist attraction, are suffering from the stress of - or even dying from - tourism, the dumping of raw or partially treated sewage by municipalities and ships, pollution from a variety of sources (including agricultural run-off and pesticides), and sedimentation due to deforestation and misuse of the watersheds. As the reefs suffer so does Jamaica's rich sealife, resulting in a decrease in fish catches by artisanal fishers and a loss of marine biodiversity.

Rivers and coastal areas are at the receiving end of chemicals, sediment, sewage and garbage released on the land. In many instances the integrity of coastal areas is irreparably damaged by reclamation and dredging activities. Over the past decade there has been a noticeable degradation of Jamaica's 93 public bathing beaches. Both recreational and

fishing beaches have been fouled by the pileup of refuse, debris and fish offal, as well as by occasional offshore and nearshore oil spills. The country's best beaches have been taken over, and maintained, by hotels for their own exclusive use, but this has created a resentment towards the hotels and tourism among the general public. In addition to these problems, the prospect of an increase in sea level due to global warming and climate change worries many Jamaicans, who forecast a range of serious environmental problems with major implications for the country's social, economic and physical infrastructure.

Overview of Legal and Institutional Framework

Jamaica has signed a number of international and regional treaties or agreements relating to coastal zone conservation or management (See Annex 3.). Some are:

- (a) *United Nations Convention on the Law of the Sea*;
- (b) *Convention on the Territorial Sea and Contiguous Zone*;
- (c) *Convention on the Continental Shelf*; and,
- (d) *Convention on the High Seas*.

Jamaica has maritime boundaries with six other nations, namely Cuba, Colombia, Haiti, Honduras, Nicaragua and the Cayman Islands/United Kingdom. Maritime boundary delimitation agreements have been concluded with Cuba and Colombia, and are ongoing with the United Kingdom in respect of the Cayman Islands. Under the terms of the agreement with Colombia, a joint management agreement area has been established around the Baja Nuevo and Seranilla Banks and the Alice Shoal. Within this area a joint commission has been established to elaborate on how to carry out jointly marine scientific research and the conservation of living resources. Under the agreement, both parties are entitled to exploit living marine resources in the joint regime area, but cannot authorize other states or their vessels to carry out such activities.

In accordance with the United Nations Convention on the Law of the Sea (UNCLOS), Jamaica's Exclusive Economic Zone (EEZ) has been established at a distance of two hundred nautical miles from the foreshore under the *Exclusive Economic Zone Act*. Within the EEZ, all rights in the following are vested in the Crown:

- (a) the exploration, exploitation, conservation, protection and management of natural resources, whether living or non-living;
- (b) the economic exploration and exploitation of the area;
- (c) the construction, operation and maintenance and use of artificial islands, installations and structures;
- (d) the authorization, regulation and control of scientific research and the recovery of archaeological or historical objects; and,
- (e) the preservation and protection of the marine environment, and the prevention and control of marine pollution.

The Act requires that licences be issued for undertaking the exploration or exploitation of any living or non-living resources within this area, and grants powers to Marine Officers to carry-out inspections, the boarding of vessels and the seizure of vessels, gear or equipment to enforce the Act.

The *Maritime Areas Act* (1996) replaced The *Territorial Seas Act* which originally established for Jamaica a 12 mile territorial sea (in accordance with the 1958 Geneva Convention on the Territorial Sea and Contiguous Zone). The *Maritime Areas Act* confirmed Jamaica's status as an archipelagic state through the establishment of archipelagic baselines (straight baselines joining the outermost points of the outermost islands and drying reefs of the archipelago of Jamaica). Subsequently, this allowed the breadth of the territorial sea to be measured from those archipelagic baselines.

The Act also established a contiguous zone within which the Crown has the vested interest and jurisdiction to take measures to prevent the infringement of customs, excise, immigration or sanitation laws. The Crown's powers are further strengthened by Section 3 of the *Minerals (Vesting) Act*, which vests all minerals in, on, or under any land or water, whether territorial waters, river or inland sea, in the Crown and makes them subject to the control of the Crown.

As noted in Chapter 5, the *Town and Country Planning Act* establishes policies and controls over the development of urban and rural areas and their land use. The Town and Country Planning Authority approves Development Orders, many of which are applicable to coastal area towns, such as Montego Bay, Ocho Rios, St. Ann and Negril, Portland and Kingston. The Town Planning Department advises local authorities on applications for subdivisions, changes of use, and building activities. The *Town and Country Planning Act* regulates changes in land use which take place on, or in, under or over land. During 1996, a total of 102 subdivision and building applications were submitted to the NRCA through the Town Planning Department - 25% were within the coastal zone (i.e. within 3 kilometres of the shoreline).

As further detailed in Chapter 5, the Town Planning Department (the TPD) sends development plans to the NRCA for an EIA and, in turn, the Authority sends development plans to the TPD for zoning and land use advice. The NRCA has powers to put in place mechanisms for the effective management of the physical environment so as to ensure the conservation, protection and proper use of its natural resources, including those of Jamaica's coastal waters and rivers. The *Natural Resources Conservation Act and its various Regulations, Guidelines, etc.* give the NRCA the power to invoke permitting, licensing, guidelines and codes of practice in most aspects of the environment. The new Permit and Licencing System came into effect in January 1997 and is now applicable to the whole island, which could benefit the coastal zone areas. The *Local Improvement Act* gives an opportunity to Parish Councils, in consultation with the NRCA, to impose special conditions for the protection of coastal areas and their resources (See: Chapter 5 for more details.).

During 1995-1996, the NRCA prepared Guidelines for dredging, marinas and small craft harbours, benthic structures, coastal protection and enhancement structures, and underwater pipelines and cables. These, in combination with the new NRCA Permit and Licence system and pending manuals, will help to reduce the negative impacts of coastal development.

The Guidelines are:

- *Mangrove and Coastal Wetland Protection: Draft Policy and Regulation*
- *Guidelines for the Planning and Execution of Coastal and Estuarine Dredging Works and Disposal of Dredged Materials*
- *Guidelines Pertaining to Marinas and Small Craft Harbours*
- *Guidelines for the Deployment of Benthic Structures*
- *Guidelines for the Planning and Execution of Coastal Protection and Enhancement Structures*
- *Guidelines for Construction, Maintenance, and Monitoring of Underwater Pipelines and Cables in the Coastal Zone*
- *Manual for Integrated Coastal Planning and Management in Jamaica*
- *Coral Reef Protection and Preservation Policy and Regulation (Draft)*
- *Mariculture Policy and Regulations (Draft)*
- *Beach Policy: A Policy for the Use of the Foreshore and the Floor of the Sea (Draft).*

Rights in the foreshore and the floor of the sea are vested in the Crown under the *Beach Control Act*. Section 4 permits an owner or occupier of land to use any foreshore area for private domestic purposes, but prohibits the use of the foreshore by commercial enterprises without first obtaining a licence from the NRCA. The Act vests responsibility in the NRCA for the development and inspection of (recreational, public) beaches to ensure adherence to safety and cleanliness standards, and for protected areas and their management. The Act empowers the NRCA to restrict or prohibit activities, such as fishing, waste disposal, dredging and the removal of coral, in such areas. The Act provides for the establishment of a national policy for the management of the island's beaches.

Several Regulations have been gazetted under the Act, including the *Beach Control Act Regulations (1978)* which regulates hotel, commercial and public recreational beaches, beach activities, and the care of beaches. The *Beach Control (Protected Area - Montego Bay) Order*, the *Beach Control (Protected Area - Port Royal) Order*, and the *Beach Control (Protected Area - Ocho Rios) Order* declare Montego Bay, Port Royal and Ocho Rios as protected areas. The *Beach Control (Black Coral) Order (1976 and 1979)* serve to protect black coral. Meanwhile the *Morant and Pedro Cays Act* establishes licensing conditions in the Morant and Pedro Cays, and prohibits unauthorized fishing and the removal of birds and turtles. The Act controls access to and exploitation of the Cays and their resources, especially turtles and the eggs of Booby terns. The Act prohibits fishing, and the slaying and capture of birds and reptiles.

The *Harbours Act* authorizes the Port Authority to declare, establish or alter the boundaries of, harbours. The Marine Board, which is composed mainly of Port Authority officers, is empowered to regulate and control Jamaica's harbours, and their shipping channels. The Act prohibits the discharge of rubbish, earth, stones, ballast, mud, oil or oily mixtures (or its residues) into any harbour or shipping channel. It also creates an offence for the digging up or carrying away of stones, sand or ballast from any reef or breakwater that protects a harbour. Under the *Port Authority Act*, the Marine Division of the Port Authority regulates the construction of structures on or over water, which must be approved by the Marine Division, after approval by the Engineering Department.

An inventory of marine and coastal resources and conditions has been underway since 1995. This is expected to provide preliminary baseline information for coastal zone management and development decisions. A Coastal Zone Resource Atlas and a working computerized Geographic Information system (GIS) database should shortly be completed. Additionally, the South Coast Conservation Foundation has completed a Coral Reef Baseline Study as part of the Management Plan for Portland Bight. An island wide coral reef monitoring program is being undertaken by the NRCA in partnership with hotels, water sports operators and selected non-government organizations (NGOs), such as the Montego Bay Marine Park Association.

Commentary

The legal and institutional framework for integrated coastal zone management in Jamaica is very fragmented, inconsistent and incomplete. Government departments and agencies, as well as the private sector, are often in competition or conflict with each other over their differing roles and interests. Although Jamaica is an archipelago, land and development issues have often been treated as more important than, and even separate from, water and coastal issues. And, the importance of the richness and variety of the seawater resources has not always been fully appreciated resulting in inadequate policy, legal, institutional and financial support for initiatives to conserve those resources and keep them sustainable for the future.

The Town and Country Planning Act, as one example, has not taken an integrated or holistic approach to land issues and coastal zone areas by addressing the links to or relationships between the land, watersheds and coastal areas. Yet its overall impact can be felt substantively and significantly in the coastal zones (and watersheds). Despite on-going discussions about the importance of sustainability and integration, the reality is that land is kept separate from coastal zone areas and those are regarded, on the whole, as separate from watersheds and other ecosystems. Laws in the past were not integrative in approach. But today much of the new legislation and proposed law reform (especially in the land use area) is still not integrative. Each sector is treated as separate and isolate from the other, and thus neither integrative nor sustainable in the long run.

Recommendations

Much needs to be done in the near future if the country's invaluable coastal zone resources are not to be irreparably damaged or destroyed. First and foremost, all coastal development activities should be within the "carrying capacity" of the resources of the coastal zone area and the "precautionary principle" should be applied. Furthermore, it is recommended that:

(a) International Conventions

(i) Joint management agreements with neighbouring states, on a bilateral and/or regional basis, be negotiated, to provide for the conservation and management of living and non-living resources, drawing on the experience and terms of the Maritime Boundaries Agreement with Colombia.

(b) Integrated Coastal Resource Management

(i) A review and analysis be undertaken to ascertain if a broad-based Coastal Zone management Act should be developed and drafted, which would take into account linkages with other key environmental and natural resources laws (viz. fisheries, forests, watersheds, land, etc.);

(ii) In conjunction with (i), a broad-based policy and law consultation be undertaken on the need to define the coastal zone more broadly given Jamaica's reality as an archipelagic entity (to include the influence of the land on the coastal zone, the correct definition of coastal zone in terms of geographic concepts and distance, etc.);

(iii) Legislation be established to empower key agencies to move forward as expeditiously as possible in expanding the comprehensive inventory (started in 1995) of marine and coastal resources and conditions, so as to provide on-going baseline information for coastal zone management and development decisions, now and in the future;

(iv) Approvals for development activities be co-ordinated between agencies, with clearly defined goals and standards;

(v) Legislation to implement and enforce the NRCA's Integrated Management Plans put in place, and its Coastal Atlas;

(vi) Sound legal and institutional structures be established to provide for the immediate:

- * protection and conservation of mangroves;
- * protection and conservation of coral reefs;
- * protection, conservation and use of sand and beaches (in conjunction with this, the recent Draft Beach Policy should be reviewed to ensure that it benefits local Jamaicans and not only tourists or hotel operators, and that it actually protects the beaches from developmental degradation);
- * total watershed management, which addresses the relationship of the watersheds with wildlife, beaches, mangroves, coastal areas, etc.;
- * control on development in coastal areas;
- * regulation of dredging and reclamation activities;
- * regulation of dumping and discharges in coastal areas;
- * control on underwater pipelines, cables and structures.

(vii) The role of the Fisheries Department regarding coastal zone management and its planning, coordination, networking, etc. be clarified and better defined, to

ensure the protection and enhancement of both the coastal zone area and fishery resources.

(viii) The role of the Council on Oceans and Coastal Zone Management be clarified and defined, and its leadership in terms of (i) and (ii) above be considered for future action as well as with respect to the development of an Integrated Coastal Zone Management Policy that integrates land, fisheries, watershed and CZM concepts.

(ix) The role and involvement of local planning authorities and parish councils, as well as NGOs/CBOs and the general public (viz. fishers, divers, etc.), be strengthened and formalized.

(c) Economic Instruments

(i) The revenue generated from beach licences and (user) fees, and a portion of tourism taxes collected for the use of coastal resources, be allocated to coastal rehabilitation, protection and management projects undertaken by government, private sector and the community; and that the use of such revenues be transparent and accounted for by instituting proper accountability mechanisms.

(ii) Guidelines and standards be developed and implemented, for the siting, construction, development and operation of tourism facilities in the coastal area.

(iii) Legal and tax structures be established to facilitate the creation, operation and administration of community-based, revenue-generating coastal zone conservation projects and programs.

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Chapter 7

Sustainable Fisheries Resource Management

Background

Jamaica's archipelagic waters, which include the Morant Bank and most of the Pedro Bank, cover an area of approximately 12,000 square kilometres, while the country's exclusive economic zone (EEZ) covers approximately 275,000 square kilometres. In the north-east, a number of small banks traditionally used by fishermen, are included in the exclusive economic zone.

Fisheries in Jamaica can be divided into three main sectors, namely:

- (a) a large small scale commercial and artisanal sector;
- (b) a small, economically significant commercial fishery for conch and lobster; and
- (c) a small commercial sport-fishing sector associated with tourism and a limited recreational fishery.

It is estimated that the artisanal fishery consists of some 20,000 fishermen operating from a large number of scattered sites and fishing the coastal shelf. Most of the catch from this fishery is sold fresh for domestic consumption.

In 1996, the finfish catch was estimated to be about 114,500 metric tons. Conch harvesting has been regulated since 1993, and the 1996 catch was slightly below the 1.8 million kilogram quota that had been set. Quotas will be reduced annually until the estimated sustainable yield of 1.5 million kilograms is reached. The 1994 production of lobster amounted to 214 tonnes (tail weight) with some 174 tonnes of this exported at a value of US\$3.9 million.

Jamaica's marine environment is notoriously overfished. In fact, the *CARICOM Fisheries Resource Assessment and Management Programme* (CFRAMP) has declared Jamaican waters to be the most overfished in the English-speaking Caribbean. Developments in fishing technology have resulted in overfishing on the inshore and offshore banks. Fish catches have also been reduced due to changes occurring to the coastal and marine ecosystem from land-based development activities, and through the use of such unsustainable fishing practices as fine fish nets, dynamite and poison.

Although the conservation and protection of the marine environment is - and should be - of the utmost national importance, only two fish sanctuaries have been designated to date - one at Bogue Lagoon in Montego Bay, and the other at Bowden in Morant Bay.

Overview of Legal and Institutional Framework

Jamaica is a signatory to the following international conventions relating to the conservation and management of fishery resources (See: Annex 3.):

- (a) *United Nations Convention on the Law of the Sea (UNCLOS)*; and
- (b) *Convention on Fishing and Conservation of the Living Resources of the High Seas*.

As noted in Chapter 6, Jamaica has a Maritime Boundaries Agreement with Colombia, which provides for a joint management area around the Baja Nuevo and Seranilla Banks and the Alice Shoal. Through its *Exclusive Economic Zone (EEZ) Act*, in accordance with UNCLOS, Jamaica has established an EEZ area of two hundred nautical miles. The Act vests in the Crown, inter alia, all rights to the exploration, exploitation, conservation, protection and management of natural resources, whether living or non-living, and the preservation and protection of the marine environment (including from pollution). As well the *Maritime Areas Act* (1996) confirms Jamaica's status as an archipelagic state and establishes a contiguous zone within which the Crown has the jurisdiction to take measures to preventing the infringement of any laws relating to customs, excise, immigration or sanitation.

The present *Fishing Industry Act* provides for the licensing of all fisherpersons and fishing vessels operating in Jamaican waters. The Act also provides for the protection of the fishery by establishing closed seasons, the creation of fish sanctuaries, and penalties for the landing and sale of illegally caught fish. The Fisheries Division, within the Ministry of Agriculture and Mining (MAM), is responsible for the administration and enforcement of the Act. It monitors and enforces activities within the industry. The Act has been revised, but changes have not yet been implemented. The *Fishing Industry (Fish Sanctuary) Order* (1979) declares certain areas as fish sanctuaries, and the *Fishing Industry Regulations* (1976) provides a regulatory framework for the fishing industry.

The Fisheries Division, with a staff of 44, regulates and monitors the harvesting of fish resources, promotes fish farming, and manages two Fish Sanctuaries. In 1995, the Fisheries Division established a quota system for the management of conch, once plentiful and now an endangered species. A similar system is being prepared for the management of lobsters, turtles and crocodiles - all under great stress. Fisheries research, to assess the status of fish stocks on the Alice Shoal and their potential for sustainable exploitation, has been completed jointly by the Fisheries Division and Colombia in the shared exclusive economic zone (EEZ) of both countries.

The *Morant and Pedro Cays Act* establishes licensing conditions in the Morant and Pedro Cays, and prohibits unauthorized fishing or the killing and removal of birds, turtles and reptiles. The Act controls access to and exploitation of the Cays and their resources, especially turtles, but, due to lack of adequate funding and enforcement staff, this has not stopped the illegal killing of such species.

A draft *Fisheries Bill* has been developed which, upon adoption, would repeal both the *Fishing Industry Act* and the *Morant and Pedro Cays Act*. Its intent is to produce a comprehensive legal framework for:

- (a) fisheries management through fishery-specific management plans developed in consultation with resource users;
- (b) licensing all fishery activities, including detailing the terms and conditions to be attached to licences;
- (c) conferring upon the Minister for Fisheries powers to establish conservation and management measures;
- (d) giving the Minister for Fisheries powers to regulate aquaculture, and to control or prohibit the importation of live fish;
- (e) establishing the powers and duties of authorized enforcement officers and observers: and,
- (f) establishing methods for evidentiary proof of illegal activities and suitable penalties for offences.

It is proposed that the new Act be supported by Regulations which would detail the provisions needed for the licensing and permit process and the implementation of conservation measures.

The NRCA is working with PEPA in Portland, Friends of the Sea in Ocho Rios, and the Negril Coral Reef Protection Society on the designation of fish sanctuaries in Port Antonio, Ocho Rios, Negril and Port Royal. The proposed fish sanctuaries are to be developed within the confines of the Marine Parks in those areas once they are set up.

Commentary

As with coastal zone management and watersheds, the legal and institutional framework for sustainable fisheries management in Jamaica is fragmented, piece meal, and fails to address a number of key issues on a sectoral and cross-sectoral basis.

Apart from conservation measures establishing minimum size limits and prohibiting the taking of berried female lobsters, no management measures are in place for the lobster fishery. The once plentiful conch have been unsustainably harvested, resulting in conch being placed on the CITES' Annex II species list. The sport-fishery is completely unregulated. Aquaculture is inadequately monitored, inspected, and controlled. "Alien" or "exotic" species are being brought into Jamaica waters with devastating impacts on indigeous fish. Over-fishing, often by off-shore "factory ships" from foreign countries, has reduced the catch of many species Jamaicans used to rely on for protein and raised the price of existing fish.

The new Fisheries Act should help to counteract some of the problems noted above by the participants and interviewees, but it must be reviewed - and, if necessary, strengthened - to ensure that it does not miss out or neglect any crucial area; it must be promulgated

expeditiously; and it must be backed up by political will and funding to ensure that it is vigorously implemented and enforced. It should also be reviewed and assessed in light of other existing or pending policies and legislation (land, CZM, beaches, watershed, etc.) to ensure that neither it nor they contradict or undermine each other.

Recommendations

To ensure the protection and conservation of its rich marine resources and biodiversity, and to facilitate action in this area so important to Jamaica's well-being, it is recommended that:

(a) International Conventions

(i) To consolidate action already taken and support its own legislation, Jamaica consider becoming a party to the following international conventions or agreements relating to the management of fishery resources or fishing activities in the immediate future:

** Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks;*

** International Agreement to promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas; and,*

** International Convention for the Safety of Fishing Vessels.*

(ii) To give effect to such international agreements, Jamaica establish the legal and institutional structures to implement "flag state" responsibility (viz. licensing and marking of fishing vessels, fishing vessel safety, monitoring of vessels' fishing activities, adequate enforcement powers and funding, etc.);

(iii) Jamaica negotiate joint management agreements with other nations in the Region, for the conservation and management of fishery resources in the Region. (Regional fishing agreements developed by some small island developing states in the South Pacific Region and in the Indian Ocean Region might serve as useful models.)

(b) Sustainable Fisheries Management

(i) The new Fisheries Act be promulgated as expeditiously as possible, keeping in mind other policies and pending legislation (watershed policy, beach policy, coastal zone management, etc.), and keeping in mind the need to incorporate the "precautionary principle" into its thrust;

(ii) The preparation, adoption and implementation of a comprehensive National Fisheries Policy and Management Plan be undertaken, along with the necessary institutional strengthening and deployment of sufficient financial and human resources, to ensure that the Fisheries Act is fully implemented and monitored, that the country's fishery is soundly and sustainably managed, and its use is within the "carrying capacity" of both the resource and the marine environment;

- (iii) A comprehensive inventory of fishery resources be funded and undertaken so as to provide sound information for making decisions about the conservation and management of marine resources;
- (iii) The "precautionary principle" be incorporated into all fisheries planning, conservation and/or management and that it be taught to and implemented by staff throughout all key agencies;
- (iv) The use and exploitation of marine resources not exceed the optimum sustainable yield (OSY) or carrying capacity of the resource, and that this concept also be taught to staff of all key agencies and to ENGOs and persons living off the sea;
- (v) The broadest-based public consultation and participation in all fisheries policy-making, management and monitoring activities occur; and,
- (vi) Regular and systematic coordination be undertaken with other government bodies or agencies, such as Forestry, LAMP, Agriculture, Ministry of Environment and Housing, etc., and with NGOs/ENGOs/CBOs.

(c) Marine Parks, Fish Sanctuaries, and Protected Areas

- (i) The planned, comprehensive system of marine parks and protected areas be based on sound ecological principles, guided by trained and knowledgeable management, and be expedited before the resources disappear;
- (viii) Where resources are not sufficient, set up a system of MOUs (memoranda of understanding) with ENGOs/NGOs to move forward with the fast implementation of marine parks and fish sanctuaries, and to resolve overlaps or duplication with other stakeholders and/or government bodies.

(d) Management of the Artisanal Fishery

- (i) To provide for better management of the artisanal fishery, legislation be developed for the creation, management and operation of fishermen's/ fisherwomen's co-operatives, with powers to promote sustainable management of fishery resources, and ensure compliance with safety regulations.

(e) Licensing and Monitoring of Fisheries

- (i) Legislation for the licensing and monitoring of existing fisheries, especially the conch fishery, be developed;
- (ii) A system be set up for verifying the compliance of exporters with Jamaica's commitments under the *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)*, and for establishing penalties/charges for harvesting conch, with such charges being placed in a marine species protection fund.. (Conch is listed under *CITES* as an Annex II species for which permits are required prior to export.)
- (iii) A system be set up for the licensing of vessels used to harvest lobsters, for developing an inventory of lobster resources, and the establishment of a management plan using broad-based consultation and participation.
- (iv) A system for the licensing and monitoring of the sport-fishery be set up,

including the collection of data and information concerning the types and volumes of fish species caught (or tagged and returned), and that the sports fishing and diving industries be encouraged to develop fishing standards and criteria along with government and ENGOs/NGOs.

(v) A system for the licensing and monitoring (through on-board observers) of foreign fishing vessels operating within Jamaica's EEZ be established.

(vi) All licensing, monitoring and data-collection schemes be developed and established on a cost recovery basis, with generated revenues being placed in a specific fund for the conservation and protection of marine resources and their environment.

(f) Fish Processing

(i) A legal and institutional regime be set up to exercise greater control over fish processing to ensure the maintenance of quality and health standards for both domestic consumption and the export market;

(ii) Better inspection and sanitation standards, better implementation and enforcement, and improved training of enforcement officers or inspectors be established.

(g) Aquaculture Development

(i) Legislation be enacted to regulate the introduction of live alien species by the aquaculture industry, to prevent the unintentional introduction of organisms or species harmful to the marine environment or to indigenous fish.

(ii) Guidelines and standards be established to regulate waste management and the flushing of tank areas, prevent the spreading of disease to surrounding marine areas, and ensure aquaculture activities do not impact negatively on the marine environment.

(h) Economic Instruments

(i) A system of user fees be set up, within the context of the various regulatory frameworks, to provide financial support to community-based and/or ENGO/NGO initiatives aimed at the designation and management of marine parks and fishery sanctuaries, and overall protect and conserve marine resources at sustainable levels;

(ii) A system of tourism fees be set up, adapted to and graduated to the particular marine activity engaged in, with such fees being placed in a marine protection and conservation fund that is subject to transparency and accountability by an independent body;

(iii) A system of "differential pricing" and valuation be set up for products and processes "friendly" to the environment and for products and processes "unfriendly" to the environment (viz. small mesh nets, spearguns, certain seafoods, products based on the exploitation of or cruelty to animals and animal-testing, the excessive use of certain types of chemicals, etc.)

Sources

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- *Jamaica National Environmental Action Plan*. Ministry of Environment and Housing/Natural Resources Conservation Authority. June 1997.
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- *State of the Environment Report - 1997*. Natural Resources Conservation Authority. 1997.

Chapter 8

Sustainable Water Resource Management

Background

Jamaica's freshwater resources come from surface sources (rivers and streams), underground sources (wells and springs), and rainwater harvesting. About 80% of Jamaica's present water resources lie underground, hence catchment areas appear to be less used today than in the past. Total reliable safe yields are estimated at 4,084 million cubic metres per year, with the yield for surface water being 655 million cubic metres, and groundwater 3,418 million cubic metres (or about 81% of the total). Approximately 96% of all available groundwater is associated with limestone aquifers, and the remaining 4% with alluvial aquifers. Of this amount, only 11% of the surface water and 15% of the groundwater is presently utilized.

The Island of Jamaica has 26 watersheds, divided into 26 watershed management units consisting of approximately one hundred streams. In reality, these are river basins within 10 hydrological regions demarcated mainly by the water resources agencies. The upper part of the watersheds, except the limestone areas, is characterized by steep slopes with half over 20 degrees. Limestone soils cover about 65% of the watersheds and the remaining are composed of a mix of soils. Because of steep slopes, thin or erosive soils, heavy and high intensity rains in the upper watersheds, soil erosion, landslips and slope failures are very common. These natural conditions are aggravated by the mis-use of slopelands, including indiscriminate, poor soil conservation measures, rampant forest removal and tree-burning, improper construction and maintenance of roads, uncontrolled grazing, and poorly regulated mining and quarrying activities. Nearly 200,000 small farmers are dependent on watersheds for their living.

Deforestation, poor land use and construction practices in the watersheds have changed the flows of rivers, accelerated soil erosion, and caused the siltation of reservoirs and damage to water treatment works. Of the 26 newly defined Watershed Management Units, a total of 19 have been declared as critical (i.e. they have been found to be very degraded and in need of urgent remedial work to return the watershed to an acceptable state). Land that should have remained forested (including within the Forest Land Reserves) has been cleared for uses not compatible with soil and water conservation.

Sewage effluent and industrial waste are contaminating surface waters and aquifers at an increasing and dangerous rate. An estimated 104.3 million cubic metres per year of underground water have been abandoned as water supply sources because of pollution or saline intrusion. An additional 241.2 million cubic metres per year of underground water have been affected to some extent, but continue to be supplied for restricted use only. Saline intrusion, which has primarily resulted from over-pumping of groundwater, has

affected 265.4 million cubic metres per year of underground water supplies in Clarendon and St. Catherine. Pesticides, herbicides and fertilizers used on coffee and sugar plantations, and even for golf courses, have contributed, and will continue to exacerbate, the levels of pollution entering the watersheds and underground waters.

Generally the chemical quality of water sources is said to be good and to meet World Health Organization (WHO) and Jamaica Interim Standards (JIS). Groundwater in the limestone areas is more prone to bacteriological contamination than in the alluvial deposits, although in areas such as the Liguanea Plains groundwater shows elevated nitrate levels (exceeding 10 parts per 1000), resulting from contamination by sewage seepage from soakaway pits. In 1995, 85% of the population received treated water. However, the quality of piped water is not always safe or acceptable. In 1996 out of the total samples tested for faecal coliform, 24.5% were positive, which would seem to contradict the WHO and JIS findings.

A high proportion (60%) of treated water is lost through illegal connections and leakages. In 1996, leakages from domestic water supply systems were estimated to be between 30% and 40%. Furthermore, it is estimated that about 85% of the existing capacity of non-agricultural waterworks is in need of rehabilitation.

Water pollution resulting from discharges by industrial, mining and agricultural activities continues to threaten existing water resources. If the pollution and loss of the country's water resources is permitted to continue, Jamaica's traditional position of having surplus water could be reversed. Projected increases in water use by the agricultural sector tend to indicate that water shortages will occur by the year 2015, if not sooner given droughts, in the Rio Cobre Basin, the Rio Minho Basin, and in the Kingston and St. Andrew Basin. No system appears to be in place to encourage householders and landowners to prepare and keep rainfall catchments.

Overview of Legal and Institutional Framework

The Water Resources Authority (WRA) was established under the 1995 *Water Resources Act*, and replaced the earlier Underground Water Authority. The Authority regulates, allocates, conserves, and manages Jamaica's water resources (Section 4). The WRA also:

- *gathers data on streams flow, surface water quality, and other hydrological features;
- *provides advice to developers and other government agencies on matters related to water supply and protection;
- * has primary responsibility for ground water quality assessment and risk mapping; and,
- *plays a key role in flood-plain mapping inaction.

The Act establishes the Water Resources Advisory Committees, which advise the Minister on matters of general policy relating to the management, development, conservation and use of the water resources of Jamaica; and on matters relating to the Water Master Plan

and Water Quality Control Plans. (Section 16 of the Act requires the WRA to prepare and submit to the Minister for approval a National Water Resources Master Plan, to be developed through broad-based consultation. The draft Master Plan is to:

- (a) identify, describe and inventory the occurrence, quantity, availability and quality of water; the current use of water; and the activities which are dependent on, affected by, or related to water and its use;
- (b) identify objectives for the development, conservation and use of water resources in Jamaica;
- (c) identify and describe projected needs for water and recommend projects, programs and plans to be undertaken for the development and management of water resources;
- (d) indicate water quality objectives; and
- (f) indicate and evaluate how the proposed Master Plan is to be implemented.)

(Part III of the Act imposes the requirement to obtain a licence for the abstraction of water, or to construct any works for the abstraction of water. It lets the WRA deal with surface water and underground water as one source of supply for the purpose of abstraction (Section 29). Sections 30 and 31 allows the Minister to declare an emergency area (affected by drought), and provides the Authority with powers to satisfy the public's priority water needs in such areas.)

(Part IV provides for the control and protection of underground water, and control over the drilling of wells, including the licencing of all well drillers. Section 37 makes it an offence to waste underground water from wells. The Authority is empowered to determine the safe yield of any aquifer to determine abstraction rates, and to impose special requirements and restrictions on artesian wells (Section 38). Part V provides for the control of water quality, and empowers the WRA to declare and manage "Water Quality Control Areas" for the protection of water resources, including drawing up Water Quality Control Plans for such areas. The *Water Resources Regulations* establishes the procedures for the issue, variation and revocation of water extraction licences.)

The *National Water Commission Act* establishes the National Water Commission (NWC) as a corporate body to co-ordinate the Island's water supply system. The Commission is also empowered to construct, extend or maintain sewerage systems. However, the symbiotic relationship between water and sewage issues tends to be ignored by the various water resources and sewage infrastructures or institutions. Rather water resources and sewage issues are often treated as separate entities, rather than as as interacting, interrelated issues. This situation may be remedied once the water and sewage sub-sectoral policy now being drafted is finalized and promulgated into law. At this point it is not clear as to what this draft policy will cover and whether it will advocate, among other matters, that a supply/demand water/sewage analysis be undertaken before building permits are issued for land development or sub-divisions.

Although it can be said that the whole of Jamaica is a watershed, nevertheless the *Watershed Protection Act* is designed to "protect watersheds and their adjoining areas" to ensure the conservation of water resources. The Act confers upon the NRCA the duty to promote the conservation of water resources and to institute measures necessary for the protection and management of watershed areas and adjoining areas.

The *Flood-Water Control Act* empowers the Minister to declare flood areas as "flood-water control areas" requiring control schemes. Any Government department, agency or statutory body can be made responsible for the implementation of a flood-water control scheme under the Act. (Section 5 requires every flood-water control scheme to provide for the establishment, construction and maintenance of all flood-water control works necessary to control or

defend against flood-water. Part III gives powers to designated agencies to implement approved flood-water control schemes, including the powers to enter any land, alter or regulate any watercourse, clean or clear any watercourse, provided permission of affected land-owners is obtained (except in cases of emergency). Section 12 provides for compensation payments to affected land-owners arising from damage from carrying-out any flood-water control scheme.)

The *Irrigation Act* establishes powers to declare "irrigation areas" and irrigation authorities. Section 6 of the Act empowers irrigation authorities to:

- (a) drain irrigation areas, or alter or regulate any watercourse in such areas;
- (b) make, maintain or remove any waterworks; and
- (c) clean any watercourse.

(Section 7 empowers the Authority to require any land owner to make, maintain or clean any drain. Part II empowers the Authority to establish irrigation schemes, and to withhold the supply of water from any scheme (section 21). Section 38 creates an offence to block, damage or obstruct any watercourse, drain or waterworks, while Section 39 makes it an offence to waste water or unlawfully remove water, to tamper with waterworks (Section 42), or to construct a well or borehole in an irrigation area without a permit (Section 46)).

In a move to address unsustainable forestry practices which were impacting upon watersheds and water resources, the Government of Jamaica both passed the *Forests Act* and completed work on the Forestry Land Use Policy in 1996. A Watershed Management Policy is currently being developed. Section 23 of the *Forest Act* empowers the Minister to declare any Crown Land to be a protected area if necessary for:

- (a) protection against storm, winds, rolling stones, floods and landslides;
- (b) preservation of soil;
- (c) prevention of the formation of ravines and torrents;
- (d) protection against erosion or deposits of sand, stones or gravel; and
- (e) maintenance of water supply in springs, rivers, canals and tanks.

The Act empowers the Minister to establish Regulations to regulate activities within any designated protected area (Section 23 (3)). Part Establishes powers relating to enforcement, and creates various offences pertaining to forest reserves, forest management areas and protected areas.

The *Black River (Upper Morass) Reclamation Act* establishes a Board whose duty is to keep the Black River clean (Section 9). It can require landowners to clean any watercourse along the River that adjoins their property (Section 12). Sections 25, 26 and 27 establish powers to address obstructing the watercourse by vegetation and refuse, impeding navigation, and damaging the River's banks. The Act provides for the Black River Drainage and Irrigation Board to effect management measures for the watercourse, and to implement various schemes (e.g. imposing and collecting rates).

The *River Rafting Act* establishes a River Rafting Authority which is empowered to regulate and control river rafting undertaken for hire or reward. It can make regulations to give effect to the Act, including those pertaining to obstruction of any river on which river rafting is operated. The River Rafting Authority is presently working to amend the *River Rafting Act* to include environmental guidelines.

The *Parishes (Water Supply) Act* grants Parish Councils authority to construct water works, and empowers Councils to acquire land for the purpose of any waterworks. Section 22 authorizes the Councils to sell water for rates. The Act creates an offence to damage (Section 38), or tamper with water works (Section 40)

Local government's involvement in physical planning and environmental management takes place primarily through the operations of the Parish Councils. Parish Councils function as the local health boards and as the local planning authorities. Physical planning and environmental management functions and programs of the Parish Councils include land use planning and development, maintaining public bathing beaches and monitoring bathing water quality, protection of watershed areas around local water sources, and assisting central government agencies in general environmental monitoring. The Ministry of Local Government (MLG) acts mainly to set policy, provide funding, and monitor activities of the Parish Councils. It does not appear to deal with water issues, and the *Local Improvement Act*, which applies to development sub-divisions, likewise appears not to be concerned about water though it issues building permits for sub-divisions.

For the most densely populated parish, the *Kingston and St. Andrew Water Supply Act* provides for the establishment, protection and maintenance of water supplies to the main urban area of Jamaica. As set out in Chapter 5, Section 3 gives the Commissioners, appointed under the *National Water Commission Act*, broad powers in a number of areas, including in being able to establish and construct dams, reservoirs, pipes, machinery and other works to take, collect, use, divert and distribute the waters of the local rivers.

Section 48 of the *Mining Act* provides that no public water may be dammed, diverted or in any way interfered with during mining activities without the consent of the Minister. Section 49 prohibits the pollution of any public water supply by any person involved in mining or exploration activities. Such activities are deemed offences. As well, water rights can be granted where access to and use of water is needed for any mining operation (Section 50). The Act sets up a mechanism whereby government can be compensated for the loss of water resources polluted by mining and its operations. Under the *Quarries Control Act*, a licence for quarrying operations can be refused if adverse effects on the water table or surface drainage patterns are likely. These two Acts do not appear to address the impacts of mining, quarrying, and sand mining or quarrying on water, as well as on the coasts, watersheds and soil. Nor do they work in concert to address these related problems.

Section 22 of the *Petroleum Act* empowers the Minister to grant rights to obtain, convey, or utilize any public water needed for undertaking petroleum operations, and to occupy such lands for supplying water to such operations. Under the *National Industrial Policy* the Government's policy is to seek cost-recovery for the use of existing water and sewerage facilities, and to expand the coverage of water networks.

The *Roads Protection Act* prohibits the removal of sand, gravel or other material from any gully, watercourse, or beach within 312 feet of any road, bridge, culvert, wall, drain, or

other road structure without prior written approval of the Road Authority responsible for road maintenance (Section 3). The Road Authority is allowed to cut, fell or burn trees or undergrowth growing in gullies, watercourses, or within twenty feet of bank edges of watercourses.

The Environmental Control Division (ECD) within the Ministry of Health is responsible for the control of air and water pollution, abatement of environmental health hazards, and workplace health and safety. The Division enforces regulations under the *Public Health Act*, and as a development review body approves all engineering plans and specifications for water and wastewater treatment and disposal facilities, for subdivisions, and development projects.

Commentary

The legal and institutional framework for water resource management in Jamaica is fragmented and inadequate, leading to conflicts, contradictions and overlapping of jurisdictions, rules and regulations. This has often led to problems not being addressed properly or in a timely fashion, if at all. The interviewees and seminar participants raised various water issues that need addressing. One was that social unrest could arise - some indicated was already arising - from the lack of or inadequate supplies of both potable water and water for irrigation, for, without a sufficiency of water, development would be handicapped for the majority of Jamaicans. Exacerbating this is the heightened threat of pollution of water resources, whether surface or underground. If this threat is to be reduced and eventually eliminated, government bodies and other institutions having jurisdiction over water and the prevention of contamination of water must be clearly identified, their roles well delineated, and coordination and collaboration effected.

At present the relationship between and the respective roles of Town and Country Planning, the Watersheds Act, the Forestry Act, the Water Resources Act, the NRCA, and the different ministries responsible for water, forestry, agriculture and the environment inter alia exemplify the present inherent conflicts and contradictions between jurisdictions. It would appear that water protection and water supply tend generally to be treated separately and differently by institutions, without much regard for a more symbiotic and coordinated approach to both. For example, the protection of water falls under the Forestry Department but the management of water resources falls under the Water Resources Act (WRA), yet no apparent link exists between forestry and the WRA. This has led to a major gap in the management and treatment of the upper watersheds and low level water resources.

Overall major policy and legislative gaps still appear to exist, the recent (1995) Water Resources Act notwithstanding. Under present conditions, it is difficult to ascertain who does what in terms of water supply, abstraction, management, compensation, enforcement and monitoring. While the WRA takes into account the need to integrate water resources with national irrigation programs, participants pointed out that it still has a number of

flaws, not least of which is that it is not able to handle rapid changes affecting water and to bring in remedies fast enough to prevent misuse or abuse of water resources. The WRA does not presently incorporate the issues of “minor” water supplies, catchments, and water tanks under local government. Greater efficacy in dealing with water issues, as well as more consistency and coherency, would be achieved by bringing those aspects under the WRA. It was mentioned that, linked to this, is the fact that no comprehensive zoning for water exists for the whole country, and few comprehensive development orders (DOs), taking into account water, exist for most of Jamaica.

Another issue raised was that of the government buying water from private land owners, despite policies and laws to the contrary. The Government appears to be paying private land owners for water actually vested in the Crown. This situation dates back to the 1922 Water Act, which defined private water as coming up to the surface and flowing on private property, which, in those days, tended to be large tracts of land. Since then, those tracts have been carved up into many sub-divisions and (most) private owners now own only part of the streams, not whole streams or even rivers as in the past. They nevertheless continue the tradition of pumping or diverting water for their own benefit, to the detriment and cost of both the Government and the people. This inter-linked issue of diversion of water resources and compensation to landowners is one that has not yet been adequately addressed. Until it is the supply of water to people will be jeopardized in many areas.

Two sectors that have - and will continue to have - major impacts on water resources are tourism and agriculture. Yet, it was thought that, these sectors and their relationship with water management have not been adequately addressed by either policy or law. Both sectors divert huge quantities of water away from the general populace, and both have evinced wasteful methods of using precious and limited water resources. Much (more) could be done to move both sectors towards water conservation and less contamination of water.

Major concern was evinced at the continuing lack of linkages between water and sanitation, including the lack of or poor sanitation in the upper watershed areas leading to contamination in the lower levels. The relationship between water and sewage issues appears to not be adequately addressed by the water resources and sewage infrastructures or institutions. Accordingly, the development of sound, advanced sewage systems usually is a “poor second cousin” compared with water projects, and funding for sewage treatment is either lacking or minimal. The water/sewage nexus was raised many times as it was recognized that Jamaica can no longer afford to despoil its waters, whether fresh or salt.

Recommendations

It is recommended that, overall, the "precautionary principle" be incorporated into all water resource planning, conservation and management activities, particularly for unproven techniques dealing with erosion control, siltation, pollution control, calculating extraction levels, etc. and incorporated into sewage treatment planning and legislation. Furthermore, it is recommended that:

(a) Co-ordination in Water Resource Management

- (i) A legal and institutional structure be established to provide for the harmonization, rationalization and co-ordination of the water resource management and administrative functions now practised by such agencies as the Ministry of Water, RADA, WRA, Town and Country Planning, Forestry, Mining, NRCA, etc., with some role in water resource planning, conservation, management or use, as well as in sewage disposal and treatment;
- (ii) Powers, duties and functions be clearly delineated, including the duty to establish extension and education programs, and define the roles and functions of community water resource management groups;
- (iii) Clearly define and place the effective monitoring of water quality, water use and water reserves/supply within one key agency, with linkages to sewage treatment;
- (iv) The nexus between water and sewage be recognized by all institutions and that efforts be undertaken to develop joint water/sewage policies, management and projects.
- (v) The Black River Reclamation Act - and other older acts - be reviewed for its present day relevance and ability to protect a national and/or local resource, and then, if appropriate, be "sunsetting" or amended, or be retired in favour of new, more relevant legislation.

(b) Establishment of National Water Resource Management Policy

- (i) A statutory framework be developed for the preparation, adoption and implementation of a comprehensive National Water Resource Management Policy and Management Plan through broad-based consultation, to ensure that the management and use of water resources is consistent with the proposed National Land Use Plan (and other proposed reforms), and is within the carrying capacity of the resource (keeping in mind population growth, economic growth, and the impacts of sewage and other pollutants on the resource);
- (ii) A comprehensive inventory of all water resources by a specified time be undertaken to provide sound information for decision-making concerning the conservation, management and use of water resources and watersheds, and to serve as a basis for DOs, planning approvals and EIAs;
- (iii) The draft Sewage Policy and the draft Water Policy be widely and simultaneously disseminated to all stakeholders with a view to ascertaining the linkages between water and sewage, and to developing symbiotic planning, management and monitoring between the two areas;

- (iv) The broadest-based public consultation and participation in all water resource policy-making, management and monitoring activities (including sewage disposal and treatment, and its relationship to water resources) be implemented;
- (v) The on-going National Irrigation Commission (NIC) be mandated to include an analysis of the inter-relationship between water resources and sewage supply/demands, infrastructures, institutions, etc.
- (vi) The sections of the Water Resources Act dealing with water quality planning be implemented as quickly as possible, and thereafter monitored on a regular and systematic basis;
- (vii) The WRA be invoked and/or amended, as a transitional mechanism, to address the riparian rights to and needs for water of private landowners, as well as their compensation rights for their water.

(c) Protection and Conservation of Watershed Areas

- (i) A comprehensive policy that addresses watershed, underground water and surface water management be developed, drafted and disseminated, in consultation with the NRCA, Ministry of Environment and Housing, and other stakeholders in government, the private sector, and non-profit sector (ENGOS, CBOs);
- (ii) Legal and institutional structures be set up for the protection and conservation of watershed areas, and individual rivers and streams, including for dealing with sanitation and sewage disposal problems in the upper watershed areas;
- (iii) Before commencing work in or on a watershed area, a comprehensive inventory of the area be undertaken to identify watershed problems and management needs, as well as existing biodiversity;
- (iv) Critical areas requiring urgent or immediate attention be identified for priority action, and an appropriate plan developed through broad-based consultation and participation be developed, including with communities and ENGOS/CBOs;
- (v) Individual agencies be allocated specific responsibility for undertaking components of plans on a coordinated basis, using a designated lead agency;
- (vi) To ensure the protection of river banks, a set-back zone be established within which no vegetation may be removed. (Section 4 of the *Roads Protection Act* should be amended accordingly.)

(d) Economic Instruments

- (i) To better control the extraction and use of water resources, a system be set up for the licencing and regulation of water utilities, town councils, mining operations, industries, and other large scale users of water resources;
- (ii) A scheme for allocating quotas, user fees, and/or water rates to different levels of users and for directing some of the collected revenues to water conservation and protection be established;
- (iii) A system for properly valuing and pricing water resources and supplies be developed and implemented, incorporating economic/environmental methods of giving full value to water, properly pricing water, and assessing users at the right price and level;

(iv) A system be set up for obtaining water fees from tourist establishments, especially those that do not use water conservation methods, and allocating the resultant revenues to improved water protection and improved sewage systems.

Sources

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Chapter 9

Sustainable Agricultural Resource Management

Background

Jamaica's agricultural sector, which includes forestry and fishing, provides nearly 25% of the country's employment opportunities, and is undertaken on over half of the Island's land area (602,674 hectares of the total 1,100,784 hectares). In 1996, export earnings from agriculture amounted to US\$225 million, compared with food imports of US\$154.7 million, representing a US\$70.3 million surplus. Given the rural makeup of much of Jamaica, and the high levels of unemployment and poverty, it is expected that the labour intensive agricultural sector will remain an important source of employment and future export growth. In this light, and given the need for both food security and a sound agricultural base, it is important to establish a strategic and integrated approach for protecting Jamaica's environment and natural resources.

Agriculture activities presently contribute to environmental degradation through: deforestation and the clearing of foliage from unstable slopes for cultivation; the use of "slash and burn" practices to clear areas for agricultural use, thereby often resulting in forest fires; soil erosion due to poor farming practices, and pollution of groundwater, rivers and coastal areas from the misuse of pesticides and chemicals (44,234 tonnes of fertilizer and 2607 tons of pesticides/herbicides/insecticides were imported in 1995). Meat production is a significant part of the agriculture sector, resulting in some 27,084,472 animals being slaughtered, producing 68,705,930 kilograms of meat. But waste from the rearing and slaughter of animals, and the processing of animal products, continues to create environmental problems through the pollution of both soil and water resources.

An estimated 80 million tons of topsoil are lost each year due to poor agricultural practices. This is likely to be considerably more in drought years. Agriculture continues to be the primary user of water, representing 75% of the country's water demand. Projected increases in water use by this sector indicate that water shortages will occur by the year 2015 in the Rio Cobre Basin, the Rio Minho Basin, and in the Kingston and St. Andrew Basin. In fact water shortages have already been experienced due to the last two years of drought. Many large areas of arable land are improperly used or cultivated, and vast tracts of arable land are being lost to sprawling commercial and residential development. Market fluctuations, instability of markets, insecurity of tenure, and lack of credit and other related support make it difficult for small farmers to make an adequate living from agriculture. This in itself contributes to rural-urban drift.

Overview of Legal and Institutional Framework

As detailed in Chapter 1, *Natural Resources Conservation Authority Act*, grants power to the Authority to provide for the effective management of the physical environment so as to ensure the conservation, protection and proper use of its natural resources. The NRCA has power implement and monitor environmental management programs, and to formulate environmental standards and codes of practice.

As further indicated in Chapter 5, the NRCA has the power to investigate activities causing pollution or involving waste disposal and management which affect the environment. It can monitor and penalize persons discharging poisonous, noxious or polluting substances into ground water, as well as facilities involved with the disposal of solid wastes. As noted, the *Natural Resources Conservation (Permits and Licences) Regulations* and the *Guidelines for Project Proponents - Permit and Licence System* can be invoked to cover a variety of activities - industrial, commercial, manufacturing, construction, service/utility, tourism, mining, forestry and **agro-food** activities that cause pollution, waste or discharges into the environment. As well, facilities for the processing of agricultural waste require permits. It is anticipated that the new Permit and Licence System (in effect since January 1997) will reduce some of the adverse effects of certain agricultural practices. For instance, the licence system will ensure that effluent discharges from slaughterhouses, packing plants, and processing facilities comply with national standards. And, permits will be needed for all major developments, including the felling of trees and land clearing of more than 10 hectares or more for agriculture.

Chapters 12 and 13 provide details of the *National Resources Conservation (Environmental Protection and Waste Management) Regulations 1992* which establish mechanisms for protecting the environment from pollution, waste or other emissions or discharges. Persons must obtain licences that allow discharges of certain substances up to specified limits. The Regulations provide for monitoring, inspections, and emergency measures to protect lives, human health, and the environment. Part III of the Regulations deal with the management of hazardous substances and pesticides, as well as with substances that might contaminate plant, animal or food intended for human consumption - all of which are relevant to the agricultural sector.

The Authority has published *Guidelines for Waste Management* which set out the policies for the reduction and elimination of soil and water pollution through the development of waste management systems. It is also developing Codes of Practice for the management of wastes from:

- (a) *Food and Agro-Industries* - to give guidance on waste management practices and to outline a general framework within which good practices can be introduced; and
- (b) *Chemicals* - to serve as guidelines to achieve cleaner production, waste minimization, and improved management.

The *Rural Agricultural Development Act* establishes the Rural Agricultural Development Authority (RADA), whose primary duties include the development, management and implementation of agricultural extension and related services for farmers throughout Jamaica. The RADA centralizes various management functions previously exercised by different land authorities.

The *Country Fires Act* prohibits the setting of fires in certain circumstances, including setting fires to crops (with the exception of growing sugar cane for vermin control), as well as setting fires to trash on any land unless a notice is first served on the nearest police station and the occupiers of adjoining land. The Act prohibits fires being set during the night, and prohibits fires being left unattended. The Minister is empowered to prohibit the setting of fires in any part of the Island without a licence. The Act imposes a duty on any occupier of land to extinguish fires that may come upon his/her land, and creates an offence for the negligent use of fires. This Act has potentially an important impact on not only agriculture but on forests, due to the prevailing custom among farmers of setting fires to clear their lands or furnish "nutrients" to the soil.

The *Agricultural Small Holdings Act* was established to regulate small holdings in agricultural lands. Section 8 provides that every landlord, upon entering into a tenancy contract for agricultural lands, can reserve the right to fell, cut timber from any "economic tree", or reap the tree's produce. The Act also stipulates that tenants must give notice to their landlords before undertaking any improvements in the land, including land clearing, and improvements to gullies, watercourses, and drainage.

The *Trade Effluent and Sewerage Effluent Regulations* establish standards and water quality parameters for effluent from various sources, including agricultural.

Commentary

As was pointed out, too many agencies have overlapping and competing roles to play and functions to perform in the area of agricultural resource management. There are numerous conflicts between and contradictions in the roles and functions of such government agencies as the Ministry of Agriculture, NRCA, Ministry of the Environment and Housing, and the various pieces of legislation (e.g. NRCA Act, the Rural Agricultural Development Act - RADA) that defined their mandates and powers. It is difficult to ascertain how the various institutions' mandates relate to each other, and what impacts their respective policies and actions have on the environment. For example, what is the role of RADA compared with the Land Development Utilization (LDU) Act? Are both acts needed? Should they be consolidated into one piece of legislation relevant to today's needs? Does the lack of coordination and joint planning between the agencies contribute to poor agricultural practices and resultant environmental degradation? It was emphasized that overall the coordination and planning capabilities of the agencies most responsible for agriculture were weak, and that major improvement would not be seen until there was substantive policy and legislation integration in the agricultural area.

At present no one comprehensive, coherent policy or legislative framework exists for sustainable agriculture, its development and management. Differing agricultural policies prevail among various government entities and commodity boards, but not one over-arching, all encompassing policy that could reduce the conflict and confusion between the various agencies. A land policy also exists, but it is not an actual agricultural policy. Consequently a major gap exists - agriculture in Jamaica is not being addressed in its entirety in terms of land use, agricultural practices, water use, irrigation, pesticides and fertilizers use, credit, imports and exports, subsidies and their environmental effects, agro-industries and agro- or food-processing. This gap then leads to the misuse and abuse of land, unplanned or inappropriate development of vital agricultural lands, a decline in food self-sufficiency, and an overall reduction in food security for the country.

Contributing to the above problems are the National Industrial Policy Guidelines on Agriculture which only deal with non-traditional exports, and the piecemeal agricultural policies that are geared towards exports of coffee, cocoa and sugar, as set by separate commodity boards. Each commodity board has its own mandate, role, direction and management with relatively little regard for other boards or for sustainable environmental planning. While these ad hoc arrangements worked in the past, it was thought that a much more integrative, cohesive approach to agriculture now needed to be taken to ensure its future sustainability and Jamaica's food-security. For instance, expanding yam production in the upper terrestrial areas is causing severe problems for both watersheds and forests, yet recommendations from RADA and/or the Forestry Department for alleviation of those problems have not been accepted or implemented by the agency responsible for yams or by yam producers.

Concern was expressed about the proposed merger of the Ministry of Environment and Housing with many key policy and planning elements of the NRCA, which would result in a "New Environmental Protection Agency" (NEPA) and leave the NRCA with essentially permitting and licensing functions. If mergers are to occur, participants thought that "like should be merged with like". In other words, merge institutions with land use planning and development functions together, and merge entities (e.g. NRCA, Forestry, Fisheries, Wildlife, etc.) that deal with natural resources and the environment as their primary focus together. Merging institutions together just for the sake of merging will be counter-productive, whereas merging institutions with compatible philosophy, substance, culture, functions and substantive law could be beneficial in terms of efficiency, effectiveness and sustainability.

Recommendations

First and foremost, it is recommended that a comprehensive, all-inclusive sustainable agricultural policy and agricultural legislative framework should be developed and implemented as soon as possible, taking into account such matters as the (excessive) use of pesticides, herbicides and chemical fertilizers, soil erosion and land use, water resources and irrigation, the relationship between the industrial (economic) policy and agriculture,

the relationship between commodity boards, exported commodities and sustainable agriculture, and other matters

Furthermore, it is recommended that the following be considered for action:

(a) Co-ordination in Agricultural Resource Management

- (i) Regular reviews and assessments of the above proposed agricultural policy and legislative framework be undertaken by the Planning Institute of Jamaica (PIOJ) in consultation with key ministries and government bodies, commodity boards, the public and private sectors, ENGOS/CBOs, and farmers or agricultural workers (male and female);
- (ii) Establish a unified legal and institutional structure that provides for the harmonization and co-ordination of agricultural resource management and administrative functions now handled by many overlapping agencies, to ensure improved agricultural resource planning, conservation, management or use.
- (iii) Clearly define the powers, duties and functions of such a body, including the duty to establish island-wide extension and education programs; and to undertake effective monitoring of agricultural and soil conservation practices;

(b) Establishment of Agricultural Resource Management Policy

- (i) To promote sound, sustainable management of agricultural resources and address both soil and water conservation needs, the proposed policy and legislative framework would incorporate:
 - * the preparation, adoption and implementation of a comprehensive Agricultural Resource Management Policy and Management Plan through broad-based consultation and participation;
 - * the ensuring of the National Land Use Plan (presently being developed) being consistent with agricultural sustainability and environmental integrity; and,
 - * the ensuring of the management and use of the agricultural resource being within the carrying capacity of the soil, water, and other natural resources;
 - * the undertaking of a comprehensive inventory of all soils, agricultural lands, and related water resources as soon as possible, to provide sound information for decision-making concerning the conservation, management and use of soils, and to serve as a basis for planning approvals, DOs and EIAs.

(c) Pollution Prevention and Codes of Environmental Practice for the Agricultural Sector

- (i) Develop a mechanism whereby the NRCA and other agencies work with the agricultural sector to establish pollution and waste prevention strategies and programs;

(ii) Develop Codes of Environmental Practice which reflect the International Organization for Standardization's ISO 14000 series of standards for environmental management systems as applicable to agriculture and agro-processing.

Sources

- *Economic and Social Survey Jamaica 1996*. Planning Institute of Jamaica. 1997.
- *Jamaica Country Environmental Profile*. Government of Jamaica. September 1987 (as revised August 1994).
- *Jamaica National Environmental Action Plan*. Ministry of Environment and Housing/Natural Resources Conservation Authority. June 1997
- *National Industrial Policy*. Government of Jamaica. April 1996.
- *National Land Policy*. Government of Jamaica. July 1996.
- *National Settlement Strategy*. Government of Jamaica. 199(?).
- *State of the Environment Report - 1997*. Natural Resources Conservation Authority. 1997.

Chapter 10.

Sustainable Forestry Resource Management

Background

Forests and other woodlands cover approximately 45% (265,000 hectares of forests) of Jamaica's land area, and play a vital role in the country's development. The country's forests are concentrated mostly in areas of rugged terrain, such as the Blue Mountains and Cockpit Country and in the dry, hilly uplands with poor soils in the southern, western and northwestern parts of the Island. Forest resources provide lumber, posts, yam sticks, fuel-wood, charcoal, fruit, medicinal plants, rope, drinks, and other consumables. In addition, Jamaica's forests protect watersheds and enhance water supply, provide habitat for many wildlife species, maintain soil productivity and environmental integrity. The forests act as "carbon sinks", wherein atmospheric pollutants are converted into oxygen through natural processes, and they provide opportunities for employment, recreation and economic development.

Much of Jamaica's forest land is on steep or rugged terrain with limited access. Because of inaccessibility, only about 26% of the natural forest contribute to timber production. The total area of managed forest amounts to 21,000 hectares, while non-managed forests account for 244,000 hectares. Protected forests total 114,000 hectares with "natural" forests accounting for less than 77,000 hectares. The volume of timber harvested exceeds 1,600 million cubic metres per year. Forest Land Reserves have not been exempt from intrusive logging practices. The Forest and Soil Conservation Department within the Ministry of Agriculture and Mining has responsibility for the management of the nation's forest estates, comprising over 107,190 hectares.

In 1995, it was estimated that deforestation in Jamaica was occurring at a rate exceeding 10,000 hectares per year (i.e. over 3% per annum). Yet fewer than 85 hectares are planted or replanted each year. While it may be recognized in some quarters that Jamaica's forests are under severe threat due to unsustainable forestry practices (including from land clearing for cultivation, fuel-wood, and charcoal production), unsustainable practices continue unabated. Moreover, efforts by the Forest and Soil Conservation Department are often undermined by countermanding orders, such as up-rooting and giving over reforested areas and newly planted saplings to coffee production. Unsustainable practices are further evidenced by Jamaica's traditional hardwoods (such as Jamaican mahogany) being threatened with extinction, and the use of mangroves and other species (from both coastal and highland forests) for fuelwood and charcoal, manufacture and production of yamsticks and fenceposts causing severe environmental damage and watershed degradation. Additionally, the indiscriminate removal of trees and forest cover has resulted in significant impacts on low-lying areas, including increased flooding, sedimentation, the alteration of river courses, the siltation of fish habitat and the loss of fish, and the reduction in aquifer recharge and available water supplies.

Overview of Legal and Institutional Framework

Jamaica is not a party to the International Agreement on Forest Principles that emanated from the 1992 Earth Summit. However, it recently put into place a *Forests Act* (October 1996). The Act outlines the mandate of the Forestry Department, which now includes the promotion of agro-forestry, in addition to private and social forestation programs. The Department is responsible for the sustainable management of forests on Crown Lands or in forest reserves, including the conservation of those forests, preparing forest inventories, preparing and implementing forest management plans, the protection and preservation of watersheds in forest reserves, and the granting of licences and permits under the Act.

Section 5 of the Forests Act allows the Minister to declare any area on Crown Lands or any private land (at the owner's request) to be a forest reserve, or a forest management area for the protection of the national interest (Section 7). Section 6 provides that forest reserves - and forest management areas - are to be used primarily for the conservation of forests, the provision of land for the development of forests, the generation of forest products, the conservation of soil, the provision of parks and recreational facilities, and the protection of endemic flora and fauna. Section 8 stipulates that the Conservator of Forests must, every five years, prepare a forest management plan for each forest reserve and each forest management area as declared under the Act. Each forest management plan is to contain proposals for the determination of allowable annual cuts, the establishment of forest plantations, the carrying out of other silviculture practices, and a conservation and protection program. Section 9 empowers the Minister to compulsorily acquire private land for forest reserves, and to adopt measures to protect reserves or forest management areas.

Under the Act (Section 13), Forest Management Committees may be appointed for any forest reserve, forest management area, or protected area. They are empowered to monitor the condition of the natural resources in the area or reserve, advise the Conservator on the management of such areas, propose incentives for conservation practices, and assist in the design and execution of conservation projects. Section 14 outlines the guidelines for calculating the allowable annual cut for any forest reserve or forest management area. Section 15 requires the Conservator to develop and maintain an inventory of forest and land suitable for the development of forests.

Within two years of the Act coming into force, the Conservator must prepare a draft *National Forest Management and Conservation Plan* which contains:

- (a) A statement of the forest resource management and conservation policy;
- (b) An inventory and description of forest land;
- (c) Provision for the protection, conservation and production of forest resources;
- (d) Proposals for the protection of watersheds, soil, water, wildlife and other forest resources;
- (e) An outline of the economic objectives for the sustainable development of wood-based industries in Jamaica;
- (f) Programs for social forestry, community development and forest related education; and
- (g) Proposals for implementing the Plan.

The Plan is to be developed through consultation with other stakeholders (Section 16) and be constantly reviewed (Section 18). Section 20 allows the Conservator to establish

recreational facilities in forest reserves or forest management areas, including parks, roads and trails, camp grounds, picnic sites and other pertinent facilities.

Section 23 of the *Forest Act* empowers the Minister to declare any Crown Land to be a protected area, if necessary, for:

- (a) Protection against storm, winds, rolling stones; floods and landslides;
- (b) Preservation of soil;
- (c) Prevention of the formulation of ravines and torrents;
- (d) Protection against erosion or deposits of sand, stones or gravel;
- (e) Maintenance of water supply in springs, rivers, canals and tanks;
- (f) Protection of roads, bridges, railways, and other lines of communication;
- (g) Protection against forest fires;
- (h) Preservation of public health; or
- (i) Protection of national amenities, or flora and fauna.

The Minister may establish Regulations to regulate such activities (Section 23 (3)). Part V establishes enforcement powers, and creates various offences, such as a prohibition on cutting trees down in a forest reserve. Fines for the illegal cutting of timber have greatly increased under the Act. The powers and functions of the current staff of 120 in the Forest and Soil Conservation Department were somewhat strengthened by the new *Forest Act*.

The 1990 *Jamaica National Forestry Action Plan (NFAP)* listed as priority projects: the introduction of agro-forestry systems into the Blue Mountains and land use control in the upper watersheds. These initiatives were to prevent the loss of valuable watershed protection areas through poor, unsuitable agriculture and development practices.

As noted earlier, the *Natural Resources Conservation Authority Act* gives the NRCA power to provide for the effective management of the physical environment so as to ensure the conservation, protection and proper use of its natural resources (See: Chapters 1 and 5). This power extends to forests and forested lands. In particular, under the *Natural Resources Conservation (Permits and Licences) Regulations*, a permit must be applied for to and issued by the NRCA if anyone seeks to undertake any land clearing of 10 hectares or more for agricultural development, or clear cutting of forested areas of 3 hectares or more on slopes greater than 25 degrees. Chapters 12 and 13 provide details on the *Natural Resources Conservation (Permits and Licences) Regulations* and on the *Guidelines for Project Proponents - Permit and Licence System*. These set out procedures for applying for and obtaining licences or permits to conduct such activities as might otherwise harm the environment. Annex A to the Guidelines outlines the activities that require permits, and is sufficiently broad to encompass all forestry activities that could cause pollution, waste, or discharges to the environment.

The *Watershed Protection Act* is designed to protect watersheds and the areas adjoining watersheds to ensure the conservation of water resources. The Act confers upon the NRCA the duty to promote the conservation of water resources and to institute necessary measures for the protection and management of those areas. The *Roads Protection Act* allows the Road Authority to cut, fell or burn any tree or under-growth growing in any gully, watercourse, or within 20 feet of the bank's edge of a watercourse.

Commentary

Forestry problems are linked with watershed, agricultural, soil erosion, and coastal problems, but the tendency has been to treat them in isolation one from the other. This is reflected in the proliferation of laws and regulations that often overlap, contradict, conflict with, or compete with each other, resulting in a fragmented, non-integrative approach to the management of forests and the consequent decline of their quantity and quality.

Recommendations

To deal with some of the above problems, it is recommended that:

(a) International Conventions

(i) Jamaica assess the benefits of becoming a party to the following international conventions or agreements relating to the sustainable management of forestry resources:

- * *International Tropical Timber Agreement*; and
- * *International Agreement on Forest Principles*.

(b) Sustainable Forestry Management

(i) To promote sound and sustainable management of forestry resources in Jamaica, establish a statutory framework for:

- * the preparation, adoption and implementation of a comprehensive National Forestry Policy and Management Plan which ensures that the management and use of the country's forestry resources are within the carrying capacity of the resource;
- * the undertaking of a comprehensive inventory of forestry resources, by a specified date, to provide sound information for decision-making concerning the conservation and management of forestry resources and to ensure consistency with the proposed National Land Use Plan;
- * the implementation of the precautionary principle in all forestry harvesting, planning, conservation or management activities;
- * assisting private woodlot owners with the development and implementation of forestry management or conservation plans for individual woodlots, based on an inventory of the resources in the woodlot, and ensuring that exploitation does not exceed the optimum sustainable yield or the carrying capacity of the resource;
- * the broadest-based community and public consultation and participation in all forestry policy making and management activities occur;
- * providing for the protection and conservation of forest ecosystems and biodiversity through the establishment of a comprehensive system of parks and protected areas based on sound ecological principles, and guided by properly trained management; and,
- * the re-introduction and cultivation of Jamaican hardwoods on a systematic basis.

(ii) Legislation be introduced to control the importation and spread of exotic species, prevent unsustainable forest practices, and provide adequate measures for forest fire prevention and management.

(iii) To ensure the protection of river banks, a set-back zone be established within which no vegetation should be removed, with an amendment to Section 4 of the *Roads Protection Act*.

(c) Management of the Forestry Industry

(i) To provide for better management of the forestry industry, legislation be introduced for the licensing of:

- * sawmills and wood processing facilities; and
- * forestry professionals who undertake forestry inventories and assist private woodlot owners with the development of appropriate management plans and silviculture treatments.

(d) Pollution Prevention and Codes of Environmental Practice for the Forestry Sector

(i) The NRCA and other key agencies work with the Forestry Department and the forestry sector to establish pollution and waste prevention strategies and programs, as well as Codes of Environmental Practice which reflect the International Organization for Standardization's ISO 14000 series of standards for environmental management systems.

Sources

- *Economic and Social Survey Jamaica 1996*. Planning Institute of Jamaica. 1997.
- *Jamaica Country Environmental Profile*. Government of Jamaica. September 1987 (as revised August 1994).
- *Jamaica National Environmental Action Plan*. Ministry of Environment and Housing/Natural Resources Conservation Authority. June 1997
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Chapter 11.

Protection and Conservation of Wildlife, Biodiversity, Ecosystems, and Sites of Cultural Significance

Background

Jamaica possesses a rich natural heritage that combines scenic beauty with a variety of ecosystems that include forests, rivers, caves, mineral springs, sandy beaches, rocky shores, herbaceous swamps, swamp forests, salinas, mountains and plains. The "richness" or biodiversity is reflected in the variety of natural areas as well as the many different kind of plants and animals (terrestrial and marine) found in Jamaica. The country ranks 5th amongst the islands of the world in terms of its variety of endemic species.

Complementing this natural heritage, Jamaica also has a rich, varied cultural and historic heritage. Heritage tourism and ecotourism are relatively new areas of interest to Jamaica, and have great potential for diversifying the tourism product, for generating revenue and employment, and for preserving and protecting sites of ecological, cultural and historic value, if used properly.

Protected areas are a viable way of conserving and sustainably using the country's biological resources. Jamaica has designated a variety of protected areas including National Parks and Marine Parks, Fish Sanctuaries, Forest Reserves, and Water Quality Control Areas. Protected areas are central to conservation efforts in the four large centres of terrestrial biodiversity in Jamaica, namely the Blue and John Crow Mountains, Cockpit Country, the Black River Morass, and Portland Ridge to Hellshire.

However, in recent years, the richness, integrity and diversity of Jamaica's natural, cultural and historic resources have been adversely affected by development activities. There is an urgent and pressing need to preserve and protect the country's natural resources and cultural heritage for the benefit of present and future generations. A number of species of flora and fauna (marine and terrestrial), as well as ecosystems, are under threat from a variety of development activities, and, in some cases, are endangered, near extinction, or extirpated (lost). Sites of cultural and historic importance are often exposed to neglect, with many now in a state of collapse and virtual irreparable ruin.

The Government and people of Jamaica have undertaken a number of initiatives to provide for the conservation, protection and management of the country's wildlife (including marine species), ecosystems, and cultural and historic sites. However, it is recognized that a more comprehensive and integrated approach needs to be taken to preserve and protect those natural and built resources. It is also increasingly recognized that the use or exploitation of such resources must be undertaken on a sustainable basis; and all use of resources should be sustainable over the long-term, and be within the "carrying capacity" of the resources and the environment. Biodiversity "prospecting" and ecotourism are

relatively new areas of interest and enterprise, but legislation to ensure their maximum long-term benefit for Jamaica has lagged behind fast-moving developments in those areas in other countries.

Overview of Legal and Institutional Framework

Jamaica has signed a number of key international and regional treaties or agreements including:

- (a) *International Plant Protection Convention*;
- (b) *Convention Concerning the Protection of the World Cultural and Natural Heritage*;
- (c) *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region*;
- (d) *Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)*;
- (e) *Convention on Biological Diversity*;
- (f) *Convention on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR)* ; and,
- (g) *Convention to Combat Desertification*.

The most important law affecting the management of wildlife resources in Jamaica is the *Wild Life Protection Act* of 1945. A number of other laws address wildlife or habitat management and protection, including the *Natural Resources Conservation Authority Act*, the *Beach Control Act*, the *Watershed Protection Act*, the *Forests Act*, the *Country Fires Act*, the *Jamaica National Heritage Trust Act*, the *River Rafting Act*, the *Morant and Pedro Cays Act*, and the *Fishing Industry (Fish Sanctuary) Order*, the last two of which may soon be replaced by the *new Fisheries Bill*.

The 1945 *Wildlife Protection Act* prohibits the removal, sale or possession of turtle eggs and immature or juvenile fish, and the use of dynamite or any other explosives, poison or noxious material to kill or injure fish. The Act makes it illegal for any person to kill, capture, or have in their possession any protected bird or animal. But it also lets the Minister make exemptions in particular circumstances and provides for the opening and closing of the bird hunting season. In fact, the *Wildlife Protection Act*, which is over 50 years old, is more concerned with the regulation of hunting than with wildlife protection and management in the broadest sense, and thus excludes habitat management except where fish might be affected by the polluting of waters. The Act prohibits the discharge of trade effluent and industrial wastes from factories into harbours, rivers, estuaries and streams. It also provides for the establishment of Game Sanctuaries and the appointment of Game Wardens. The Natural Resources Conservation Authority (NRCA), which has a major policy and mandate for wildlife protection, is responsible for the administration of the Act. The Act is currently being revised to add new animals and plants to the list of protected animals, and to address captive breeding, ranching operations, and artificial propagation.

Under the *Natural Resources Conservation Authority Act*, the NRCA is granted authority to develop, implement and monitor plans and programs relating to the management of the environment. Its Wildlife Unit has accordingly developed and implemented species management plans for Sooty Terns, the Jamaican Iguana, the West Indian Manatee, crocodiles and sea turtles, as well as drafted a Giant Swallowtail Butterfly Recovery Plan. The Unit has initiated a number of wildlife inventories to assist in formulating conservation, protection or management plans, and is developing plans for the sustainable use of game birds and ducks.

The *NRCA Act* also provides the legislative framework for a system of national protected areas, and places responsibility for overall development, management and enforcement of protected areas policy with the Authority which must consult with other key government agencies responsible for existing and new protected areas. The *Marine Park Regulations 1992* and the *National Parks Regulations 1993*, which were made under the Act, establish a regulatory framework for the management of national parks and marine parks. The *Natural Resources Conservation (Negril Environmental Protection Area) Declaration Order* was passed in November 1997 establishing the Negril Environmental Protection Area. Two local NGOs have received legal authority from the NRCA to manage the two existing national parks (John Crow Mountains National Park and the Montego Bay Marine Park). A number of sites have been identified for designation as protected areas and for subsequent management by local authorities, including Palisadoes/Port Royal, Negril, Portland Ridge and Bight, Hellshire Hills, Black River, Yallahs and Ocho Rios. Draft management plans have been submitted for the Portland Ridge and Bight, and Ocho Rios areas for review.

Rights in the foreshore and the floor of the sea are vested in the Crown under the *Beach Control Act*. The Act gives vests responsibility in the NRCA for the development and inspection of beaches to ensure adherence to safety and cleanliness standards. The Act provides for the issuing of a national policy for the management of the island's beaches. Several Regulations have been gazetted under the Act, including the *Beach Control Act Regulations (1978)* which addresses hotel, commercial and public recreational beaches, and regulates beach activities and the care of beaches. The *Beach Control (Protected Area - Montego Bay) Order*, the *Beach Control (Protected Area - Port Royal) Order*, and the *Beach Control (Protected Area - Ocho Rios) Order* declare Montego Bay, Port Royal and Ocho Rios as protected areas. The *Beach Control (Black Coral) Order (1976 and 1979)* serves to protect black coral.

The *Watershed Protection Act* is designed to protect watersheds and adjoining areas to ensure the conservation of water resources and gives the NRCA the duty to promote the conservation of water resources through various measures. As discussed in Chapter 10, the new *Forests Act (October 1996)* outlines the mandate of the Forestry Department, which now includes agro-forestry, private and social forestation programs, the sustainable management and conservation of forests on Crown Lands or in forest reserves, and the protection and preservation of watersheds in forest reserves, all of which contribute to the protection and conservation of Jamaica's biodiversity and ecosystems. Section 23 of the

Forest Act empowers the Minister to declare any Crown Land to be a protected area for, among other reasons, national amenities or flora and fauna. To a lesser extent the *Country Fires Act* may have some impact on the flora and fauna as well (See also: Chapter 10.) Likewise, the *River Rafting Act*, as noted previously, establishes a River-rafting Authority to regulate and control river rafting, which may affect wildlife and their habitats.

As discussed in Chapter 7, the newly drafted *Fisheries Bill* will repeal the *Fishing Industry Act* and the *Morant and Pedro Cays Act*, and will establish a comprehensive legal framework that provides for comprehensive fisheries management developed in consultation with resource users. It will give the Fisheries Minister power to undertake conservation and management measures, as well as regulate aquaculture and the importation of live fish. (The *Morant and Pedro Cays Act* prohibits unauthorized fishing and the killing or removal of birds (e.g. the Booby terns), reptiles and turtles, and controls access to and exploitation of the Cays and their resources. The *Fishing Industry Act* protects the fishery by establishing closed seasons, the creation of fish sanctuaries, and penalties for the landing and sale of illegally caught fish. The Act has been revised, but changes have not yet been implemented. The *Fishing Industry (Fish Sanctuary) Order* (1979) declares certain areas as fish sanctuaries.

The *Jamaica National Heritage Trust Act* is primarily designed to govern the protection of buildings of historical significance, national monuments as well as historic sites. Under the Act, the Jamaica National Heritage Trust is established to promote the preservation of national monuments and sites, to carry out development for the preservation of national monuments or protected national heritages, and **to identify and record any species of botanical or animal life of national importance**. Under this Act, the Trust is empowered to declare a preservation scheme to control development in areas where national monuments or protected national heritage sites are located. The Trust may be given authority to control or restrict developments within areas covered by preservation orders. The Act allows owners of protected national heritages to deduct their expenditures for the maintenance or development of protected national heritages under the *Income Tax Act*.

Also concerned with botanical life is the Bath Botanic Garden. The control, care, management, upkeep and preservation of the Bath Botanic Garden is vested with the Directors of the Bath of St. Thomas the Apostle, a body corporate under the *Bath of St. Thomas the Apostle Act* (1942). However, the rights and interest in the Bath Botanic Garden are vested with the Government under the Act, with such rights and interest being administered by the Commissioner of Lands in Trust.

A number of initiatives have been established to complement and support the above-mentioned laws and regulations, including:

- (a) A Sea Turtle Recovery Action Plan which is in the final drafting phase, and increased public awareness since the establishment of the Sea Turtle Recovery Network in 1991;

- (b) The National Park Trust Fund established to finance the national protected area system with an initial capitalization of J\$12.3 million. This fund is currently being used to meet costs associated with Jamaica's two National Parks.
- (c) Authority to manage the Blue and John Crow Mountains National Park delegated to the Jamaica Conservation and Development Trust in 1996, with a number of improvements to the park having been undertaken. It is proposed that trail user fees be used to help meet the operational costs of the park.
- (d) Authority to manage the Montego Bay Marine Park delegated to the Montego Bay Park Marine Trust, with a number of improvements to the park having been undertaken and new initiatives developed.
- (e) The development of a legal and institutional framework to implement requirements under the *Convention on International Trade in Endangered Species of Wild Flora and Fauna* (CITES).
- (f) Progress made on the development of a National Heritage Trail System, including improvements to three of the four principal historic sites (Falmouth, Port Royal, and Spanish Town), and work on seven protected areas recommended for the Arawak Nature Trail. Old Spanish Town has been recommended for listing as a World Heritage Site under the *Convention Concerning the Protection of the World Cultural and Natural Heritage*.
- (g) A Management Plan and Management Guidelines for the protection of Montego Bay Marine Parks developed, and an Environmental Protection Plan drafted for the Negril Environmental Protection Area.
- (h) Work proceeds on the development of the National Protected Areas System, with the policy document (Green Paper) being presented and discussed at the national level in 1996. The Jamaica National Heritage Trust has registered a large number of sites, districts, monuments and structures of cultural and historic significance, and has estimated that an additional 7,500 sites should be included on the national register. (The greatest threats to these sites is neglect and uncontrolled development, or the inability of private owners to finance the upkeep of the sites.)
- (i) A Bill for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is now being prepared.

Control over diseases in domestic animals is effected through the *Animals (Diseases and Importation) Act*, which stipulates that owners of diseased domestic animals must report the occurrence of the disease to the appropriate authorities. The Act establishes structures for the slaughter and disposal of diseased animals.

The *Cruelty to Animals Act* establishes a regulatory framework to address cruelty to animals, which extends to cruel practices affecting wild animals. However, the Act does not impose any standards or requirements concerning the capture or keeping of wild animals, or standards for the transportation of animals. The *Keeping of Animals Act* requires a licence for the keeping of animals in certain areas, but does not apply to the keeping of animals for experiments. The *Pounds Act* provides for the impounding of stray animals or those that may be subject to quarantine restriction on importation. The Jamaica

Society for the Prevention of Cruelty to Animals is largely responsible for stray animals but is grossly under-funded and under-resourced to keep up with the scale of the problem.

The *Plants (Quarantine) Act* regulates the importation of plant species, and establishes controls on plant pests. Part III of the Act establishes quarantine requirements in certain instances. The *Bees Control Act* states that a permit is required for the importation of bees, honey and beekeepers stock. The Act also provides that the Minister may prescribe measures for preventing the introduction and spread of diseases affecting bees.

Commentary

The legal and institutional framework for the conservation, protection and management of Jamaica's natural, historic and cultural resources is extremely fragmented, and quite inadequate to deal with the scope and depth of the problems arising from the past or emerging in the near future (such as biodiversity prospecting). Only recently has the importance of biodiversity and cultural preservation been fully recognized, with a concomitant change of attitudes towards the need for their conservation, protection, and even preservation. Linked with this recognition is concern over the use of such organisms as any active, infectious, or dormant stage of life form, including bacteria, fungi, viruses, mycoplasmas, viroids, or any stage of life capable of genetic manipulation or arising from genetic manipulation. These are not currently covered under Jamaica's quarantine legislation.

Inventories of sites of ecological and cultural significance are either not available or not complete, with the result that encroachment on, destruction of and loss of habitat are occurring ever more frequently and rapidly. Legislation compelling such inventories is either not in place or is fragmented and contradictory.

A system of national parks and protected areas may not always be able to protect fragile ecosystems, especially if they exist outside those areas. Knowledge about the size and scope of Jamaica's is generally incomplete, due to the lack of a comprehensive, in-depth inventory of fragile ecosystems. Encroachment on, destruction of, and loss of fragile ecosystems is accelerating. Insufficient and inadequate legislation, regulations and enforcement mechanisms exist to halt this trend.

Merely declaring sites to be of national importance or significance is not enough to ensure their long term protection and maintenance, given that the greatest threats to such sites are neglect, uncontrolled development activities, and private owners' lack of money to cover the costs of maintaining such sites. It is recognized that the sound management and maintenance of a system of national parks and protected areas can only be sustained in the long term with the assurance of adequate financial resources.

Recommendations

To give weight to on-going initiatives and to prepare for increased demands on Jamaica's natural and historical resources, it is recommended that:

(a) International Conventions

(i) Jamaica assess the benefits of becoming a party to the following:

- * *Convention on Migratory Species;*
- * *International Code of Conduct for Plant Germplasm Collecting and Transfer;*
- * *Protocol on Specially Protected Areas of Wildlife;* and
- * *Protocol on Safety in Biotechnology.*

(b) Conservation and Protection of Threatened and Endangered Species and Ecosystems

(i) A legal requirement to undertake inventories of sites of ecological and cultural importance be instituted as the basis for the designation and management of protected areas; criteria for the designation of sites and management guidelines be set up, based on sound and proven scientific management principles.

(c) Parks and Protected Areas

(i) A comprehensive legal structure be developed for the designation, declaration, conservation and sustainable management of all national parks and protected areas, and address:

- * institutional responsibilities and relations, including the powers, duties and functions of the NRCA and other agencies;
- * specific definitions for a variety of categories of protected areas based on identified management criteria and objectives;
- * priorities, criteria, processes and procedures for selecting, designating, establishing and developing protected areas;
- * mechanisms for developing management /resource use plans for each protected area, based on scientific data and community consultation;
- * criteria for the delegation of powers to appropriate management authorities (public and private);
- * mechanisms to establish and administer financial structures for the management and operation of protected areas, and to provide for capital costs associated with such areas (e.g. trails, paths, signs, buildings, etc.);
- * mechanisms for integrating protected area management plans with national, regional or sectoral development plans;
- * regulation of activities within designated protected areas and in their adjacent buffer zones;
- * control of development activities outside the protected areas that may affect or impact upon the protected area or any resource, ecosystem or wildlife within such area;
- * establish legal structures relating to liability and safety for the public and parks officers;
- * establishment mechanism for enforcement; and
- * establish protected areas and otherwise implement obligations and requirements under the *Convention Concerning the Protection of the World Cultural and Natural Heritage*, the *Convention for the Protection and Development of the Marine Environment of the*

Wider Caribbean Region, the Protocol on Specially Protected Areas of Wildlife, the Convention on Biological Diversity, the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR), and the Convention on Migratory Species.

(d) Management of Fragile Ecosystems - Mountains, Reefs and Wetlands

- (i) A legal requirement to undertake inventories of fragile ecosystems be set up as the basis for the designation and management of fragile ecosystems.
- (ii) Criteria and sound management guidelines be developed for the designation of individual sites or areas where urgent remedial activity is needed to prevent or reverse loss or damage.

(e) Protection of Sites of Cultural and Historic Significance

- (i) The inventorying of sites cultural and historic significance by the Jamaica National Heritage Trust be the corner stone of long term planning for and management of such sites;
- (ii) A legal and financial structure be developed to ensure systematic and regular funding for the conservation, management and maintenance of such sites, including tying financial disbursements the preparation and implementation of a site management or maintenance plans by the owner.

(f) Control of Genetically Engineered Organisms

- (i) Comprehensive legislation to control and regulate the importation, experimentation, or use of genetically engineered organisms be enacted.
- (ii) Such a legal framework to require licences for the importation or use, or the conducting of experiments with, such organisms, and to impose rigorous restrictions on their use in order to protect human life, health, and the integrity of natural flora and fauna and ecosystems.

(g) Biodiversity Prospecting

- (i) Policies, guidelines and procedures relating to the collection, ownership, export and commercialization of genetic materials and traditional knowledge of the characteristics, uses and benefits of such materials be legally established. (ii) A system be put in place to control biodiversity prospecting by ensuring that Jamaicans as individuals and as a nation benefit from biodiversity prospecting through well conceptualized contracts and formal royalty and licensing agreements between agents seeking to harvest or commercialize the materials (or knowledge) and the Government of Jamaica or individual owners of the resource.

(h) Ecotourism

- (i) A sound legal structure to foster and guide ecotourism in Jamaica on an environmentally sound basis be implemented.
- (ii) Such a legal framework would necessitate, through broad consultation and participation, a Policy and Implementation Plan for Ecotourism, and solid institutional structures to manage the industry's development sustainably.

(iii) Codes of Environmental Practice, a standards and quality control structure, and the training and licensing of facilities and operators be contained a within the legal structure and implemented.

(iv) Financial resources be provided, on an ongoing basis, for the ecotourism industry so as to encourage the conservation and protection of sites, and the careful management of and sustainable expansion of ecotourism activities.

(i) Private Conservancy

(i) A legal structure be set up to provide positive incentive to private land owners, establish a private conservancy initiatives, to facilitate private conservation easements, and to create financial incentives for such initiatives, as well as for the conservation and protection of conservation easements where necessary to support or protect established national parks or protected areas (e.g. buffer zones or wildlife corridors).

(j) Economic Instruments

(i) A legal structure be set up that will provide financial resources on an ongoing basis for the conservation, protection and maintenance of Jamaica's national parks and protected areas.

(ii) Consideration be given to creating a Trust Fund from revenues generated from a tourism head tax, landing or departure tax, bed tax, or park entrance fee, etc., as is legally done in many other countries.

Sources

- *Conservation Easements - The Jamaica Experience*. Legal Services Branch. NRCA. 1998.
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- *Policy for the National System of Protected Areas*. Natural Resources Conservation Authority. June 1997.
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- *State of the Environment Report - 1997*. Natural Resources Conservation Authority. 1997.

Chapter 12.

Sustainable Management of Pollution and Waste (General)

Background

Overall the economic development and growth in Jamaica have proceeded with limited regard to environmental and human health impacts. The consequences of many years of industrial, mining, commercial and agricultural emissions and discharges are seen in the very noticeable, and rising, levels of pollution in the country's water, sea, soil and air. As well, the commercial and industrial sectors produce approximately 562 tonnes of solid waste per day which requires regular collection and disposal. Compounding this is the increase in the volume and variety of solid waste from shipping, and from domestic sources (at least 2,726 tonnes of domestic solid waste are generated per day in Jamaica).

Substantial installation and/or upgrading of waste management facilities are urgently needed for both the public and private sectors. Although 15 officially recognized waste disposal sites exist, many had been sited in inappropriate locations and none were set up to operate as "sanitary landfills". Accordingly the sites themselves create a range of social, environmental and human health problems (odour, risk of disease, fires, pollution of the air from gas releases, pollution of the soil and underground water, lower property values, attraction of vermin, etc.). A system of fees for solid waste or garbage collection has not been instituted in Jamaica. Accordingly it is difficult to cover operating costs for solid waste collection and disposal into sanitary landfills. Moreover, because solid waste collection is inadequately monitored everywhere and not usually penalized, the illegal dumping of motor vehicles, garbage and every other type of solid waste occurs throughout Jamaica creating health hazards, eyesores, and on-going pollution of the environment.

Waste reduction, recycling, or re-use is not widely practised in Jamaica. The few initiatives have limited benefits in terms of reducing the volume or type of garbage collected. Litter continues to be a major problem, and the accumulation of paper, bottles, tins and metal, plastic bags and other refuse seriously detracts from the enjoyment and use of many beaches and public areas whether by locals or visitors.

Sewerage generation is estimated to exceed 455 million litres per day in Jamaica, but only about 25% is collected and treated in conventional treatment systems, with the remainder disposed of through pit latrines, soakaways and septic tanks (about 51% of the Jamaican population still uses pit latrines). Treatment facilities in most areas are inadequate to prevent contamination of the environment and risks to human health. The lack or inadequacy of household liquid waste disposal systems is also contaminating the environment and creating risks to human health.

The expansion of sewerage works in Negril, Ocho Rios and Montego Bay will increase the waste collected in Jamaica to only about 30% of the total sewage waste generated nationwide. The remaining 70% will continue to pose major environmental problems. Inadequate treatment of sewerage is causing contamination of coastal areas and rivers. For example, the near-shore coral reefs of Montego Bay have been so contaminated by raw or inadequately treated sewage that most are now dead. The reefs lying farther off-shore - a money-producing tourist attraction - will only be saved if the proposed expansion of the sewerage works incorporates tertiary treatment of wastes rather than anything less as is presently being proposed.

Overview of Legal and Institutional Framework

Several legislative enactments serve to exercise control over the management of pollution or waste, namely: the *Natural Resources Conservation Authority Act*, the *Natural Resources Conservation (Permits and Licenses) Regulations*, the *Natural Resources Conservation (Environmental Protection and Waste Management) Regulations 1992*, the *Litter Act*, the *Noise Abatement Act*, the *Harbours Act*, the *Mining Act*, the *Quarries Control Act*, and the *Public Health Act*.

As mentioned earlier, the *Natural Resources Conservation Authority Act*, the Authority is granted power to provide for the effective management of the physical environment so as to ensure the conservation, protection and proper use of its natural resources (See Chp 6). In particular relation to solid waste disposal, the NRCA can investigate the effect on the environment of activities causing pollution or involving waste management or disposal. Section 12 of the Act stipulates that no person may discharge poisonous, noxious or polluting substances into ground water without a licence. Penalties are imposed for violations. Section 17 states that solid waste disposal facilities must submit regular reports to the NRCA so as to monitor the facility's performance and the quality and condition of substances discharged.

Under the *Natural Resources Conservation (Permits and Licenses) Regulations*, permits must be applied for to and issued by the NRCA to undertake any enterprise, construction or development that might result in pollution, waste or harm to the environment. Permits can be suspended or revoked upon notice being given to licence holders. Section 8 of the Regulations sets out the application process for obtaining a licence to discharge pollutants: and empowers the NRCA to require owners or operators of existing facilities to upgrade their facilities to the "current standards applicable to new facilities" within a specified time (Section 9). Conditions may be attached to any licence, which can be modified, revoked or suspended after notice is given (Sections 11, 14, 15, 16 and 17).

The *Guidelines for Project Proponents - Permit and Licence System*, under the above Regulations, describe the how to apply for a licence, and outline the obligations and consequences of holding a permit or licence. Annex A to the Guidelines outlines the range of activities which require permits. It is broad enough in scope to encompass all

industrial, commercial, manufacturing, construction, service/utility, tourism, mining, forestry and agro-food activities that are likely to cause pollution, waste or discharges into the environment. Specifically, **water and sewerage treatment plants** require permits, as do **solid waste treatment and disposal facilities** and facilities for agricultural waste processing. However, a licence is not required for domestic waste disposal systems. The Guidelines provides that licences for certain existing facilities (sewage effluent, trade effluent, stack emissions, solid waste landfills, incinerators and hazardous waste treatment facilities, mineral products processing, petroleum refining and fuel combustion) will be phased in by pre-determined dates. (Also see Chp. 9.)

The *National Resources Conservation (Environmental Protection and Waste Management) Regulations 1992* establishes mechanisms for the protection of the environment from pollution, waste or other emissions or discharges. Section 7 provides that no one can knowingly permit the release of a substance into the environment in any amount, concentration or level in excess of that expressly prescribed by a licence. Although a licence application must contain a description of the substance to which the licence relates (Section 6), the Regulations do not specify which activities require a licence (NOTE: - It is presumed that these provisions refer to licences issued under the *Natural Resources Conservation (Permits and Licences) Regulations*). Section 8 provides that the NRCA may in writing direct the person controlling such a substance to take any or all of the following measures:

- (a) an investigation of the situation;
- (b) action to prevent the release (of the substance);
- (c) measuring the rate of release or the ambient concentration of the substance;
- (d) minimizing or remedying the effects of the substance on the environment;
- (e) restoring the area affected by the release to a condition satisfactory to the Authority;
- (f) monitoring, measuring, containing, removing, storing, destroying or otherwise disposing of the substance, or lessening or preventing further releases;
- (g) installing, replacing or altering any equipment in order to control or eliminate the release;
- (h) constructing, improving or enlarging the plant or structure as may be necessary to control or eliminate the release; and,
- (i) reporting as required.

(Note: Under the Regulations inspectors can order emergency measures to be undertaken (Section 9). Division II applies to unlawful, unauthorized and accidental releases that are not from licensed activities or facilities. Section 11 provides that no person shall knowingly release or permit the release of a substance into the environment that may cause, is causing or has caused a "significant adverse effect". Any person having control of a substances that may cause, is causing or has caused a significant adverse effect has a duty to report the release (Section 12), and take action to remedy the impact and restore the environment (Section 14). Under Section 15, the NRCA can issue directions which include any measures in Section 8 above. Section 16 provides that inspectors, with the Authority's approval, may order emergency measures to be undertaken to protect lives, human health or the environment (Section 17). The cost of such measures may be recovered from persons responsible for the incident (Section 18). Procedures for the designation and management of any contaminated site are provided under Division II, and powers relating to enforcement and inspection are provided under Part IV.)

In addition to the above, Part II of the *National Resources Conservation (Environmental Protection and Waste Management) Regulations 1992* establishes mechanisms for the management of wastes from various sources. Sections 23 and 26 deal particularly with hazardous wastes (See: Chapter 13 for details.). Section 27 states that no person is to any

waste except in a waste container or in accordance with the *Litter Act*, whilst Section 28 provides that waste cannot be disposed of on public lands except:

- (a) at a waste management facility established under the *Public Health Act*;
- (b) through a refuse disposal system established by a local authority;
- (c) in an approved container;
- (d) by burning in accordance with a permit; or
- (e) in any other manner specified by the Regulations.

Part III of the Regulations also provides for the management of hazardous substances and pesticides. (See: Chapter 13.)

The NRCA has published *Guidelines for Waste Management* which set out the policies intended for reducing and eliminating soil and water pollution through the development of waste management systems. Codes of Practice are being drafted for the management of wastes from:

- (a) *Food and Agro-Industries* - to provide guidance on good waste management practices and outline a general framework for introducing good practices;
- (b) *Chemicals* - to serve as guidelines to achieve cleaner production, waste minimization and improved management; and,
- (c) *Hospital and other Infectious Wastes* - to act as guidelines relating to options for waste management and treatment strategies.

The *Trade Effluent and Sewerage Effluent Regulations*, and *Waste Discharge Fee Regulations* are being developed to establish discharge limits and establish a user fee system for waste treatment.

The *Litter Act*, administered by the Ministry of Local Government, prohibits the discarding of litter or refuse in public places, and the discharge of substances on private places without the express permission of the owners or occupiers of such premises (Sections 3 and 4). Section 5 prohibits the willful breaking of bottles or glasses in public places without approval, whilst Sections 6 to 16 deal with offences and enforcement powers. The Act allows vehicles used to deposit litter to be seized upon conviction. The Act confers powers on local authorities to enforce litter removal.

Section 19 of the *Harbours Act* prohibits the discharge or deposit of any rubbish, oil, oily waste or other similar material into harbours or harbour channels. Section 49 of the *Mining Act* makes it an offence for any person who, in the course of prospecting or mining operations, lets poisonous or noxious substances be discharged into public waters in such quantities as to injure animal, fish, vegetable or (human) life.

The *Quarries Control Act* establishes zones where quarrying may be carried out, and controls the licensing of all quarries. It outlines the criteria for refusing to grant a quarrying licence, which include: the preservation of the character of the environment, including flora and fauna; any possible effect on the water table or surface drainage patterns; and the danger of pollution to the neighbourhood. (See: Chapter 5 for more details.) Under the *Petroleum Act*, the Minister of Mining and Energy may make regulations for the prevention of pollution and the undertaking of remedial action due to pollution occurring as a result of petroleum exploration or development activity.

As discussed in Chapter 4, the *Public Health Act* empowers Local Boards of Health to establish sanitary districts and to carry out activities to protect public health including the enforcement of regulations and orders pertaining to the sanitary collection and disposal of garbage and other waste. Licence fees may be imposed and penalties prescribed. The Minister of Health is granted broad powers to regulate air, soil and water pollution, employment health hazards and the control of rodents and mosquitoes, and to remove public health hazards. Although the *Public Health Act* provides that a Local Board of Health may carry-out and regulate activities in the interest of public health, no regulations exist for the management of wastes or pollution. The Environmental Control Division, within the Ministry of Health, is responsible for the control of air and water pollution and abatement of environmental health hazards. It enforces regulations under the *Public Health Act*, and reviews/approves all engineering plans for water and wastewater treatment and disposal facilities and other.

As noted in Chapter 5, Parish Councils function as the local health boards and local planning authorities. Physical planning and environmental management functions and programs of the Parish Councils include the cleansing of public areas, the management of dump sites, land use planning and development, maintaining public bathing beaches and monitoring bathing water quality, protection of watershed areas around local water sources, and assisting central government agencies in general environmental monitoring. The Ministry of Local Government acts mainly to set policy, provide funding, and monitor activities of the Parish Councils. Section 5 of the *Towns and Communities Act* makes it an offence to discharge noxious wastes on highways. The *Parochial Roads Act* empowers the Superintendent, along with Parish Councils, to require landowners or occupiers to remove rubble, debris or other obstructions that encroach on roads (Sections 52, 53 and 54), and establishes penalties for violations.

The *Kingston Improvements Act* provides that the Kingston and St. Andrew Corporation is responsible for the care, inspection, maintenance, repair, working and management of the sewerage system in the Parish of Kingston and St. Andrew. (See: Chapter 5.) Section 8 deals with Kingston's sewerage collection works and for the disposal of the sewage **either by discharging into the sea beyond the limits of the parish of Kingston, or by utilizing it for irrigation.** Sections 10 to 13 outline what individual households are to do to connect to the Kingston sewer system, and their responsibility to install toilets. Section 14 prohibits - and penalizes - sewage discharge from any house once a sewerage connection system has been installed. Sections 25 and 26 provide that sewerage construction or installation works can only be undertaken by Licenced Sanitary Constructors.

Efforts at waste recycling and reuse continue to grow, but not nearly fast enough to cope with the expanding waste of a growing population. Presently over 3 million plastic bottles are recycled by WISYNCO, one of the three companies in Jamaica that is recycling plastic. Other items beginning to be recycled and reused include cardboard, glass bottles, newspapers and some metals. The Underground Water Authority is beginning to develop a preliminary systematic approach to identifying potential sites for hazardous and solid waste management facilities. And, under the *National Industrial Policy*, Government's

policy is to seek cost-recovery from the use of existing water and sewerage facilities, and to expand the coverage of sewerage networks.

Commentary

It is apparent that the licence application process, under the *Natural Resources Conservation (Permits and Licences) Regulations*, is intended to serve as an environmental impact assessment "screening" process as well as a mechanism to regulate activities likely to cause or result in pollution, waste or discharges to the environment. But, as a mechanism for pollution control, it has some notable deficiencies, including:

- * lack of harmonization in the implementation and enforcement of pollution control ;
- * lack of specifications for "current standards applicable to new facilities"; and
- * no specifications for permissible concentrations of hazardous substances.

Overall the public is not educated to take responsibility for curtailing or reducing its garbage, or for disposing of it properly. Public education - and political leadership - is crucial to solving the waste disposal problem, as government, with its limited funds, cannot do everything without public cooperation. Enforcement of laws and regulations has not been sufficiently disciplined, hence the public has been indirectly encouraged to be lax in disposing of its wastes. Efforts to deal with sewage have tended to lag behind the provision of clean water, yet sewage and water improvements have most benefit when they move in tandem with each other.

Recommendations

It is recommended that:

(a) Integrated Approach to Waste and Pollution Management

(i) A total review and analysis of all existing and competing laws and regulations be undertaken, to determine which should be kept, "sunsetting", amended and/or consolidated, before a "new" approach is adopted and before new legal frameworks, regulations, and mechanisms are set up.

(ii) After the completion of (i), then a comprehensive and integrated approach to waste and pollution management be set up to address:

- * the establishment of a combination of approaches to pollution management (e.g. "command and control", "self regulation" or a combination);
- * the development, implementation, monitoring and enforcement of environmental quality standards for air, water and noise;
- * the establishment of Environmental Management Systems (EMS) and Environmental Codes of Practice for all public and private sector activities that result in the discharge of

pollutants or waste into the environment, with such systems drawing upon the International Organization for Standardization's ISO 14000 Series of Standards;

- * the negotiation, implementation, monitoring and enforcement of pollution prevention programs for the industrial, agricultural, forestry, commercial, mining, and tourism sectors;
- * the establishment of a process for the identification, assessment and remediation of contaminated lands, including the restoration of mined areas and land under *Mining Act* and safe disposal of mining waste and tailings;
- * the establishment of standards for the certification of environmental laboratories, and the taking and evaluation of samples;
- * the establishment of corporate liability for pollution incidents, and the liability of corporate officers, agents and lenders;
- * the introduction of rules of evidence, and the creation of "presumption" clauses to assist in prosecutions of pollution cases;
- * the establishment of legal "standing" to facilitate private prosecutions and civil actions for environmental incidents; and
- * the creation of civil liability, compensation and clean-up awards for environmental damage.

(b) Air Pollution

(i) Air pollution issues be addressed by setting up a legal and institutional framework to include:

- * a national air quality monitoring program plus an air quality monitoring system for critical urban and industrial areas to control stationary sources of air pollution;
- * co-ordination of zoning policy with energy and land-use policies, to achieve air quality within specific zones;
- * regulation and control of pollution from motor vehicles, (mobile) generators, and other mobile sources of air pollution.

(c) Waste Management

(i) Similarly, waste management be dealt with through legal and institutional framework to include:

- * a comprehensive waste management policy and implementation plan;
- * the application of sound waste management techniques and technology that are responsive to changing conditions;
- * research and analysis of the Island's specific physical characteristics (e.g. alluvial soils, protection of coastal resources, very permeable limestone) and the inclusion of findings into the development or operation of waste management programs; and,
- * education and motivation of the general population about the importance of proper waste management practices and garbage disposal.

(ii) National Waste Inventory, Policy and Management Plan be developed and set up, to include standards and guidelines for all types of wastes, and for the siting and management of waste treatment plants;

(iii) Waste recycling, reduction, and re-use programs be supported through the imposition of a various financial or user fee structures;

(iv) The "polluter pays" and "user pays" principles, the use of economic instruments, and cost recovery systems for waste reduction, recycling and collection/management activities be implemented; and,

(v) Sound, well-funded enforcement mechanisms be put in place.

Sources

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Chapter 13.

Sustainable Management of Hazardous and Toxic Substances and Wastes

Background

A marked increase in the range and volume of hazardous substances used daily in Jamaica has occurred in recent years. The country is increasingly experiencing the consequences of unregulated use and disposal of such substances. These hazardous substances and wastes include polychlorinated biphenyls (PCBs), asbestos, waste oil, lead, chemicals, pesticides, batteries, incinerator ash, and medical wastes. Their toxicity is well known. More and more Jamaicans are worried about the long term, serious environmental and human health impacts that result from the indiscriminate use and disposal of such substances.

Jamaica has experienced a number of oil and chemical spills and their consequences. In part the deleterious impacts have been due to insufficient control over the transport, storage, and use of pesticides, chemicals, and other toxic or hazardous substances and their containers. Insufficient attention has been paid to or enforcement exercised over the import, export, storage, transportation, use and disposal of hazardous substances, which need to be regularly monitored and carefully managed in view of their high risks.

An estimated 10,000 tonnes of hazardous waste is generated each year in Jamaica, yet no adequate facilities exist for their disposal. Presently, hazardous wastes are disposed of in municipal dump sites, where the interaction and accumulation of such wastes results in dangerous contamination of the environment and serious risks to human health. The amount and kinds of household hazardous wastes (paints, cleaners, gardening chemicals, etc.) are already increasing at a good pace as Jamaicans increase their consumption of such products. The present system of incineration of medical waste is highly unsatisfactory due to poor design, poor operation, and inadequate or irregular maintenance of such facilities. Consequently, the disposal of medical wastes presents a very serious problem in view of the likelihood of contamination and the spread of disease from unsound practices.

Overview of Legal and Institutional Framework

Jamaica has signed such international and regional treaties or agreements as:

- (a) *Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and of Their Destruction;*
- (b) *Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Underwater;* and,
- (c) *Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea Bed and the Ocean Floor and the Subsoil Thereof.*

Legislation which expressly addresses the issue of the management of hazardous substances include: pesticides under the *Pesticides Act*; calcium carbide under the *Calcium Carbide (Sale and Storage) Act*; fertilizers under the *Fertilizer and Feeding Stuff Act*; petroleum under the *Petroleum and Oil Fuel (Landing and Storage) Act*; and explosives under the *Explosives (Control and Manufacture) Act*, the *Gunpowder and Explosives Act*, and *Explosives (Sale of Deposited Stores) Act*. Few enactments provide any degree of control over hazardous wastes, except under the *Natural Resources Conservation Authority Act*, the *National Resources Conservation (Environmental Protection and Waste Management) Regulations 1992*, the *Customs Act*, and the *Public Health Act*.

The *Pesticides Act* makes provision for regulating the importing, manufacture, sale and use of pesticides. A Pesticides Control Authority is established to carry out the objectives of the Act, and other policy directives given by the Minister of Health. The Authority's responsibilities include the maintenance of a Register of Pesticides, the review of applications for the disposal of pesticides, and the issue of regulations for the disposal of pesticides and packaging. The Act provides for the registration of pesticides, the licensing of facilities for the manufacture or importing of pesticides, and authorization for the sale of pesticides. The Schedule II lists particular hazardous pesticides which are prohibited for use. Less toxic pesticides are listed in Schedule III - their sale is restricted.

The *Calcium Carbide (Sale and Storage) Act* provides that licences are required to deal in, sell, or store calcium carbide. The *Fertilizers and Feeding Stuffs Act* (1942) stipulates that statutory statements must be given regarding any fertilizers that are dispensed, except for small quantities of 56 pounds or less. Section 6 establishes criminal liability if fertilizers are not properly marked, and Section 8 makes it an offence to sell fertilizers containing any destructive ingredients harmful to plant growth. The *Petroleum and Oil Fuel (Landing and Storage) Act* (1925) regulates the landing and storage of petroleum, but does not impose any environmental, clean-up or emergency response standards.

Under the provisions of the *Explosives (Control and Manufacture) Act*, a licence is required to manufacture explosives, while the *Explosives (Sale of Deposited Stores) Act* (1889) relates to the management of "warlike stores" of explosives. The *Gunpowder and Explosives Act* (Section 3) makes it an offence for a ship's master to land dangerous explosives without a permit. A licence is required to deal in gunpowder or explosives (Section 4) - it is an offence to possess such substances without a licence. Sections 12 and 14 details rules for storing explosives, and for the packing of explosives for transportation.

The omnibus *Natural Resources Conservation Authority Act*, as discussed in earlier chapters, gives the NRCA powers, inter alia, to investigate polluting activity that harms the environment and involve wastes management or disposal. Section 12 prohibits persons from discharging poisonous, noxious or polluting substances into ground water without a licence. Penalties can be invoked for violations. Section 17 deals with solid waste disposal facilities which must regularly report to the NRCA about the performance of the facility and type of substances discharged.

Part II of the *National Resources Conservation (Environmental Protection and Waste Management) Regulations 1992*, as noted before (Chapters 5, 12), establishes mechanisms for the management of wastes from various sources, and includes provisions relating to hazardous wastes. For example, Section 23 deals with the generation, collection, transportation, treatment or disposal of hazardous waste; Section 26 deals with the transport, storage, treatment and/or disposal of hazardous wastes, and manifesto requirements. Sections 27 and 28 specify how waste must be disposed of, including under the *Litter Act*, and on public lands in accordance with the *Public Health Act*. Part III provides for the management of hazardous substances and pesticides, including their sale and distribution.

The NRCA published *Guidelines for Waste Management* regarding the policies and (hazardous) waste management systems that will be put in place for the reduction and elimination of soil and water pollution. It is also developing Codes of Practice for the management of:

- (a) *Chemicals* to serve as guidelines to achieve cleaner production, waste minimization and improved management; and
- (b) *Hospital and other Infectious Wastes* to serve as guidelines for waste management and treatment strategies and options.

Presently, the Authority is finalizing the *Natural Resources (Hazardous Waste) (Control of Movement) Regulations* to give effect to the Convention on Trans-boundary Movement of Hazardous Wastes and Their Disposal (*Basel Convention*).

Although the *Public Health Act* provides that a Local Board of Health may carry out activities and regulations in the interest of public health, no programs or regulations to date have been established for the management of hazardous or toxic substances. The Environmental Control Division (ECD) within the Health Ministry is responsible for the control of air and water pollution, and abatement of environmental health hazards. It enforces regulations under the *Public Health Act*, and reviews all engineering plans for water and wastewater treatment and disposal facilities. Its involvement in controlling hazardous seems to be limited. While the *Country Fires Act* deals setting fires to trash on land, its mandate to cope with hazardous substances also seems to be limited.

Section 300 of the *Shipping Bill*, which is due to be presented to Parliament, provides for the implementation of the *International Maritime Dangerous Goods Code (IMDG Code)*. The *Customs Act* regulates the import and export of all substances in Jamaica. However, no express controls have been established over the import or export of hazardous wastes or substances, although radioactive materials appear to be subject to a permit. The *Underground Water Authority* is now developing a preliminary systematic approach to identifying potential sites for hazardous and solid waste management facilities.

Commentary

Given the risks attached to hazardous substances and wastes - and their storage, disposal, transport, and management - the present laws pertaining to hazardous substances and wastes, and their management and control, are largely inadequate and ineffectual.

Recommendations

It is recommended that the following be undertaken:

(a) International Conventions

(i) Review and assess the advantages and disadvantages, including financial costs and obligations, of becoming a party to the following international conventions and agreements:

- * *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency;*
- * *Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels;*
- * *Convention on Early Notification of a Nuclear Accident;*
- * *Convention on the Physical Protection of Nuclear Material;*
- * *Convention on Third Party Liability in the Field of Nuclear Energy;*
- * *Convention on Trans-boundary Movement of Hazardous Wastes and Their Disposal (Basel Convention);*
- * *Vienna Convention on Civil Liability for Nuclear Damage;* and
- * *the Protocol Relating to the Application of the Vienna Convention on Civil Liability for Nuclear Damage and the Paris Convention on Third Party Liability in the Field of Nuclear Energy.*

(ii) Prioritize which conventions or agreements to sign onto, and then become a party and implementor of those decided upon.

(b) Management of Hazardous Substances

(i) Develop urgently needed legislation for the regulation and management of all hazardous, toxic or dangerous substances, especially their:

- * import;
- * export;
- * disposal;
- * storage;
- * transportation;
- * use;
- * classification;
- * labeling;
- * marking;
- * documentation.

(ii) Ensure such a legal framework is consistent with the *International Maritime Dangerous Goods Code (IMDG Code)* as approved by the Maritime Safety

Committee of the International Maritime Organization (IMO), and the *Dangerous Goods Regulation Relating to the Carriage of Goods by Air* as approved by the International Civil Aviation Organization (ICAO).

(c) Management of Hazardous Wastes

(i) Establish strict legal and enforcement mechanisms for the collection, storage and disposal of hazardous wastes, including standards for the transportation of hazardous wastes, and the siting and management of hazardous waste disposal facilities.

(d) Institutional Structures

(i) Establish a legislative and institutional structure for the development and implementation of:

- * a National Hazardous Substance Inventory, Policy and Management Plan;
- * the licensing of hazardous waste facilities and transporters; and
- * an integrated pest management program to reduce reliance on chemical pesticides in agriculture.

(e) Trade in Hazardous Wastes

(i) Implement legislation to implement and give effect to the requirements of the *Convention on the Trans-Boundary Movement of Hazardous Wastes and Their Disposal*, particularly to:

- * prohibit the importing of hazardous, nuclear and biomedical wastes; and
- * prohibit the exporting of hazardous wastes except for the purposes of recycling or disposal, and only where the receiving country has approved the specific importation, and has facilities to recycle or dispose of waste in an environmentally sound way.

(f) Trans-boundary Movement of Nuclear, Hazardous and Biological Wastes

(i) Enact legislation to implement and give effect to the requirements of the *Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Underwater*, the *Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea Bed and the Ocean Floor and the Subsoil Thereof*, the *Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and of Their Destruction*, and *Convention on the Trans-Boundary Movement of Hazardous Wastes and Their Disposal*, and to require prior notification and approval for the trans-boundary movement of shipments of nuclear, hazardous and biological wastes.

(g) Standards and Codes of Practice

(i) Establish a regulatory framework to empower the Jamaica Bureau of Standards (in association with the Natural Resources Conservation Authority and other key agencies) to develop, implement, monitor and enforce:

- * environmental management system standards (including hazardous substance and waste management systems) for agricultural, industrial and commercial facilities that use, manufacture, distribute or dispose of any hazardous substance or waste;

- * labeling, placarding and documentation standards for hazardous substances and wastes;
- * standards for the transportation and storage of hazardous substances and wastes; and,
- * standards for the management of hazardous waste disposal sites.

(h) Use of Economic Instruments

Establish regulatory structures to create responsive and pertinent economic incentives to promote the sound management and disposal of hazardous substances, including:

- * expanding the scope of concessionary tariffs to include "environmentally friendly" substances and equipment which reduce the use of pesticides and chemicals;
- * providing fiscal incentives for promoting the phasing-out of pesticides and chemicals and to encourage the importation of "environmentally friendly" alternatives;
- * providing incentives to manufacturers and importers of hazardous substances to encourage "life cycle management" and the recovery and recycling of hazardous substances;
- * providing incentives for industries to establish sound hazardous substance management plans and provide training in hazardous substance management, recycling and disposal; and
- * internalizing the costs of environmental protection and waste management measures on development project costs for tax purposes.

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Chapter 14.

Sustainable Management of Marine Pollution **(Marine-based and Land-based Sources)**

Background

Oil imports to Jamaica total 19.4 million barrels per year. An average of 14 shipments (totaling an average of 1,154,000 barrels of petroleum products) go between Kingston and Montego Bay monthly, presenting a considerable risk from oil spill damage to the marine environment and coastal areas from operational or accidental discharges.

Jamaica is near the centre of the Wider Caribbean Region. This Region, with its intensive maritime activities and sensitive marine environment, has been designated as a "Special Area" under the *International Convention for the Prevention of Pollution from Ships and Related Protocols* (commonly referred to as MARPOL 73/78). Jamaican ports received a total of 3,476 ship calls in 1996, an increase of 6.1 percent over 1995. Cruise ship passenger arrivals amounted to 658,178 persons, resulting in approximately 5,040 kilograms per day of garbage. This is usually not properly disposed of, since Jamaica does not have port waste reception and disposal facilities to adequately and safely manage such wastes, as is required under the above *International Convention*.

Land-based activities, including dredging and reclamation works, dumping of waste into rivers and coastal areas, and unsound or poorly managed development continue to cause high levels of pollution and sedimentation of Jamaica's marine areas. Of the 26 official dump sites in Jamaica, 13 are located adjacent to coastal waters, which has resulted in chronic pollution of the water bodies by highly contaminated runoff or leachate. Garbage dumped in gullies and streams eventually results in the contamination of coastal areas.

Sewage from urban and rural settlements, especially large coastal populations, is a major cause of pollution to the marine environment. Most of the established sewerage treatment facilities do not operate as intended, and discharge poorly treated sewerage into the marine waters. Eutrophication and algal growth are caused by such contamination, and are increasing, as are food-poisoning incidents from the consumption of contaminated fish and shell fish and the demise of ever more coral reefs, a major tourist attraction.

Overview of Legal and Institutional Framework

Jamaica is a signatory to a number of international and regional conventions and agreements relating to the prevention of marine pollution, including:

- (a) *Convention for the Protection of the Marine Environment of the Wider Caribbean Region* (Cartagena Convention), including the *Protocol Concerning*

- Cooperation in Combating Oil Spills in the Wider Caribbean Region, and the Protocol on Land-based Activities that Pollute the Marine Environment;*
- (b) *Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter (London Dumping Convention);*
- (c) *International Convention for the Prevention of Pollution from Ships and Related Protocols (MARPOL 73/78), including the Amendment to the Protocol to the International Convention for the Prevention of Pollution from Ships, and the Amendment to Annex II of the International Convention for the Prevention of Pollution from Ships;*
- (d) *International Convention for the Safety of Life at Sea (SOLAS);*
- (e) *Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Underwater;*
- (f) *Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea Bed and the Ocean Floor and the Subsoil Thereof; and,*
- (g) *United Nations Convention on the Law of the Sea.*

To provide awareness of the requirements, commitments and responsibilities under the *Convention and Protocol for the Wider Caribbean Region (a. above)*, as well as under the *International Convention on Oil Spill Prevention, Response, and Cooperation (OPRC)*, which Jamaica has not yet signed, the Petroleum Corporation of Jamaica (PCJ) held a series of international seminars and workshops on oil spill contingency planning and management. These seminars facilitated increased awareness and interaction among the public and private sectors, and contributed to critical decision-making and agreements between Latin American and Caribbean countries.

The National Contingency Plan for Oil and Chemical Spills was developed and tested by the Office of Disaster Preparedness and Emergency Management (OPDEM), and is currently being revised. A series of national and regional meetings on oil spill response were convened, and mock oil spill response exercises held. The training of personnel in the key institutions responsible for responding to oil spill emergencies is ongoing. A computer data-base program and user's manual for oil spill expert and equipment applications was produced and made available to OPDEM, the NRCA, the Jamaica Defence Force Coast Guard, and the Jamaica Maritime Institute.

On the whole Jamaica does not have much legislation in place to handle problems affecting the marine environment. It has the *Harbours Act* which authorizes the Port Authority to declare harbours and establish or alter their boundaries. The Marine Board, composed mainly of Port Authority officers, is empowered to regulate and control Jamaica's harbours and the shipping channels leading to them. The Marine Board can, with the Minister's sanction, remove any wreck, hulk or other obstruction from any harbour or channel (Section 15), and resultant costs can be levied against vessel owners (Section 17). The Act prohibits the deliberate sinking of any vessel in a harbour (Section 18), the discharge of rubbish, earth, stones, ballast, mud, oil or oily mixtures or residues into harbours or shipping channels (Section 19). It makes it an offence to dig up or carry away

stones, sand or ballast from reefs or breakwaters protecting harbours, and to cause any nuisance on board a vessel while in harbour. (See also Chapter 6.)

Under the *Port Authority Act*, the Marine Division of the Port Authority regulates the construction of structures on or over water. Such structures must be approved by the Marine Division after approval by the Engineering Department. The *Carriage of Goods Act* regulates the carriage of goods by land and by sea, and establishes the liability of the carrier in the event of any damage resulting from the carriage of goods.

The *Shipping Bill*, soon to be introduced into Parliament, provides for the enactment of comprehensive legislation to regulate merchant shipping and will help to bolster Jamaica's existing legislation. Among the significant features of the Bill are those relating to the following matters:

- (a) The establishment of an administrative structure for regulating the shipping industry, in a form of a statutory body called the Maritime Services Authority;
- (b) The development of a clearly defined framework for the registration and licensing of ships, including a modified open and small vessel registry;
- (c) The expansion of categories of liens that can be attached to ships;
- (d) The establishment of a Maritime Tribunal to hear and determine matters on the seaworthiness of ships and to investigate marine casualties; and,
- (e) The inspection of ships and the creation of enforcement powers for inspectors.

Part IX of the Bill provides for the prevention of collisions and the safety of navigation, and safety to life at sea. Section 300 provides for the implementation of the International Maritime Dangerous Goods Code (IMDG Code). Part XI deals with measures to manage ship wrecks and their the salvage. It should be noted that the Bill does **not** provide for the implementation of most marine pollution conventions, and contains **no** provisions to adequately deal with maritime casualties that cause marine pollution. It does not appear to pay any particular attention to cruise ships and their unique demands on coastal waters, the marine environment, and waste disposal.

Commentary

Legislation, including the proposed *Shipping Bill*, does not implement or make provision for the enforcement of most conventions or agreements Jamaica has become a signatory to. It deals only lightly, if at all, with maritime casualties that cause marine pollution and damage. It does not deal with the demands and needs of cruise ships and their passengers, or provide for port-of-call waste disposal facilities. It neglects the impact of land-based sources of pollution on the coastal and marine environments. Little linkage between land use laws and reform and the marine or coastal environments exist, has been developed, or is being developed. The contamination of the sea and the coastal areas from land-based sources of pollution will continue to increase, but little legislation and few regulations exist to cope adequately with the accelerating conditions.

Recommendations

It is recommended that:

(a) International Agreements and Conventions

- (i) Jamaica undertake a review and assessment of the advantages and disadvantages, including the concomitant financial obligations, of becoming a signatory to the wide range of international agreements and conventions pertaining to marine pollution and marine protection.
- (ii) After the review, Jamaica prioritize which conventions to sign on to and then become a party to those with the intent of meeting their obligations through the enactment of implementing legislation.
- (iii) Jamaica consider becoming a party to the following conventions:
 - * *Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft;*
 - * *Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels;*
 - * *Convention on the International Regulations for the Preventing Collisions at Sea (COLREG);*
 - * *Convention on the Prevention of Maritime Pollution from Land-based Sources;*
 - * *Convention on Trans-boundary Movement of Hazardous Wastes and Their Disposal (Basel Convention);*
 - * *Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material;*
 - * *International Convention for the Prevention of Pollution by Oil (OILPOL), including the Amendments to the International Convention for the Prevention of Pollution by Oil (Tank Arrangements and Limitation of Tank Size);*
 - * *International Convention on Civil Liability for Oil Pollution Damage (Civil Liability Convention);*
 - * *International Convention on Oil Spill Prevention, Response, and Cooperation (OPRC);*
 - * *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers;*
 - * *International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund Convention), including the Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, and the Protocol to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage;*
 - * *International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention Convention), including the Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil; and*
 - * *Vienna Convention on Civil Liability for Nuclear Damage including the Protocol Relating to the Application of the Vienna Convention on Civil Liability for Nuclear Damage and the Paris Convention on Third Party Liability in the Field of Nuclear Energy.*

(b) National Legislation

- (i) An effective legal and institutional regime be established to address the

risks of marine pollution from both ship and land-based sources, to deal strongly with maritime casualties which result in marine pollution, and to effect those conventions signed onto.

(ii) Such a regime:

- * establish an effective structure for "port state" control;
- * prohibit the dumping of ship-generated wastes;
- * create a regulatory structure to control discharges into the marine environment from **land-based sources of pollution**, with on-going legal reforms (e.g. LAMP, PSMP, NEPA, etc.) being encouraged to consider the relationship between the land and the sea and making provision accordingly;
- * create structures for the management, transportation and disposal of ship-generated wastes, including user fees to pay for their costs;
- * take measures to control the discharge of ballast water to prevent the introduction of foreign organisms into coastal waters;
- * set uncomprehensive structures to deal with oil spills and pollution from ships, including the imposition of civil liability, and to provide for oil spill contingency planning and management;
- * establish liability of ship owners and operators for environmental damage;
- * create reporting requirements for environmental incidents and discharges from ships;
- * set up effective enforcement and monitoring mechanisms, including prosecutions and heavy penalties for environmental offences; and,
- * establish burden of proof procedures for maritime pollution incidents, and "presumption clauses".

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Chapter 15.

Occupational Health and Safety in the context of Environmental Conditions

Background

Occupational health and safety are vital to the well-being of human beings. Many improvements in working and living conditions are actually dependent on improvements to the environment and a reduction, mitigation or elimination of deleterious environmental conditions. Human health and safety can be harmed by releases of toxic substances into the environment, whether air, water or soil. They may be obvious, or insidious and invisible. Harmful and dangerous sources include:

- (a) the cumulative effect of substances used in agriculture and food production, preparation and preservation, and in the creation of golf courses, including pesticides, fertilizers, chemicals, antibiotics, etc.;
- (b) the increased range of workplace illness caused through prolonged exposure to a variety of irritants - including offices subject to "sick building syndrome";
- (c) workplace stress, poor health and absenteeism caused through poor working conditions, including low-level radiation from computers and other technology;
- (d) workplace accidents resulting in death, maiming or injury caused by unsound or unsafe operational practices, and by reduced physical and mental ability due to bad environmental conditions;
- (e) the rise in disease and illness through the introduction of infections, viruses and other contaminants by building materials and ventilation systems; and,
- (f) the especial detrimental effects on women's health, their reproductive systems, and reproductive capacity due to chemicals, radiation, and other hazards in the workplace and home.

The Government of Jamaica has initiated a range of programs to address waste and pollution management, and the contamination of air, water and soil. But occupational health and safety as related to environmental conditions has not been adequately addressed, whether through the establishment of programs by both the private sector and government at the workplace, support from labour and management, and through the enhanced knowledge and active participation of the public in consumer awareness initiatives.

Overview of Legal and Institutional Framework

The *Public Health Act*, as discussed in Chapter 4, empowers Local Boards of Health to establish sanitary districts and to carry out activities and regulations to protect public health including for the control of nuisances, sanitary collection, the disposal of garbage and other waste, air, soil and water pollution, employment health hazards, and the control of rodents and mosquitoes. No regulations have been established for the management of wastes or pollution. As also noted, the Environmental Control Division (ECD) within the Ministry of Health is responsible for the control of air and water pollution, abatement of environmental health hazards, and provision for health and safety in the workplace.

The *Processed Foods Act* regulates food processing and manufacture, and provides for the inspection of premises where food is produced. Hotels are often targeted for inspection whilst smaller eateries are not. The control over diseases in animals is effected through the *Animals (Diseases and Importation) Act*, which establishes a requirement for owners of diseased domestic animals to report the occurrence of disease to authorities. The Act establishes structures for the slaughter and disposal of diseased animals.

Under the *Factories Act*, a Chief Factory Inspector is appointed with responsibility for effecting the Act. Under Section 21, the manager or person in charge of a factory must report any accident which results in the loss of life to or disability of a factory employee. The Chief Factory Inspector may, under Section 26, require the discontinuation of any activities at a factory if its operations present a danger to the safety, health and welfare of employees. The *Factories (Building Operations)(Safety, Health and Welfare) Regulations*, and the *Factories (Dock)(Safety, Health and Welfare) Regulations* are designed to provide a framework for ensuring the health and safety of factory workers. The *Mining (Health and Safety) Regulations (1977)* provides a regulatory framework for ensuring safe operations within the mining industry. The *Workmen's Compensation Act (Section 3)* makes employers liable for compensation to be paid if a person dies or is injured at a workplace. Part III outlines the conditions of compensation to be paid.

A *Workplace Health and Safety Bill* is currently being drafted.

Commentary

Relatively little feedback was received on this topic. In part this could be because there is still not a real recognition of the linkages between the health of humans and the health of the environment, whether indoors or outside. The costs of environmental decline have not been calculated or factored into health and overall economic costs. Occupational health and safety are still rather in their infancy, without strong proponents in the public or private sectors to ensure that they become the norm the workplace.

Recommendations

It is recommended that Jamaica:

(a) International Conventions

(i) Consider becoming a party to at least some of the following international conventions and agreements relating to environmental health and safety, after reviewing and analyzing the benefits and costs of becoming a signatory to such international agreements as:

- *Asbestos Convention;*
- *Convention Concerning Occupational Health and Safety and the Working Environment;*
- *Convention Concerning Occupational Health Services;*
- *Convention Concerning Prevention and Control of Occupational Hazards Caused by Carcinogenic Substances and Agents;*
- *Convention Concerning Protection Against Hazards of Poisoning Arising from Benzene;*
- *Convention Concerning Safety and Health in Construction;*
- *Convention Concerning Safety in the Use of Asbestos;*
- *Convention Concerning the Protection of Workers Against Ionizing Radiations;*
- *Convention Concerning the Protection of Workers against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration;*
- *Convention Concerning the Use of White Lead in Paint; and*
- *Prevention of Major Industrial Accidents Convention.*

(ii) Effect implementation and enforcement of those conventions it signs by a solid legal and institutional regime to address occupational health and safety risks, including those arising from environmental hazards, and casualties resulting from poor working and environmental conditions.

(iii) Such a regime to provide for:

- * standards for workplace health and safety;
- * a structure for implementation, monitoring and enforcement of workplace health and safety standards through industry self regulation a combined with an Industry Codes of Practice for Workplace Health and Safety;
- * liability for workplace health and safety;
- * for quality control, monitoring and inspections of workplace conditions, using workplace committees;
- * air quality standards for the workplace;
- * maximum noise emission levels in workplace and residential areas;
- * building material standards and building codes to reduce risk associated with poorly ventilated or constructed buildings;
- * ventilation and lighting standards for the workplace; and,
- * economic instruments to encourage industry compliance with workplace health and safety standards and requirements.

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Chapter 16.

Sustainable Development Principles and Their Application to Sustainable Development Law Reform

Background

During the seminar a number of participants mentioned the need to address the most important assumptions and basic principles that underlie sustainability. It was recognized that if a vision is held of what a country wishes to achieve and its basic principles are both understood and adhered to, fewer detailed, and often confusing, rules and regulations are must be put in place. It was noted that there is a tendency for countries and their institutions to put over much emphasis on rules and regulations, which become difficult and costly to enforce, rather than to put more energy up front in framing the vision and the principles on which to base the laws of the nation.

Assumptions and principles can dictate the direction a nation's initiatives to implement sustainability will go towards. Yet all too often those basics are not overtly addressed or incorporated into the conceptualization, development and implementation of sustainable law and its institutional frameworks. Sometimes they may be implicit in the process and in some minds, but that in and of itself is not enough to ensure a coherent vision and consistent principles, the building blocks of law and justice. Developing legal and institutional frameworks, and ensuring that people at all levels use them, can be enhanced and given solidity by addressing underlying assumptions and principles. Mr. Franklin MacDonald of the Natural Resources Conservation Authority eloquently spoke of the importance of a vision to guide Jamaica into the future - a vision that can be found in the Island's National Anthem * - and sustainability principles to support the achievement of that vision. The Honorable Mr. Easton Douglas, Minister of Environment and Housing, in his key note speech, highlighted such sustainability principles as integration, transparency and the participatory process. (* "Give Us Vision, Lest We Perish", Stanza 2.)

Time did not permit seminar participants to embark upon a detailed discussion about a vision, underlying assumptions and basic principles. Nevertheless, it was expressed that an integrative approach to sustainable management of the environment would not be complete without a brief overview of those aspects of sustainability.

Assumptions

Some assumptions that the participants raised as seriously needing to be taken into consideration when formulating a legal and/or institutional framework include:

- (a) The blurring of local, national and international borders and boundaries, and the likely acceleration of that blurring as technological changes and globalization occur ever more rapidly;

(b) The increasing permeability or penetration of national borders and boundaries, which is particularly evidenced by the flow of environmental problems from one country to another, or from one region to another;

(c) The rapidly accelerating ecological and economic interdependence of countries, paralleled by a much slower pace of political and legal decision-making that does not always progress at a pace commensurate with the economic and ecological realities;

(d) The containment and encompassing of the economic and the social in the environment, and not the reverse, for should the environment collapse the social and economic will collapse;

(e) The penetration of a nation's borders by the economic, trade, monetary, sectoral and environmental policies of other nations, along with international standards (e.g. ISO 14000) and the "corporatization" of the global economy (viz. the proposed Multilateral Agreement for Investment - MAI), and the likely intrusion on or limitation of a country's sovereign rights of action or solution.

(f) The lag between fast-moving international or global events or trends and the inadequate state of municipal, state and international law, especially environmental and sustainable management law;

(g) The lack of harmonization or lag between the universal, immutable laws of nature, being increasingly seen in climate change and global warming, the demise of fishing stocks and forests, etc. and human-made laws;

(h) The need for a remedying of the balance between environmental, social and economic needs, as the underpinning for "sustainable development", which has increasingly mutated to mean economic development and growth, with environmental - and social - considerations either marginalized or pushed to the periphery of national development.

The list of assumptions above is by no means complete. Many more could be raised. But they do indicate that legal and institutional reform cannot proceed in a vacuum that ignores these provocative, and sometimes worrisome, considerations.

Sustainability Principles

As with the assumptions, the following sustainability principles do not constitute a complete list of principles. They serve only as a starting point for a future wider and broader-based discussion of principles that will help to underpin any major legal reform and pave the way for sustainable management law. Principles that were raised:

(a) Human beings have the **fundamental right to an environment** adequate - and healthy - for their own health and well-being;

(b) **Other species** besides the human species **also have a right not to have their world and their habitat destroyed by human beings**;

(c) **Present and future generations have the right to have the environment and natural resources (including other species) conserved for their benefit** and their sustainable use.

These three principles can be encapsulated as the principles of **inter-generational equity and environmental stewardship**. Following on from those are the following principles that are important to the achievement of a nation's overall sustainability;

(d) States (and individuals) have the **responsibility to maintain ecosystems and ecological processes** essential to the biosphere and biodiversity, and to adhere to the **principle of optimum sustainable yield (OSY)** (as opposed to maximum which has been prevalent) when using living natural resources and ecosystems;

(e) To protect the environment and to achieve environmental sustainable development, (national) policies must be based not the **precautionary principle**, whereby environmental measures must anticipate, prevent, and attack the causes of environmental degradation. This mean that the lack of full scientific certainty should **not** be used as an excuse where threats of serious or irreversible damage exist.

(f) States should adopt or apply the **subsidiarity principle**, whereby political decisions are taken at the lowest possible level and as closely as possible to communities or a country's citizens (and adequate resources should be so allocated that those decisions can then be properly implemented and enforced);

(g) Linked to subsidiarity is the **principle of transparency**, whereby information about issues is made accessible to the general public and decisions taken at all levels are open and transparent;

(h) States should apply the **user pays principle (UPP)**, whereby the price of a natural resource (i.e. through properly informed **resource pricing**) should reflect the full range of costs involved in using that resource (e.g. exploitation, transformation, use, and also foregone future benefits);

(i) States should also apply the **polluter pays principle (PPP)**, which is different from the UPP, as it would impose on the polluter the full cost of pollution, environmental degradation and/or destruction, whilst taking into account the present public's interest and future generations' benefits (or loss of benefits);

These nine principles are among the most fundamental of sustainability principles, although many others exist that enhance and support the nine. These nine can serve to inform and support the efforts of any country embarked upon reform that is intended to lead towards sustainability.

Some participants noted that nations are increasingly under pressure to reconcile and achieve what appear to be conflicting and opposing objectives, and thus seem to counteract or contradict some or all of the sustainability principles. For instance:

- * pollution reduction;
- * reduced environmental destruction or degradation;
- * protection of biodiversity and the natural resource base; and
- * maintenance of economic efficiency and social improvement standards;
- * general economic growth and/or development; and
- * orderly development of institutions and trade.

As recent OECD data and studies indicate, **environmental improvements and economic development** can be both compatible and mutually supportive, **if** the right policies, laws, and implementation or enforcement measures are put into place. For too long the environment has been sacrificed to economic growth because of the lack of understanding that should the environment collapse so will societies and economies, and that countries can no longer afford **not** to integrate environmental and social planning into their economic planning.

Participants also raised another key area for consideration - that of a nation's willingness and ability to implement its obligations assumed upon the signing, accession or succession to, and/or ratification of international (and regional) conventions, treaties, and agreements. As a general principle a country should:

- (a) Adhere rigorously to the spirit, objectives and provisions of existing signed environment and sustainable development conventions;
- (b) Review and revise existing legislation and laws to bring those in line with signed-on conventions and with the latest technical and scientific information;
- (c) Enter into new conventions and agreements that promote cooperation, coordination and collaboration in environment and sustainable development or management, subject to the country's ability to finance participation in and implementation of those treaties;
- (d) Adopt sustainability principles and comprehensive, integrated legal guidelines at the national, regional and local levels to effect conventions and agreements in a timely way.

It was emphasized that the ultimate benefit of adopting fundamental sustainability principles - many of which are embraced by the international conventions and regional agreements - is that they are applicable in all instances to the use and protection of natural

resources, for present and future generations, in any part of the world, domestically and internationally, within and across borders.

Recommendations

It was recommended that assumptions be reviewed and considered in light of proposed legal reforms, and that sustainability principles be incorporated into the conceptualization, development, and implementation of sustainable law reforms and institutional reforms, as well as overall decision-making.

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Chapter 17.

Indications of New Directions for Sustainable Development Law Reform (Process, Problems, Priorities, Options and Plan of Action)

Background

A number of papers were presented at the National Seminar on Sustainable Development Law, June 9-11, 1998 in an effort to facilitate the discussion on and development of a suitable approach for Jamaica in formulating a harmonized and integrated legal framework for sustainable development and management. The presentations and participants' discussions covered a number of topics, including:

- * Fifteen different topics or sectors;
- * Different Approaches to Law Reform - models from Europe, Fiji and New Zealand;
- * Current Law Reform Initiatives (e.g. PSMP, LAMP, NEPA);
- * Need for Broad-based Consultations and Participation in Law Reform;
- * Constraints to the Law Reform Process (including Gaps, Overlaps and Conflicts between Law and Policy);
- * Enforcement and Implementation Strategies; and,
- * Options and Priorities for National Action.

Seminar participants divided into three working groups to provide commentary and inputs for the draft seminar discussion papers and to prepare recommendations on the fifteen topics chosen for review and analysis. They also considered priorities for action in the expectation that these would later assist designers of an implementation strategy and action plan.

Commentary

Commentaries received from both the participants and interviewees (met during a two-week period prior to the Seminar) are included throughout this report, as are their recommendations. There is no need to repeat those in detail here. The reader who is interested in a particular topic will find the pertinent commentary and recommendations at the end of each chapter. Moreover, a summary of each topic and its key recommendations is encapsulated on a one-page matrix for that topic at the end of each chapter. All fifteen matrices are included here as a composite for ease of reference and to enable the reader to gain an overview of the totality of the subject-matter and of the recommendations.

Seminar participants uniformly stated that there was an urgent need to harmonize, consolidate and update Jamaica's laws, policies and institutional structures to ensure that environmentally sustainable development is attained. It was generally accepted that fragmentation, duplication, contradiction, conflict, and out-datedness in the legal system was seriously undermining attempts to achieve sustainable development.

Recommendations

Sectorally-related recommendations were enunciated by the seminar participants and can be found at the end of each chapter. But participants also enunciated several generic recommendations which they believed were applicable as a whole and not only to a specific sector or topic. They recommended that:

(a) A vision of environmental sustainable development be developed for the whole country, and that it and the principles of sustainability be reflected in Jamaica's Constitution, as well as Jamaicans' right to a healthy, clean environment for present and future generations.

(b) Given that constitutional reform is presently underway, the recommendation (a) above be sent from the Ministry of Environment and Housing's Committee to the Constitutional Reform Committee before the reform process is completed.

(c) An inventory of the status of all international, regional and bilaterals conventions, treaties and agreements (not only environmental) which Jamaica has signed, acceded to, succeeded to, and/or ratified should be developed and maintained on an on-going basis;

* a related data base on the obligations undertaken and implemented by Jamaica on those be developed, along with an analysis of the financial costs/obligations incurred under the said treaties;

* the Ministry of Foreign Affairs be the lead and coordinating agency, in collaboration with other line ministries.

(d) An assessment of the correlation - and gaps - between international/regional obligations and the status of national legislation be undertaken, especially during this period of legal reforms in and between different sectors, with a view to bringing the laws into harmony with the regional/bilateral and/or international treaties;

* the Attorney General's Department be the lead and coordinating agency, in collaboration with other sponsoring ministries;

* the assessment be linked into the present on-going law reforms in the different sectors to ensure harmonization, consistency and coherency.

(e) An assessment of the costs and benefits of signing new conventions and agreements - and implementing old ratified agreements - as well as their financial needs be undertaken in conjunction with Attorney General and the Ministry of

Finance, in order to ascertain what budgetary support can be regularly provided on an annual basis to ensure compliance with the signed on conventions.

(f) The Ministry of Foreign Affairs should be given enhanced responsibility to coordinate the necessary action throughout government to ensure that the signed on international agreements are implemented by the line ministries responsible for implementing specific agreements (viz. Sea Turtles - the Ministry of Agriculture; international environmental law - the Ministry of Environment and Housing; Forestry Principles - Department of Forestry, etc.);

* the Ministry of Environment and Housing should be given a monitoring function over the implementation of environmental and sustainable conventions and treaties, and be allocated adequate resources (budgetary and human) to be able to fulfill the monitoring function satisfactorily.

(g) All national policy and legislation rationalization and/or reform should give full recognition to the reality that Jamaica is an archipelago in which the concepts of watershed management and coastal zone management must be integrated into all other sectoral legislation and planning (e.g. land reform, agricultural and forestry planning, water and fisheries policies, and overall resource planning and allocation);

* Should the Government proceed with the proposed Environmental Sustainable Development Act, then the above concepts, as well sustainability principles, should be fully incorporated into the proposed act, and the on-going LAMP, PSMP, PIOJ, NEPA reforms inter alia should integrate those concepts and the need for an integrated approach;

* Should the Government not proceed with the new Act, then other legislation in place or in the process of being developed should undertake to take an integrative approach by incorporating sustainability concepts and principles.

(h) The Legal Reform Unit should be requested to review the above proposals and other recommendations in this report in light of the proposed new Sustainable Development Planning Act, including undertaking a full review of those acts and institutions being considered for merger, so as to ensure that an integrative, harmonized approach is taken;

* Such a review should be taken in consultation with all parties (including civil society) with full transparency of information and decision-making and full transparency about the advantages and disadvantages, the costs and benefits of merging, the functions, responsibilities, internal cultures and philosophies, etc. of the institutions proposed for merger, and viable alternatives.

(i) The Official Secrets Acts should be repealed and replaced by a Freedom of Information Act, giving the general public and civil society access to information and research, and enabling them to seek review as appropriate;

* The process presently underway in this regard should be expedited so that a Freedom of Information Act, in keeping with modern society, can be put in place as expeditiously as possible.

- (j) The Planning Institute of Jamaica should be mandated to take the lead in demonstrating the linkage between policy formulation and legal reform and/or amendments, and ensuring that harmonization between policy and law occurs.
- (k) An environmental/economic pricing mechanism be developed, in consultation and conjunction with key ministries (Ministry of Foreign Affairs, Trade, Tourism, Finance, etc.), the private and public sectors, NGOs, etc. regarding the pricing of environmentally friendly and unfriendly products, imports and exports, trade regionally and globally, as well as a mechanism for attaching true value to the use of the environment and natural resources.
- (l) An inter-agency task force be established to initiate and undertake a comprehensive law reform program that would update, integrate and consolidate Jamaica's environmental and resource management laws in the context of sustainable development;
- *Such a task force would be composed of representatives from the Ministry of Environment and Housing, the Land Administration and Management Project (LAMP), the Natural Resources Conservation Authority (NRCA), the National Environmental Societies Trust (NEST), the Office of the Attorney General, the Sustainable Development Council of Jamaica, the Ocean and Coastal Zone Council, and those likely to be most affected by radical reform.
- (m) Present law reform initiatives (e.g. LAMP project, PSMP, NEPA, fisheries legislation, workplace health and safety legislation) be reviewed to ensure that they are taking an integrative approach, rather than narrow sectoral approaches of the past, and incorporating sustainability principles;
- * Such reforms ensure that full cooperation and collaboration is obtained from not only the public sector but also from the private sector and civil society, so as to avoid duplication and inconsistency, and to promote a more consultative and harmonized approach to law making;
- *A specific time frame for the development and enactment of a comprehensive, integrated legislative framework for sustainable management be put in place.
- (n) The Recommendations from the Seminar be forwarded to Cabinet for discussion and review, in light of on-going and future policy and law reforms.

Chapter 18.

Matrices for Sustainable Development Law Reform (A Composite Overview of Chapter Topics)

Each topic, on a chapter by chapter basis, is summarized in tabular or matrix form at the end of each chapter. To provide a composite overview of the main elements of each chapter, all the matrices are included in **Annex 1** attached to this chapter. Each matrix sets out in column form:

- * **(A) Topic or Chapter Number and Sector, plus Recommendations (B to H);**
- * **(B) International/Regional Treaties and Conventions** that Jamaica is a party to;
- * **(C) The Constitution of Jamaica** and whether or not it has provisions that are applicable to the topic in question;
- * **(D) National Legislation**, with particular relevance to the sector and related issues;
- * **(E) National Policy** that relates to the sector;
- * **(F) National Programs** that have emerged to support the policy and/or legislation;
- * **(G) Local Authority and/or ENGOs, NGOs, CBOs** which, along with government, has a role to play in the sector; and,
- * **(H) Pending Legislation and/or Amendments** indicates if new legislation or amendments to existing legislation are being contemplated for the sector in question.

For details on each topic, please refer to the pertinent chapter.

It was suggested that future revisions of the matrices might also include columns featuring: **Implementation, Rules and Regulations; Enforcement, Incentives and/or Disincentives/Penalties; Gaps between Policy and Laws; Barriers and/or Constraints; and, Conflicts and/or Overlaps in Laws.**

	A	B	C	D	E	F	G	H
1	TOPIC 2	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	SUSTAINABLE	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	FOR ENGOs, NGOs,	LEGISLATION
3	HUMAN	CONVENTIONS					AND CBOs	FOR AMENDMENTS
4	DEVELOPMENT							
5	& HUMAN RIGHTS							
6		1) 1974 POPULATION & 1984	1962 ORDER-IN-COUNCIL	LABOUR RELATIONS		NATIONAL POVERTY		LAND ADMINISTRATION AND
7		POPULATION DEVELOPMENT	* PROTECTION OF BASIC	& DISPUTES ACT (19...)		ERADICATION PROGRAM		MANAGEMENT PROJECT/REFORM
8		CONFERENCE	HUMAN RIGHTS &	EMPLOYMENT OF		RESETTLEMENT &		RE-IMPLEMENTING THE NATIONAL
9		2) AGENDA 21 PLAN	NEEDS	WOMEN ACT (1942)		INTEGRATED DEVELOP-		LAND POLICY & REFORM-
10		OF ACTION (1992)				MENT PROGRAM		ING LAND USE & PLANNING.
11		3) PROGRAM OF ACTION						
12		FOR SMALL ISLAND		NATIONAL FAMILY	NATIONAL POPU-	ESTABLISHMENT OF		
13		DEVELOPING STATES		PLANNING ACT (1967)	ATION POLICY (1992)	POPULATION POLICY		
14		4) UNIVERSAL DECLARATION				COORDINATION CTTEE		
15		OF HUMAN RIGHTS (19...)		FACTORIES ACT (19...)		AND NATIONAL		
16		5) NAIROBI FORWARD-		MONITORED BY		FAMILY PLANNING BOARD		
17		LOOKING STRATEGIES		MINISTRY OF LABOUR,		UNDER THE NFP ACT.		
18		FOR THE ADVANCEMENT		FOR WORKERS' SAFETY,				
19		OF WOMEN (19...)		BREACHES OF ACT,		MINISTRY OF LABOUR,		
20		6) WORLD DECLARATION ON		WAGES, WORK.		SOCIAL SECURITY		
21		THE SURVIVAL OF CHILDREN				& SPORTS SET UP		
22		(19...)		URBAN DEVELOPMENT	NATIONAL LAND	ENVIRONMENTAL		
23		7) FREEDOM OF ASSOCIATION		CORPORATION ACT (19...)	POLICY (SUBMITTED	STANDARDS UNIT		
24		& RIGHT TO ORGANIZE			TO PARLIAMENT 1996)	(ESU)		
25		CONVENTION (19...)			re. RURAL & LAND	* ESU EFFECTS THE		
26		8) FORCED LABOUR			MANAGEMENT	ENVIRONMENTAL MGMT		
27		CONVENTION (19...)				SYSTEM STANDARDS		
28		9) INTERNATIONAL				NATIONALLY		
29		LABOUR CODE & ISO 1400						
30	RECOMMENDATIONS							
31								
32		BECOME A PARTY TO	REVIEW CONSTITUTION	PROVIDE LEGAL BASIS TO	IMPLEMENT NAT'L	STRENGTHEN INSTITUTIONS		MONITOR IMPACT OF LAND
33		CEDAW re. WOMEN	DURING REFORM	ENSURE INTEGRATION OF	INDUSTRIAL POLICY	re. MANAGEMENT OF		ADMINISTRATION & MGMT
34		* ALSO TO RIGHTS	PROCESS FOR HUMAN	WOMEN, POPULATION,	& ENSURE WOMEN'S	POPULATION & URBAN	DEVELOP BETTER	(LAMP) PROJECT/REFORM
35		OF CHILD CONVENTION	RIGHTS & DEVELOPMENT	HUMAN DEVELOPMENT	INTEGRATION & EQUITY	GROWTH, & IMPACTS	LINKS & COLLABORATION	ON LAND USE LAW & PLANNING,
36		* PROGRAM OF ACTION	ISSUES NOT PREVIOUSLY	& ENVIRONMENT INTO		ON ENVIRONMENT	WITH ENGOs &	& ON WOMEN, THE POOR, ETC.,
37		ON HUMAN RIGHTS	COVERED.	NATIONAL & SECTORAL	INCLUDE SD PRINCIPLES,	WOMEN'S ORGZNTs	& ON THE COASTS & WATERSHEDS	
38		* RIGHT TO ORGANIZE		PLANNING.	e.g. "POLLUTER PAYS",	CREATE PROGRAM		
39		& COLLECTIVE BARGAINING		** AMEND WOMEN'S	USER PAYS", ETC.	OR FRAMEWORK		
40				EMPLOYMENT ACT ENSUR-		TO REDUCE TECHNICAL		
41				ING EQUITY & EQUAL RIGHTS		BARRIERS TO TRADE		
42				IN VAT WORK, & IN HIRING,	HARMONIZE POLICIES,	& ISO 1400 STANDARDS,		
43					LEGAL REFORM & LAWS,	& INCREASE COOPERATI	within CARICOM	

	A	B	C	D	E	F	G	H
1	TOPIC 3	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	NATURAL AND	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	& OR ENGOs, NGOs,	LEGISLATION
3	HUMAN-MADE	CONVENTIONS					AND CBOs	& OR AMENDMENTS
4	DISASTERS							
5								
6	OFFICE OF DISASTER	CONVENTION FOR THE	CONSTITUTION DOES	DISASTER PREPAREDNESS		NATIONAL DISASTER	PARISH COUNCILS	DISASTER & EMERGENC
7	PREPAREDNESS AND	PROTECTION & DEVELOP-	NOT INCLUDE	& EMERGENCY MANAGEMENT		PLAN (199...)		PLANS ARE REVIEWED
8	EMERGENCY MANAGEMENT	MENT OF THE MARINE	SUSTAINABLE	ACT (1995)			PETROLEUM CORPN	PERIODICALLY.
9	(OPDEM) - ESTD BY OPDEM	ENVIRONMENT OF THE	DEVELOPMENT			NATIONAL CONTING-	OF JAMAICA (PCJ)	
10	ACT (1995)	WIDER CARIBBEAN	PRINCIPLES OR	EMERGENCY POWERS		ENCY PLAN FOR OIL	* EDUCATION &	
11		(199...)	ENVIRONMENTAL	ACT (19...)		& CHEMICAL SPILLS	INTERNATIONAL	
12			PROTECTION PER SE.			* INVOLVES NRCA,	SEMINARS.	
13		INTERNATIONAL CON-		HOUSING ACT (PT. III)		OPDEM, COAST GUARD.		
14		VENTION ON OIL SPILL				DEFENCE FORCE, &	UWI GEOGRAPHY	
15		PREVENTION, RESPONSE		WATER RESOURCES ACT		JAMAICA MARITIME	DEPT. - CARIBBEAN	
16		& COOPERATION (OPRC)		(WRA) (199...), REPLACED		INSTITUTE	DISASTER MITIGATION	
17		(199...)		UNDERGROUND WATER		PROJECT		
18				AUTHORITY ACT.			* LANDSLIDE INVENTORY	
19		PROTOCOL re. COOPER-		* ESTD WATER RESOURCES				
20		ATION IN COMBATTING		AUTHORITY IN 1995.			JAMAICA BUREAU OF	
21		OIL SPILLS IN THE WIDER					STANDARDS (JBS) re.	
22		CARIBBEAN REGION					STANDARDS FOR OIL SPILL	
23		(199...)					& DISASTER EQUIPMENT.	
24								
25		VARIOUS OIL SPILL PLANN-						
26		ING & MANAGEMENT						
27		AGREEMENTS w/ L.A. &						
28		CARIBBEAN.						
29								
30	RECOMMENDATIONS							
31		BECOME A PARTY TO OPRC		REVIEW AND HARMONIZE				
32		ABOVE, SUBJECT TO	DURING REFORM OF	LAWs, POLICIES, & REFORMS	HARMONIZATION OF		TARGET GROUPS	
33		FINANCIAL	CONSTITUTION,	ESPECIALLY WITHIN SECTORS &	POLICIES & LAWS, TO		FOR DISASTER EDUCATION	
34		OBLIGATIONS.	ASSESS THE NEED TO	BETWEEN RELATED SECTORS.	REMOVE BARRIERS,		& TRAINING.	
35			ADDRESS DISASTER		DUPLICATION, ETC.			
36		ENFORCEMENT OF	ISSUES.	ENSURE EFFICIENT, EFFECTIVE,			ESTABLISH STANDARDS	
37		SIGNED TREATIES AND		QUICK AND RESPONSIVE			FOR DISASTER & OIL SPILL	
38		HARMONIZATION WITH		DISASTER MANAGEMENT AT ALL			EQUIPMENT WITH JBS,	
39		NATIONAL POLICIES &		LEVELS, INCLUDING			NRCA, PCJ, & OTHER	
40		LEGISLATION.		PARISH COUNCILS.			AGENCIES OR GROUPS.	

A	B	C	D	E	F	G	H
1	TOPIC 4						
2	INTERNATIONAL TREATIES AND CONVENTIONS	CONSTITUTION OF JAMAICA	NATIONAL LEGISLATION	NATIONAL POLICY	NATIONAL PROGRAMS	LOCAL AUTHORITY & FOR ENGOs, NGOs, AND CBOs	PENDING LEGISLATION & FOR AMENDMENTS
3	PROTECTING THE ATMOSPHERE, ENERGY CONSERVATION, AND CLIMATE CHANGE						
4	VIENNA CONVENTION FOR THE PROTECTION OF THE OZONE LAYER (MARCH 31, 1989)	CONSTITUTION DOES NOT INCLUDE SUSTAINABLE DEVELOPMENT PRINCIPLES OR ENVIRONMENTAL PROTECTION re. ATMOSPHERE ENERGY OR CLIMATE CHANGE.	NO SPECIFIC OVERALL LEGISLATION COVERS ENERGY, CLIMATE CHANGE & THE ATMOSPHERE.	JAMAICA ENERGY SECTOR POLICY & STRATEGY (NOVEMBER 1995) BY THE MINISTRY OF PUBLIC UTILITIES & TRANSPORT (MPUT).	ENERGY EFFICIENCY BUILDING CODE.	SOME MEMBERS OF NATIONAL ENVIRONMENTAL SOCIETIES TRUST (NEST) INVOLVED IN ENERGY MATTERS.	
5	MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE		AIR DISCHARGES ARE COVERED PIECEMEAL BY: 1) NATURAL RESOURCES CONSERVATION ACT.	JAMAICA PUBLIC SERVICE COMPANY. * ASSESSES ENERGY CONSERVATION & EFFICIENCY. * DEVELOPS ENERGY EFFICIENCY BUILDING CODE.			
6	LONDON AMENDMENT TO MONTREAL PROTOCOL (MARCH 31, 1993)		2) NRC (AMBIENT AIR QUALITY STANDARDS REGULATIONS.				
7	UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (JANUARY 6, 1995)		3) NRC (ENVIRONMENTAL PROTECTION & WASTE MGMT. REGULATIONS.				
8	TREATY BANNING NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, OUTER SPACE & UNDERWATER (NOVEMBER 22, 1991)		4) CLEAN AIR ACT.				
9			5) RPAD TRAFFIC ACT.				
10			6) HARBOUR RULES.				
11			7) PUBLIC HEALTH ACT, INCLUDING ENVIRONMENTAL CONTROL & CIVIL AVIATION ACT.				
12			ENERGY IS ALSO DEALT WITH ON A PIECEMEAL, AD HOC BASIS.				
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30	RECOMMENDATIONS						
31							
32	MORE COHESIVE LINKAGES WITH OTHER SECTORS, MINISTRIES, AGENCIES & ENGOs, PUBLIC NEEDED.	DURING REFORM OF CONSTITUTION, INCLUDE SD & ENVIRONMENT PRINCIPLES re. ENERGY FINANCIAL COSTS & OBLIGATIONS.	HARMONIZE LAWS TO PHASE OUT O D S QUICKLY. HARMONIZE LAWS TO IMPROVE AIR QUALITY & HUMAN HEALTH BETWEEN LAWS & INSTITUTIONS.	HARMONIZE POLICIES & LAWS TO REMOVE BARRIERS, DUPLICATION & EMPHASIZE ENERGY CONSERVATION & PRIORIZE IT OVER MORE COSTLY, LESS EFFICIENT METHODS.	EXPEDITE THE PHASING OUT OF LEADED GAS, BY USING ECONOMIC TOOLS & PRICING MECHANISMS. PHASING OUT O D S. TOURISM INDUSTRY, CONSTRUCTION & BUILDING DEVELOPMENT, TRANSPORTATION, ETC.	TARGET GROUPS FOR EDUCATION ON CONSERVATION & CONSTRUCTION & PHASING OUT O D S. TOURISM INDUSTRY, CONSTRUCTION & BUILDING DEVELOPMENT, TRANSPORTATION, ETC.	
33							
34							
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41							
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	A	B	C	D	E	F	G	H
1	TOPIC 5	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	INTEGRATED NATURAL	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	FOR ENGOs, NGOs,	LEGISLATION
3	RESOURCE PLANNING,	CONVENTIONS					AND CBOs	FOR AMENDMENTS
4	MANAGEMENT & THE							
5	BUILT CONDITION			MANY OVERLAPPING, CONFLICTING,	MANY CONTRADICTORY	1) NATIONAL LAND RESOURCE		
6	MINISTRY OF ENVIRONMENT	INFORMATION ABOUT	CONSTITUTION	LAWs & REGULATIONS re. BUILT	& CONFLICTING POLICIES,	DATA-BASE PROJECT.	LAND DEVELOPMENT &	
7	AND HOUSING (MEH)	AGREEMENTS re. HOUSING	PROVIDES FOR	CONDITIONS EXIST, viz.:	WITH LITTLE EMPHASIS ON	2) LAND ADMINISTRATION &	UTILIZATION COMMISSION	WORLD BANK-FUNDED
8		HUMAN SETTLEMENTS,	COMPENSATION	1) TOWN & COUNTRY PLANNING ACT	SUSTAINABLE DEVELOP-	MANAGEMENT PROGRAM	ENSURES MAXIMIZATION,	ENVIRONMENT PLAN
9	NATURAL RESOURCES	SHELTER, ETC. NOT	TO PERSONS	19...), ESTD. TOWN & COUNTRY	MENT & THE ENVIRONMENT	(LAMP)(APRIL 1997-99): ESTD	NOT OPTIMIZATION, OF	ING AGENCY (NEPA)
10	CONSERVATION	APPARENT OR AVAILABLE.	WHOSE LANDS	PLANNING AUTHORITY, TO APPROVE	NATIONAL LAND POLICY	LAND POLICY USING LAND	LAND	
11	AUTHORITY (NRCA)		ARE TAKEN OVER	LAND USE PLANS & REGULATIONS.	(JULY 1996) MAINLY APPLIES	PUBLIC & COMMUNITY	LAND REFORM. "LAMI"	
12			BY GOVERNMENT.	ESTABLISHES LAND USE POLICIES,	TO LAND (NOT THE SEA OR	ARE SUPPOSED TO BE	& "PSMP"	
13				CONTROLS OVER URBAN/RURAL	WATERSHEDS), WHILE	CONSULTED & INVOLVED		
14				AREAS.	PROMOTING SUSTAINABLE &	IN PLANNING & DEVT.		
15				2) HOUSING ACT (19...) COVERS	INTEGRATED DEVELOPMENT.	3) LAND INFORMATION COUNCIL	OFFICE OF TITLE	
16				HOUSING DEVELOPMENT, SLUM		(LIC) COORDINATES GO's	BUT INPUTS ARE OFTEN	SURVEY DEPT., LAND
17				CLEARANCES, OVERCROWDING		MAPPING, & LINKS WITH	MINIMAL.	VALUATION & ESTATE
18				ABATEMENT, PREVENTION OF UN-	NATIONAL INDUSTRIAL POLICY	SURVEY DEPT. & ITS LAND		UNDERTAKING LAND
19				3) TOWN & COMMUNITIES ACT (19...)	ESTABLISHES NEW INDUSTRI-	TITLING PROJECT.		INFORMATION SYSTE
20				PROHIBITS ACTS ON HIGHWAYS, e.g.	IAL LANDS w/ URBAN BOUNDS			(LIS/GIS) (DEC. 1998)
21				LITTERING, GRAFFITI, GARBAGE.				
22				4) TOWN NUISANCES PREVENTION	NAT'L LEGISLATION (CONTD)	NAT'L LEGISLATION CONTD	NAT'L LEGISLATION	NAT'L LEGISLATION
23				ACT (19...) LETS COUNCIL REMOVE	8) NATIONAL VESTING ACT	1) LAND ACQUISITIONS ACT	CONTD.	CONTD.
24				BAD" BUILDINGS.	(19...) VESTS ALL LAND &	(19...) GIVES GOJ POWER TO	13) URBAN DEVT CORP	15) LOCAL IMPROVE-
25				5) KINGSTON & ST. ANDREW BUILD-	WATER MINERALS IN CROWN	ACQUIRE ANY LAND, WITH	ACT (19...) GIVES GOJ	MENTS ACT (19...)
26				ING ACT (A9...) REGULATES CON-	9) NAT'L WATER COMMISSION	COMPENSATION.	POWER TO ACQUIRE,	ISSUES APPROVALS
27				STRUCTION, & 6) K & ST. A. WATER	ACT (19...) SETS UP BOARD OF	12) LAND DEVELOPMENT &	DISPOSE OF LAND, &	FOR LAND SUB-
28				SUPPLY ACT PROTECTS WATER	COMMISSIONERS TO DEAL	UTILIZATION ACT (19...) LETS	UNDERTAKE LARGE,	DIVISIONS, incl. FORE
29				SUPPLIES TO MAIN URBAN AREAS.	w. DAMS, WATER DIVERSIONS	GOJ DECLARE LAND AS "IDLE"	RISKY URBAN PROJECTS	SHORE.
30	RECOMMENDATIONS			7) PAROCHIAL ROADS ACT (19...) DEAL	10) MINING ACT (19...) DEALS	& ACQUIRABLE.	14) QUARRIES CONTROL	16) PETROLEUM ACT
31				WITH PARISH ROADS & DEBRIS.	w. MINING ACTIVITIES.		ACT (19...) ESTABLISHES	CONTROLS DEVT.
32	MORE COHESIVE LINKAGES WITH	ACCESSION OR RATIFIC-	DURING REFORM	HARMONIZE LAWS, TO ACHIEVE	HARMONIZE POLICIES &	ENSURE NEW LEGAL	ZONES, CRITERIA.	
33	OTHER SECTORS, MINISTRIES,	ATION & FUNDING OF	CONSTITUTION,	COHERENCY & CONSISTENCY,	LAWs, SO AS TO	REFORMS ADOPT AN	ENSURE PUBLIC &	
34	AGENCIES & CIVIL SOCIETY	SIGNED TREATIES	INCLUDE SD &	ESPECIALLY w/ SECTORS.	REMOVE BARRIERS,	INTEGRATIVE, HOLISTIC	REPRESENTATIVE GROUPS	
35	ESPECIALLY LINKS w. AGENCIES	IMPLEMENTATION &	ENVIRONMENT		DUPLICATION, ETC.	& SUSTAINABLE	ARE FULLY INVOLVED IN	SEE UNDER NAT'L
36	FOR SECTORS DEALING WITH	ENFORCEMENT OF	PRINCIPLES, &		MANAGEMENT	PLANNING & DECISIONS re	PROGRAMS.	
37	JAMAICA'S COASTS, SEAS,	SIGNED TREATIES DEALING	SHELTER	SUNSET OUT-DATED, CONFLICTING,	UNDERTAKE IN-DEPTH	APPROACH, & RECOG-	LAND & BUILT CONDITIONS	
38	WATERSHEDS & FORESTS.	w. INTEGRATED NATURAL	CONCEPTS	IRRELEVANT LAWS.	NATURAL RESOURCES	NIZE JAMAICA AS AN		
39		RESOURCE MANAGEMENT			INVENTORIES, & LINK TO	ARCHIPELAGIC ENTITY, WITH	ESTABLISH PUBLIC-	
40		& BUILT CONDITIONS, e.g.	HARMONIZE w.		INTEGRATED NATURAL	VULNERABLE COASTS &	FRIENDLY, USABLE	
41		SHELTER, HOUSING,	SIGNED/		RESOURCE PLANNING &	WATERSHEDS.	BUILDING CRITERIA,	
42		RESETTLEMENT.	RATIFIED		MANAGEMENT.		CODES, & INSPECTION	
43			CONVENTIONS.				APPROVAL PROCESSES.	

	A	B	C	D	E	F	G	H
1	TOPIC 7	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	SUSTAINABLE	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	AND/OR ENGOs, NGOs,	LEGISLATION
3	FISHERIES RESOURCE	CONVENTIONS					AND CBOS	AND/OR AMENDMENTS
4	MANAGEMENT							
5								
6	(READ IN CONJUNCTION	VARIOUS MARITIME &		NATURAL	PLANNING	GoJ's	NATIONAL ENVIRON-	WORLD BANK-FUNDED
7	WITH TOPIC 6: INTEGRATED	ENVIRONMENTAL		RESOURCES	INSTITUTE OF	ADMINISTRATIVE	MENTAL SOCIETIES	ENVIRONMENT PLANN-
8	COASTAL RESOURCES	TREATIES RELATED TO		CONSERVATION	JAMAICA	REFORM PRGM	TRUST (NEST)	ING AGENCY (NEPA)
9	MANAGEMENT, & NOTE	FISH STOCKS, viz.		ACT (19...)	* SD UNIT		* COALITION OF 42	
10	RELATED TREATIES & OR	1) AGREEMENT TO IMPL-		* CZM	* ENVIRONMT	GoJ's PROGRAMS	ENGOs, NGOs, ETC.	
11	LEGISLATION)	MENT UNCLOS PROVISIONS		* WILDLIFE	& PLANNING	TO PHASE OUT:	LAND REFORM: "LAMP"	
12		re. CONSERVATION &		* BIODIVERSITY		* LEAD IN GAS	& "PSMP"	
13		MANAGEMENT OF STRAD-		* PROTECTED	SUSTAINABLE	* OZONE DEPLETING		
14		DLING & HIGHLY MIGRATORY		AREAS	DEVELOPMENT	SUBSTANCES	12 PARISH COUNCILS	
15		FISH STOCKS(DEC.4, 1995)		* POLLUTION	COUNCIL OF	* SPECIFIC		
16		2)CONVENTION ON FISHING		CONTROL	JAMAICA	PESTICIDES		
17		& CONSERVATION OF THE		* WASTE MGMT	* MULTISTAKE-			
18		LIVING RESOURCES OF THE		& ENFORCEMENT	HOLDER INTER-			
19		HIGH SEAS (APRIL 16, 1964)		* LEGAL SERVICES	ACTION			
20		3)INT'L CONVENTION FOR THE		* PUBLIC EDUCATION	* SD LINKS			
21		REGULATION OF WHALING		* DATA & GIS				
22		(JULY 15, 1981)			COUNCIL ON			
23				NATURAL RESOURCES	OCEANS & CZM			
24				CONSERVATION				
25				AUTHORITY ACT				
26				(19...)				
27								
28								
29								
30	RECOMMENDATIONS							
31								
32	MORE COHESIVE LINKAGES	WACCESSION OR RATIF-		HARMONIZATION OF LAWS,	HARMONIZATION OF	ENSURE NEW LEGAL	TARGET GROUPS	(SEE UNDER NATIONAL
33	OTHER SECTORS, MINISTRIES	ATION & FUNDING OF		ESPECIALLY WITHIN SECTORS &	POLICIES & LAWS, TO	REFORMS ADOPT AN	FOR SD/ENVIRONMT	PROGRAMS)
34	AGENCIES & CIVIL SOCIETY	SIGNED TREATIES		BETWEEN RELATED SECTORS.	REMOVE BARRIERS,	INTEGRATIVE, HOLISTIC	EDUCATION.	
35		* IMPLEMENTATION &			DUPLICATION, ETC.	& SUSTAINABLE	* GOVERNMENT	
36		ENFORCEMENT OF			MANAGEMENT	ELECTED (& NON-)		
37		SIGNED TREATIES		SUNSETTING OF OUT-DATED	APPROACH, & RECOG-	DECISION-MAKERS		
38		* HARMONIZATION WITH		IRRELEVANT LAWS.	NIZE JAMAICA AS AN	AT ALL LEVELS		
39		NATIONAL POLICIES &			ARCHIPELAGIC ENTITY	* JUDICIARY, LAWYERS,		
40		LEGISLATION			POLICE, ETC.			
41					* POLICY-MAKERS			
42					* PRIVATE SECTOR,			
43					ESPEC. POLLUTING			

A	B	C	D	E	F	G	H	I
1	TOPIC 9							
2	INTERNATIONAL TREATIES AND CONVENTIONS	CONSTITUTION OF JAMAICA	NATIONAL LEGISLATION	NATIONAL POLICY	NATIONAL PROGRAMS	LOCAL AUTHORITY & JUR. ENGOs, NGOs, AND CBOs	PENDING LEGISLATION & OR AMENDMENTS	
3	LEGAL AND AGRICULTURAL RESOURCE							
4	JAMAICA WAS A SIGNATORY TO SEVERAL INT'L AGREEMENTS ON SUGAR, COFFEE, COCOA, FROM DECEMBER 1968 TO JUNE 1983 (SEE LIST OF MULTILATERAL TREATIES SIGNED BY JAMAICA)		1) NATURAL RESOURCES CONSERVATION AUTHORITY ACT (19...) GRANTS AUTHORITY POWER TO MANAGE PHYSICAL ENVIRONMENT, PROTECT ITS NATURAL RESOURCES, INVESTIGATE POLLUTING ACTIVITIES & WASTE DISPOSAL, e.g. RESIDUES FROM MEAT PROCESSING.	NRC AUTHORITY DEVELOPED POLICIES (in GUIDELINES FOR WASTE MGMT) for REDUCTION & ELIMINATION OF SOIL/WATER POLLUTION, & WASTE MGMT. CHEMICAL PLANTS.	CODES OF PRACTICE ARE BEING DEVELOPED FOR MGMT OF WASTES FROM: FOOD & AGRO-INDUSTRIES, &		PROPOSED REFORMS UNDER PSMP, LAMP & NEPA.	
5	AGENDA 21: PLAN OF ACTION.		2) NATURAL RESOURCES CONSERVATION (PERMITS & LICENCES REGULATIONS DEALS w. PERMITS LICENCES re. POLLUTING ENTERPRISES e.g. PACKING PLANTS, SLAUGHTERHOUSES, MAJOR DEVELOPMENTS.	NATIONAL LAND POLICY (1996), NATIONAL INDUSTRIAL POLICY (1996), & NATIONAL SETTLEMENT STRATEGY AFFECT AGRIC	NAT'L LEGISLATION CONT'D	NAT'L LEGISLATION CONT'D		
6			3) NRC ENVIRONMENTAL PROTECTION & WASTE MGMT REGS. 1992 SETS PROCESSES & STANDARDS re. POLLUTION, WASTE, EMISSIONS DISCHARGES.	4) TRADE EFFLUENT & SEWERAGE EFFLUENT REGS. GOVERN WATER QUALITY & EFFLUENT STANDARDS.	5) RURAL AGRICULTURAL DEVELOPMENT ACT (RAD AUTHORITY) (RADA) TO DEVELOP & IMPLEMENT AGRICULTURAL & FARMERS' EXTENSION SERVICES.	6) AGRICULTURAL SMALL HOLDINGS ACT REGULATES SMALL HOLDINGS & LANDLORD/TENANT DUTIES, e.g. FELLING TREES, CLEARING LAND, GULLIES, WATER COURSES.		
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RECOMMENDATIONS								
32	INTRODUCE AGENDA 21 & S D PRINCIPLES OR CONCEPTS, e.g. CARRYING CAPACITY OF THE EARTH, THROUGH SOILS, "PRECAUTIONARY" AGRICULTURAL PRINCIPLE, ET AL INTO POLICIES & LEGISLATION.	CONSIDER THE CONCEPT OF FOOD SECURITY THROUGH SOUNDNESS AS PART OF CONSTITUTIONAL REVIEW & REFORM.	HARMONIZE LAWS, ESPECIALLY w/ SECTOR ITSELF, & WITH FORESTRY, FISHERIES. SUNSET OUT-DATED, CONFLICTING LAWS.	HARMONIZE LAWS w. POLICIES, TO REMOVE BARRIERS, DUPLICATION, & SUSTAINABLE MANAGEMENT	ENSURE NEW LEGAL REFORMS ADOPT AN INTEGRATIVE, HOLISTIC & SUSTAINABLE MANAGEMENT APPROACH, & REDUCE MISUSE OF	WORK w. FARMERS' GROUPS & ENGOs/CBOs IN DEVELOPING AGRIC. POLICIES, PLANS OF ACTION, & POLLUTION PREVENTION (e.g. FROM PESTICIDES).	ASSESS IMPACT OF PSMP, LAMP, NEPA, PROPOSALS ON AGRIC. & FARMING.	
33			DEVELOP A COHESIVE INSTITUTIONAL STRUCTURE TO DEAL WITH ALL ELEMENTS OF AGRIC. EFFECT BETTER COORDINATION w/ AGENCIES.	DEVELOP HOLISTIC AGRIC. RESOURCE POLICY, & MGMT PLAN, CONSISTENT w. NAT'L LAND POLICY, WATERBESHED POLICY, FORESTS & COASTAL AREAS POLICIES.	AGRIC. PRODUCTS	RECOGNIZE WOMEN'S ROLE IN AGRICULTURE & FARMING.		

	A	B	C	D	E	F	G
1	TOPIC 11	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY
2	PROTECTION &	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	FOR ENGOs, NGOs,
3	CONSERVATION OF	CONVENTIONS					AND CBOs
4	WILDLIFE, ECOSYSTEMS,						
5	BIODIVERSITY						
6	& CULTURAL SITES	JAMAICA HAS SIGNED		A PLETHORA OF LAWS EXISTS.	POLICY PAPER ON NATIONAL	NRCA'S WILDLIFE UNIT HAS	NRCA HAS MANDATED
7		VARIOUS TREATIES, VIZ.:		1) WILDLIFE PROTECTION ACT	PROTECTED AREAS SYSTEM	DEVELOPED SPECIES MGMT	2) NGOs TO MANAGE JOHN
8		1) INT'L PLANT PROTECTION		EMPHASIZES HUNTING REGULA-	(1998) RESULTED IN JAMAICA	PLANS FOR SOOTY TERNS,	CROW MOUNTAINS NAT'L
9		CONVENTION (NOV. 24, 1989)		TION RATHER THAN WILDLIFE	NAT'L HERITAGE TRUST (UNDER	MANATEE, IGUANA, SEA	PARK & MONTEGO BAY
10		2) CONVENTION FOR THE		& HABITAT) PROTECTION & MGMT	ITS ACT, REGISTERING MANY	TURTLES, GIANT SWALLOW-	MARINE PARK
11		PROTECTION & DEVELOP-		* ESTABLISHES GAME SANCTU-	HISTORIC SITES	TAIL BUTTERFLY, & CROCS.	
12		MENT OF THE MARINE		ARIES & WARDENS.		* & DEVELOPED WILDLIFE	BATH BOTANIC GARDEN
13		ENVIRONMENT OF THE		* PROHIBITS KILLING "PROTECTED"	BEACH CONTROL ACT HELPS	INVENTORIES TO ASSIST	IS PRESERVED & MANAGE
14		WIDER CARIBBEAN		SPECIES, & DISCHARGES OF	ESTABLISH NAT'L BEACH	CONSERVATION EFFORTS.	BY DIRECTORS OF BATH
15		(MAY 1, 1987)		INDUSTRIAL WASTES INTO WATERS.	POLICY. A RECENTLY DRAFTED		UNDER A 1942 ACT.
16		3) CONVENTION ON INTER-		* GIVES NRCA RESPONSIBILITY TO	BEACH POLICY HAS ATTRACT-		
17		NATIONAL TRADE IN EN-		ADMINISTER THE ACT & IMPLEMENT	ED CONTROVERSY, ESPEC.		
18		DANGERED SPECIES OF		SPECIES MGMT PLANS.	FROM LOCAL PUBLIC.		
19		WILD FLORA & FAUNA		2) NRCA IS MANDATED BY ACT TO			
20		4) CONVENTION ON BIO-		MANAGE THE ENVIRONMENT, SET			
21		LOGICAL DIVERSITY		UP LEGAL FRAMEWORK FOR	NAT. LEGISLATION CONTD	NAT. LEGISLATION CONTD	NAT. LEGISLATION
22		(JAN. 6, 1995)		NAT'L PROTECTED AREAS (LAND	5) BEACH CONTROL REGS	6) WATERSHED PROTECTION	9) (DRAFT) FISHERIES
23		5) CONVENTION ON WET-		& SEA), & PROTECT WILDLIFE.	DEAL W. BEACH CARE, HOTEL	ACT PROTECTS WATERSHEDS	BILL HAS CONSERV.
24		LANDS OF INT'L IMPORT-		3) MARINE PARK REGS 1992 &	& PUBLIC ACTIVITIES, WHILE	& ADJOINING AREAS, W. NRCA	ATION MEASURES
25		ANCE, ESPEC. AS WATER		NAT'L PARKS REGS. 1993, NEGRIL	BEACH CONTROL ORDERS	MANDATED TO CONSERVE TH	(SEE: TOPICS 8&7)
26		FOWL HABITAT (MAY 20/97)		ENVTL PROTECTION AREA ORDER	DEAL W. MONTEGO BAY, PORT	7) (NEW) FORESTS ACT (1998)	9) RIVER RAFTING
27		6) CONVENTION re. PRO-		(NOV. 1997) & MONTEGO BAY	ROYAL, OCHO RIOS, & BLACK	MANDATES DEPT. TO MANAGE	ACT CONTROLS
28		TECTION OF WORLD CULT.		MARINE PARK (1998).	CORAL PROTECTION	FORESTS ON CROWN LANDS	RAFTING.
29		URA/NATURAL HERITAGE.		4) BEACH CONTROL ACT VESTS		RESERVES SUSTAINABLY, &	10) CRUELTY TO
30		(JUNE 14, 1983)		FORESHORE/SEA FLOOR RIGHTS		PROTECT WILDLIFE ET AL.	ANIMALS ACT, & OTHERS
31	RECOMMENDATIONS			IN CROWN			
32		LINKED TO THOSE		HARMONIZE LAWS W/ & BETWEEN,	HARMONIZE POLICIES & LAWS	IDENTIFY, INVENTORY, & FAST	TRAIN & USE MORE ENGO
33	OVERALL A MORE INTEGRATED,	TREATIES ALREADY		SECTOR(S) TO REDUCE AD HOC,	TO REDUCE DUPLICATIONS,	TRACK ACTION PLANS TO	CBOs, LOCAL AUTHORITIES
34	COMPREHENSIVE APPROACH TO	SIGNED, CONSIDER ALSO:		PIECEMEAL APPROACH TO WILDLIFE	BARRIERS, ETC., & ESTABLISH	SAVE & PROTECT FRAGILE	TO MANAGE PROTECTED
35	LOOKING AFTER THE	1) CONVENTION ON		BIODIVERSITY, ECOSYSTEM ISSUES.	EFFICIENT, PROPERLY TRAINED	ECOSYSTEMS; MOUNTAINS,	AREAS, KEY SITES ECO-
36	WILDLIFE, BIODIVERSITY,	MIRGATORY SPECIES,		SUNSET OUT-DATED, IRRELEVANT	& FUNDED ENFORCEMENT	WETLANDS, MANGROVES,	TOURISM, & INVOLVE
37	ECOSYSTEMS & CULTURAL	2) PROTOCOL ON SPECIAL		LAWS & /OR REGULATIONS.	MECHANISMS.	REEFS	MORE PRIVATE SECTOR
38	DIVERSITY OF JAMAICA	PROTECTED WILDLIFE ARE					AS SUPPORTERS/FUNDER
39	IS ESSENTIAL FOR THEIR	3) PROTOCOL ON SAFEY IN					OF PARKS & SITES.
40	PROTECTION & CONSERVATION,	BIOTECHNOLOGY,		INTRODUCE & IMPLEMENT COMPLET	PROGRAMS TO DEAL WITH	CULTURAL & HISTORIC SIGNI-	* USE ECONOMIC TOOLS.
41		4) INT'L CODE OF CONDUCT		LEGAL & INSTITUTIONAL STRUCTURE	BIODIVERSITY PROSPECTING	FINANCE (NOW PRONE TO	e.g. TOURISM HEAD TAXES
42		FOR PLANT GERMPLASM		FOR PARKS & PROTECTED AREAS,	GENETICALLY ENGINEERED	UNCONTROLLED DEVELOPMT	PARK FEES, ETC. TO FUND
43		COLLECTING & TRANSFER.		ADEQUATE FUNDING FOR SUPPORT,	ORGANISMS, & IPR.	& MAINTAIN PARKS, SITES)	

	A	B	C	D	E	F	G	H	I
1	TOPIC 14								
2	SUSTAINABLE	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING	
3	MANAGEMENT	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	& FOR ENGOs, NGOs,	LEGISLATION	
4	OF MARINE	CONVENTIONS					AND CBOs	& OR AMENDMENTS	
5	POLLUTION								
6	(MARINE- AND	JAMAICA HAS SIGNED A		1) HARBOURS ACT PROHIBITS	NATIONAL CONTIN-	COMPUTER DATA-	NATIONAL ENVIRON-	DRAFT SHIPPING BILL IS	
7	LAND-BASED)	NUMBER OF INT'L		DUMPING OF WASTES INTO	GENCY PLAN FOR OIL	BASE & USER'S	MENTAL SOCIETIES	GOING TO PARLIAMENT,	
8	TREATIES re. PREVENTION	OF MARINE POLLUTION, e.g.		HARBOURS, & AUTHORIZES PORT	& CHEMICAL SPILLS	MANUAL PROGRAM	TRUST (NEST)	& DEALS w. ADMINISTR-	
9	1) PROTOCOL re. COPPER-	ATION IN COMBATTING OIL		AUTHORITY TO DESIGNATE	WAS DEVELOPED &	FOR USE re. OIL	PREPARED REVIEW	ATION OF SHIPPING	
10	SPILLS IN THE WIDER	CARIBBEAN REGION;		HARBOURS & MARINE BOARD TO	TESTED BY OFFICE OF	SPILL EMERGENCIES.	OF SELECTED	INDUSTRY, REGISTRATION	
11	2) PROTOCOL ON LAND-BASED	ACTIVITIES THAT POLLUTE		REGULATE HARBOURS & SHIP-	DISASTER PREPARED-		ENVIRONMENTAL	LICENSING & SEA-	
12	THE MARINE ENVIRONMENT	(MAY 1, 1987);		PING CHANNELS;	NESS & EMERGENCY		LEGISLATION, incl.	WORTHINESS OF SHIPS,	
13	3) INT'L CONVENTION FOR	THE PREVENTION OF POLLU-		2) PORT AUTHORITY ACT GIVES	MANAGEMENT (OPDEM).		WASTE & POLLUTION	SEA & NAVIGATION	
14	TION FROM SHIPS (MARPOL)	& RELATED PROTOCOLS		MARINE DIVISION OF PORT			LAWS	ETC.	
15	(JUNE 13, 1991);	4) INT'L CONVENTION FOR		AUTHORITY POWER TO REGULATE				* BUT NOT IMPLEMENT-	
16	(SOLAS) (JANUARY 14, 1984)	5) SEE: LIST OF TREATIES &		HARBOUR STRUCTURES;			COUNCIL ON OCEANS	ATION OF MARINE	
17	PRECEDING TOPICS for	ADDITIONAL AGREEMENTS.		3) CARRIAGE OF GOODS ACT			& CZM IS LOOKING	POLLUTION TREATIES,	
18				REGULATES LAND OR SEA			AT MARINE ISSUES	MARINE POLLUTION &	
19				CARRIAGE OF GOODS			IN BROADEST	RELATED CASUALTIES.	
20				4) NRCA ACT GIVES POWER			CONTEXT.		
21				OVER PHYSICAL ENVIRONMENT.				NATIONAL CONTINGENCY	
22							PETROLEUM CORPN.	PLAN FOR OIL &	
23							OF JAMAICA (PCJ)	CHEMICAL SPILLS IS	
24							ORGANIZED INT'L	BEING REVISED.	
25							SEMINARS ON INT'L		
26							TREATIES; REQUIRE-		
27							MENTS & OIL SPILL		
28							CONTINGENCY MGMT		
29							& PLANNING.		
30	RECOMMENDATIONS								
31									
32	OVERALL LEGISLATION	ACCESSION OR RATIFIC-	SEE TOPIC 13.	HARMONIZATION OF LAWS,	HARMONIZE POLICIES	ENSURE NEW LEGAL	TARGET GROUPS	FAST-TRACK SHIPPING	
33	re. MARINE POLLUTION	ATION & FUNDING OF		ESPECIALLY WITHIN SECTORS &	& LAWS, & DEVELOP	REFORMS ADOPT AN	FOR (RE-)TRAINING	BILL & INCLUDE POLLUTION	
34	WHETHER SEA- OR	SIGNED TREATIES	A NUMBER OF	BETWEEN RELATED SECTORS.	LEGAL & INSTITUTIONAL	INTEGRATIVE, HOLISTIC &	EDUCATION TO	PROVISIONS, incl. IMPL-	
35	LAND-BASED, NEEDS	* IMPLEMENTATION &	TREATIES re.		LINKAGES BETWEEN	& SUSTAINABLE	ENSURE POLLUTION	MENTATION OF MARINE	
36	MUCH STRENGTHENING	ENFORCEMENT OF	MARINE POLLUTION,		MARINE- & LAND-BASED	MANAGEMENT	MEASURES ARE	POLLUTION & HAZARDOUS	
37	SIGNED TREATIES	* HARMONIZATION WITH	OIL SPILLS, COMPENSATION,	SUNSETTING OF OUT-DATED	SOURCES OF POLLUTION.	APPROACH, & RECOG-	ENFORCED STRONGLY	WASTES TREATIES.	
38	ADOPT THE	NATIONAL POLICIES &	TION, CASUALTIES,	IRRELEVANT LAWS.		NIZE JAMAICA AS AN	& QUICKLY.		
39	PRECAUTIONARY*	LEGISLATION	SEAFARERS' STAND-			ARCHIPELAGIC ENTITY			
40	PRINCIPLE		ARDS & SAFETY, ETC.						
41			SHOULD BE ASSESSED						
42			BEFORE SIGNING.						

	A	B	C	D	E	F	G	H
1	TOPIC 15	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	ENVIRONMENTAL	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	AND/OR ENGOs, NGOs,	LEGISLATION
3	HEALTH AND	CONVENTIONS					AND CBOs	AND/OR AMENDMENTS
4	SAFETY							
5								
6		JAMAICA SIGNED &		1) PUBLIC HEALTH ACT EM-	NATIONAL INDUSTRIAL			A WORKPLACE HEALTH
7		RATIFIED THE CONSTITU-		POWERS LOCAL BOARDS OF	POLICY (APRIL 1996)			& SAFETY BILL IS NOW
8		TION OF THE WORLD		HEALTH TO ESTABLISH SANITARY				BEING DRAFTED.
9		HEALTH ORGANIZATION		DISTRICTS, PROTECT PUBLIC				
10		(WHO) & VARIOUS		HEALTH, REGULATE GARBAGE				
11		AMENDMENTS (FROM		* MINISTER OF HEALTH HAS				
12		JULY 22, 1946 TO JAN. 1/82).		POWER TO REGULATE AIR, SOIL,				
13				WATER POLLUTION & CONTROL				
14		ALSO: WHO REGULATIONS		HEALTH HAZARDS (RODENTS,....).				
15		re. NOMENCLATURE with		* ENVIRONMENT CONTROL DIVSN				
16		respect to DISEASES &		CONTROLS AIR & WATER POLLUT-				
17		CAUSES OF DEATH		ION, ENVTL HEALTH HAZARDS &				
18		(JANUARY 1, 1968).		WORKPLACE HEALTH & SAFETY.				
19								
20				2) WORKMAN'S COMPENSATION	NAT'L LEGISLATION			
21				ACT MAKES EMPLOYERS LIABLE	CONTD			
22				FOR PAYMENT FOR DEATH OR	5) FACTORIES ACT DEALS			
23				INJURY AT A WORKPLACE.	w. HEALTH, SAFETY &			
24				3) PROCESSED FOODS ACT	WELFARE OF FACTORY			
25				REGULATES FOOD PRODUCTION	WORKERS, & GIVES			
26				& INSPECTIONS OF FOOD-PROCESS-	CHIEF FACTORY			
27				ING PREMISES.	INSPECTORS POWER TO			
28				4) MINING (HEALTH & SAFETY)	EFFECT THE ACT & TO			
29				REGS. (1977) REGULATES SAFE	DISCONTINUE UNSAFE			
30	RECOMMENDATIONS			MINING OPERATIONS.	FACTORY OPERATIONS.			
31								
32	LINKAGES BETWEEN	ASSESS THE BENEFITS &	DURING REFORM OF	HARMONIZE EXISTING LAWS, &	HARMONIZE POLICIES		WORK w. NGOs/CBOs,	ENSURE NEW WORK-
33	SECTORS SHOULD BE	ADVANTAGES OF BECOMING	CONSTITUTION,	SUNSET OUT-MODED LAWS.	& LAWS		PRIVATE SECTOR,	HEALTH & SAFETY BILL.
34	MADE, v.z. BETWEEN	A PARTY TO INT'L TREATIES	CONSIDER WORKERS				UNIONS, PROFESS-	ADOPTS AN INTEGRATIV
35	FACTORY WORKERS, NEW	WITH VARIOUS ASPECTS	ENVIRONMENTAL	DEVELOP & IMPLEMENT NAT'L	DEVELOP & IMPLEMENT		IONAL BODIES, ETC.	APPROACH w/ & betwee/
36	TECHNOLOGIES, CON-	OF WORKERS' ENVTL	HEALTH, SAFETY &	STANDARDS & CODES OF	COMPREHENSIVE		TO DEVELOP NAT'L	SECTORS, & ADDRESSE
37	STRUCTION WORKERS,	HEALTH & SAFETY.	WELFARE AS A BASIC	PRACTICE FOR ENVTL. &	POLICY & INSTITUTIONAL		CODES OF PRACTICE	NEEDS OF WORKERS IN
38	AGRICULTURAL & FISHERY	* ASBESTOS;	RIGHT.	OCCUPATIONAL HEALTH &	FRAMEWORK TO DEAL		FOR WORKERS'	BOTH TRADITIONAL &
39	WORKERS EXPOSED	* BENZENE,		SAFETY IN BOTH TRADITIONAL	w. WORKPLACE HEALTH		HEALTH & SAFETY,	EMERGING WORK AREA
40	TO PESTICIDES, &	* IONIZING RADIATION;		INDUSTRIES & NEW EMERGING	& SAFETY, COMPLIANCE		* DEVELOP NEW TOOLS	
41	WHITE COLLAR WORKERS	* WHITE LEAD IN PAINT,		WORK AREAS (COMPUTERS).	w. INT'L STANDARDS,		& TRAINING COURSES	
42	EXPOSED TO "SICK BUILD	* AIR POLLUTION, NOISE			AIR, NOISE & BUILDING		for WORKERS/EMPLOYERS	
43	SYNDROME".	& VIBRATION.			CODES, ETC.		to IMPROVE SAFETY.	

Annex 1

Matrices for Sustainable Development Law Reform

Annex 2

List of Key Jamaican Laws with Relevance for Sustainable Development and Management

(In Alphabetical Order. A Chronological Order will be developed in the future.)

Agricultural Development Corporation Act
Animals (Control of Experiments) Act
Animals (Diseases and Importation) Act
Banking Act
Bath of St. Thomas the Apostle Act
Beach Control Act
Bees Control Act
Black River (Upper Morass) Reclamation Act
Burial Within Towns' Limits Act
Calcium Carbide (Sale and Storage) Act
Carriage of Goods Act
Civil Aviation Act
Clean Air Act
Country Fires Act
Emergency Powers Act
Explosives (Control of Manufacture) Act
Explosives (Sale of Deposited Stores) Act
Factories Act
Fertilizers and Feeding Stuffs Act
Fishing Industry Act
Flood-Water Control Act
Food Storage and Prevention of Infestation Act
Forest Act
Gunpowder and Explosives Act
Harbours Act
Irrigation Act
Jamaica National Heritage Trust Act
Kingston and St. Andrew Building Act
Kingston and St. Andrew (Cemeteries) Act
Kingston and St. Andrew Water Supply Act
Labour Relations and Industrial Disputes Act
Land Acquisition Act
Land Bonds Act
Land Development and Utilization Act
Land Development and Utilization (Amendment) Act
Litter Act
Local Improvements Act
Local Improvements (Community Amenities) Act
Main Roads Act
Maritime Areas Act
Married Women's Property Act
Milk River Bath Act
Minerals (Vesting) Act
Minimum Wage Act

Mining Act
Morant and Pedro Cays Act
National Water Commission Act
Natural Resources Conservation Authority Act
Noise Abatement Act
Parish Councils Act
Parish Councils Building Act
Parishes Water Supply Act
Parochial Roads Act
Parochial Water Works Charges Act
Pesticides Act
Pesticides (Amendment) Act
Petroleum Act
Petroleum and Oil Fuel (Landing and Storage) Act
Plants (Protection from Disease) Act
Pound Act
Processed Food Act
Public Health (Amendment Act)
Quarantine Act
Quarries Control Act
River Rafting Act
Road Traffic Act
Roads Protection Act
Sale of Goods Act
Settled Land Act
Territorial Sea Act
The Jamaica (Constitution) Order in Council, 1962
Town and Country Planning Act
Towns and Communities Act
Towns Nuisances Prevention Act
Urban Development Corporation Act
Water Act
Water Resources Act
Water Supply Act
Watersheds Protection Act
Wild Life Protection Act
Women (Employment of) Act
Workmen's Compensation Act

Annex 3

List of International/Regional Conventions, Treaties, and Agreements (In Alphabetical Order)

[Not all of the conventions and agreements listed here have been signed by Jamaica. Those that Jamaica became a party to are indicated by an **asterisk ***. If Jamaica has signed, acceded to, succeeded to, ratified a convention or entered it into force, the letters **SGN, ACC, SUC, RAT** or **ENT** will follow the particular convention or treaty along with the **date** of accession, succession and/or ratification. The Ministry of Foreign Affairs provided information about which agreements Jamaica signed and the dates of particular action. In some instances it was indicated that Jamaica had become a party to a particular treaty or convention but no dates were given and no action was specified. Hence “no apparent action” is noted in those cases. However, it should be pointed out that this does not mean that action in terms of ratification, accession, etc. was not taken, only that information about the status of action was not available. It should also be pointed out that in some instances Jamaica has acceded or succeeded to certain conventions, and ratified others, but without entering these into force. This again may be a case of incomplete information or it may signify that implementation has not been instituted and the substance of the treaties has not been incorporated into the law of the land. Further information about these may be obtained directly from the Ministry of Foreign Affairs.]

* AGENDA 21 - Programme of Action Concluded at the United Nations Conference on the Environment and Development (UNCED): 1992

* Agreement establishing the International Bauxite Association (IBA): February 14, 1975 (RAT); July 29, 1975 (ENT)

* Agreement establishing the International Fund for Agricultural Development (IFAD): March 24, 1977 (SGN); April 13, 1977 (RAT); November 30, 1977 (ENT)

* Agreement establishing the Latin American Energy Organization (OLADE): February 14, 1975; July 29, 1975 (ENT)

* American Convention on Human Rights (OAS): August 7, 1978

Asbestos Convention

* Canada-West Indies Trade Agreement: July 7, 1966 (SGN); July 8, 1966 (ENT)

* Constitution of the World Health Organization (WHO): September 28, 1970 (ACT); May 21, 1975 (ENT)

* Constitution of the World Health Organization - Amendments: March 25, 1977 (ACT); February 3, 1977 (ENT)

Convention concerning Occupational Health and Safety and the Working Environment

Convention concerning Occupational Health Services

Convention concerning Prevention and Control of Occupational Hazards Caused by Carcinogenic Substances and Agents

Convention concerning Protection Against Hazards of Poisoning Arising from Benzene

Convention concerning Safety and Health in Construction

Convention concerning Safety in the Use of Asbestos

* Convention concerning the Protection of the World Cultural and Natural Heritage: June 14, 1983 (ACT)

Convention concerning the Protection of Workers Against Ionizing Radiations

Convention concerning the Protection of Workers against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration

Convention concerning the Use of White Lead in Paint

* Convention establishing a Customs Cooperation Council: March 29, 1963 (ACC); March 29, 1963 (ENT)

Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft

* Convention for the Protection of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)

* Protocol concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region: March 24, 1983 (SGN); April 1, 1987 (RAT); May 1, 1987 (ENT)

+ Protocol on Land-based Activities that Pollute the Marine Environment

* Protocol concerning Specially Protected Areas and Wildlife: January 18, 1990

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

Convention on Biological Diversity

+ Protocol on Safety in Biotechnology

Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels

* Convention on the Conservation of Migratory Species of Wild Animals: June 20, 1980 (SGN)

Convention on Early Notification of a Nuclear Accident

* Convention on Fishing and Conservation of the Living Resources of the High Seas: April 16, 1964 (SUC)

* Convention on the Continental Shelf: October 8, 1965 (ACC)

* Convention on the Inter-American Institute for Cooperation on Agriculture: May 13, 1980 (RAT); December 8, 1980 (ENT)

* Convention on the International Maritime Organization (IMO): May 11, 1976 (ACT); May 11, 1976 (ENT)

* Convention on the IMO Amendments to the Title and Substantive Provisions: March 30, 1979 (ACT); May 11, 1982 (ENT)

* Convention on the International Maritime Organization (previously the InterGovernmental Maritime Consultative Organization (IGCO): April 9, 1979 (ACT); July 28 (1982)

* Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): No apparent action.

* Convention on the High Seas: October 8, 1965 (SUC)

* Convention on the International Regulations for the Preventing Collisions at Sea: March 30, 1979 (ACC); March 3, 1979

Convention on the Physical Protection of Nuclear Material

* Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter (London Dumping Convention): March 22, 1991 (ACC)

Convention on the Prevention of Maritime Pollution from Land-based Sources

* Convention on the Prevention and Punishment of the Crime of Genocide: No apparent action.

* Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on Their Destruction: August 13, 1975 (ACC)

* Convention on the Nationality of Married Women: No apparent action.

* Convention on the Political Rights of Women: No apparent action.

* Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter, as Amended: March 22, 1991 (ACC)

* Convention on the Rights of the Child: No apparent action.

Convention on the Territorial Sea and Contiguous Zone

Convention on Third Party Liability in the Field of Nuclear Energy

Convention on Trans-boundary Movement of Hazardous Wastes and Their Disposal (Basel Convention)

* Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (RAMSAR): No apparent action.

Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material

* Convention relation to the Status of Refugees: July 30, 1964 (RAT/ACC); October 9, 1980 (Reservation signed.)

* Protocol relating to the Status of Refugees: No apparent action.

Convention to Combat Desertification

Equal Remuneration Convention

Freedom of Association and Protection of the Right to Organize Convention

Forced Labour Convention

* General Agreement on Tariffs and Trade Agreements: October 10, 1970

* Protocol extending the Arrangement regarding International Trade in Cotton Textiles: October 10, 1970

* Protocol extending the Arrangement regarding International Trade in Textiles: February 10, 1978; February 10, 1978 (ENT)

* Protocol on Tariffs and Trade with Annex: December 12, 1979 (SGN); January 1, 1980 (ENT)

* Protocol extending the December 20, 1973 Arrangement regarding International Trade in

Textiles: June 22, 1982 (ACT); June 22, 1982 (ENT)

* Seventh Protocol extending the Declaration of November 12, 1959: December 29, 1970 (SGN);
December 12, 1970 (ENT)

International Agreement to promote Compliance with International Conservation and Management
Measures by Fishing Vessels on the High Seas

International Code of Conduct for Plant Germplasm Collecting and Transfer

* International Covenant on Economic, Social and Cultural Rights: No apparent action.

* International Covenant on Civil and Political Rights: No apparent action.

* Optional Protocol to the International Covenant on Civil and Political Rights

International Convention for the Prevention of Pollution by Oil (OILPOL)

+ Amendments to the International Convention for the Prevention of Pollution by Oil (Tank
Arrangements and Limitation of Tank Size)

* International Convention for the Prevention of Pollution from Ships (MARPOL 1973) and 1978
Protocols: 1973; June 13, 1991 (SUC); June 13, 1991 (ENT)

+ Amendment to the Protocol to the International Convention for the Prevention of
Pollution from Ships

* Amendment to Annexes II, III, IV and V of the International Convention for the Prevention of
Pollution from Ships: June 1, 1991 (SUC); June 13, 1991 (ENT)

* International Convention for the Regulation of Whaling: July 15, 1981 (ENT); June 30, 1984 (with
reservations attached)

International Convention for the Safety of Fishing Vessels

* International Convention for the Safety of Life at Sea (SOLAS): October 14, 1983 (ACC);
January 14, 1984 (ENT)

International Convention on Civil Liability for Oil Pollution Damage (Civil Liability Convention)

International Convention on Oil Spill Prevention, Response, and Cooperation (OPRC)

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

International Convention on the Establishment of an International Fund for Compensation for Oil Pollution
Damage (Fund Convention)

+ Protocol to the International Convention on the Establishment of an International Fund for
Compensation for Oil Pollution Damage

+ Protocol to Amend the International Convention on the Establishment of an International Fund
for Compensation for Oil Pollution Damage

* International Convention on the Elimination of All Forms of Discrimination Against Women: No
apparent action.

* International Convention on the Suppression and Punishment of the Crime of Apartheid: No apparent
action.

* International Convention against Apartheid in Sports

* International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties
(Intervention Convention): June 11, 1991 (ACC)

* Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances
other than Oil, as Amended: March 22, 1991 (ACC)

International Labour Code

- * International Plant Protection Convention: November 24, 1969 (ADH)
 - * International Coca Agreement: December 19, 1975 (SGN); June 29, 1973 (RAT); June 30, 1973 (ENT)
 - * International Cocoa Agreement: March 30, 1976 (SGN); September 30, 1976 (RAT); January 1, 1976 (ENT, with effect)
 - * International Cocoa Agreement: July 13, 1981 (ACC); August 1, 1981 (ENT)
 - * International Coffee Agreement: March 28, 1968 (SGN); September 17, 1968 (RAT); January 1, 1968 (ENT, with Effect)
 - * Protocol for its Continuation: March 19, 1975 (SGN); September 30, 1975 (RAT); January 1, 1975 (ENT, with effect)
 - * International Coffee Agreement: July 26, 1976 (SGN); September 24, 1976 (RAT)
 - * International Coffee Agreement 1976 Extension of Accession (OAS): January 21, 1983 (ACC); October 1, 1982 (ENT)
 - * International Coffee Agreement: June 30, 1983 (SGN); January 1, 1984 (ENT)
 - * International Coffee Agreement: March 6, 1984 (RAT); March 6, 1984 (ENT)
 - * International Health Regulations to Amend the Regulations of 1969: May 21, 1981 (SGN); January 1, 1982 (ENT)
 - * International Sugar Agreement: December 3, 1968 (SGN); December 27, 1968 (RAT); January 1, 1969 (ENT)
 - * International Sugar Agreement: December 19, 1973 (SGN); December 31, 1973 (RAT); January 1, 1974 (ENT)
 - * International Sugar Agreement Extension (1973): December 30, 1975 (SGN); January 1, 1976 (ENT) November 2, 1976 (ACT); January 1, 1977 (ENT)
 - * International Sugar Agreement: December 23, 1977 (SGN); February 16, 1978 (RAT); February 16, 1978 (ENT)
 - * Memorandum of Understanding concerning Cooperative Information Exchange relating to the Development of Solar Heating and Cooling Systems in Buildings: May 19, 1976 (SGN); May 19, 1976 (ENT)
- Nairobi Forward Looking Strategies for the Advancement of Women,
- Prevention of Major Industrial Accidents Convention
- * Programme of Action for Small Island Developing States concluded at the United Nations Conference on the Sustainable Development of Small Island Developing States: 1994
- Programme of Action on Human Rights
- Programme of Action on Population and Development
- Right to Organize and Collective Bargaining Convention
- * Slavery Convention of 1926 as Amended (UN): No apparent action.
 - * Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices similar to Slavery: No apparent action.
 - * Statutes of the Group of Latin American and Caribbean Sugar Exporting Countries (GLACSEC): Approved at Cali on March 12, 1976 (OAS); September 20, 1977 (RAT); November 15, 1978 (ENT)
 - * Statute of the International Atomic Energy Agency (IAEA) - Amendments: January 10, 1973 (ACT); June 1, 1973 (ENT)
 - * Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Underwater: August 13, 1963 (SGN); November 22, 1991 (ACC)

* Treaty on Principles governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies: June 29, 1967 (SGN); August 10, 1970 (ACC)

* Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea Bed and the Ocean Floor and the Subsoil Thereof: July 30, 1986 (ACC)

* United Nations Convention on the Law of the Sea (UNCLOS): December 10, 1982 (SGN); March 21, 1983 (RAT)

* Agreement relating to the Implementation of Part XI of UNCLOS (1982): July 29, 1994 (SGN); July 28, 1995 (RAT)

* Agreement for the Implementation of the Provisions of UNCLOS 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks : December 4, 1995 (SGN)

* United Nations Framework Convention on Climate Change: June 12, 1992 (SGN); January 6, 1995 (ACC)

Universal Declaration of Human Rights

* Vienna Convention for the Protection of the Ozone Layer: March 31, 1993 (ACC)

* Montreal Protocol on Substances that Deplete the Ozone Layer: March 31, 1993 (ACC)

+ Copenhagen Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer

* London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer: March 31, 1993 (ACC)

Vienna Convention on Civil Liability for Nuclear Damage

+ Protocol Relating to the Application of the Vienna Convention on Civil Liability for Nuclear Damage and the Paris Convention on Third Party Liability in the Field of Nuclear Energy

World Declaration on the Survival, Protection and Development of Children

* World Health Organization Regulations regarding Nomenclature with respect to Diseases and Causes of Death: May 22, 1967 (SGN); January 1, 1968 (ENT)

Annex 3

List of Papers presented at the Sustainable Development Law Seminar

The following presented papers at the Seminar during June 9-11, 1998, in Kingston, Jamaica, and are available from either the Natural Resources Conservation Authority or the Ministry of Environment and Housing:

1. Address by the Honorable Easton Douglas, Minister of Environment and Housing.
2. Speech by Mr. Franklin MacDonald, Executive Director, Natural Resources Conservation Authority.
3. Dr. Winston Anderson, Lecturer in Law, University of West Indies, Barbados. "Policy Harmonization and the Legal Framework for Sustainable Development".
4. Tim McBride, Professor, Auckland University, New Zealand. "Environmental Law and Administration in New Zealand".
5. Anthony Clayton, Professor, University of the West Indies, Environment and Development. "The European Union - Facing the Challenges and Complexities of Sustainable Development".
6. Jacqueline DaCosta and Cheryl Gopaul, LAMP. "Legal Reform Initiatives in Jamaica".
7. George de Romilly, de Romilly & de Romilly Consultants Inc., Halifax, Canada. "Fiji: an Example of a new Sustainable Development Framework".
8. Eleanor Jones, Managing Director, Environmental Solutions Ltd., Jamaica. "Legal Reform and Solutions".
9. Kurt Rattray, Acting Deputy Director, Jamaica Law Reform Commission. "The Process of and Constraints on Law Reform in Jamaica".
10. Carole Stephens, Legal Officer, Natural Resources Conservation Authority. "Policy/Legislation Interface".
11. David Smith, Executive Director, Jamaica Conservation Development Trust. "Barriers and Constraints to Sustainable Development Law Reform".
12. Beverley Pereira, Manager for Special Projects, University of West Indies, Mona Campus, Kingston. "The Mechanisms and Processes of Drafting Legislation".
13. Evan Oniss, Assistant Attorney General, Attorney General's Office.

14. Hugh Hyman, Attorney-at-Law, and David Batts, Attorney-at-Law. Jamaica Bar Association.
15. Hopeton Peterson, Planning Institute of Jamaica, Kingston, Jamaica, and Theodora Carroll, Ad Astra Consulting Services and IDRC/SIFR, Canada. "Summary of Workshop Groups' Discussions".

Annex 4

List of Seminar Participants

A list of Seminar Participants with their coordinates of affiliation, address and contact numbers can be obtained from the Ministry of Environment and Housing or the Natural Resources Conservation Authority.

NOTES

*

	A	B	C	D	E	F	G	H
1	TOPIC 1							
2	ADMINISTRATIVE,	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
3	LEGAL AND	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	& FOR ENGOs, NGOs,	LEGISLATION
4	INSTITUTIONAL STRUCTURES	CONVENTIONS					AND CBOs	& FOR AMENDMENTS
5								
6	MINISTRY OF ENVIRONMENT	VARIOUS TREATIES &	CONSTITUTION DOES	NATURAL	PLANNING	Gov's	NATIONAL ENVIRON-	WORLD BANK-FUNDED
7	AND HOUSING (MEH)	AGREEMENTS	NOT INCLUDE	RESOURCES	INSTITUTE OF	ADMINISTRATIVE	MENTAL SOCIETIES	ENVIRONMENT PLANN-
8		SIGNED, ACCEDED	SUSTAINABLE	CONSERVATION	JAMAICA	REFORM PRGM	TRUST (NEST)	ING AGENCY (NEPA)
9	NATURAL RESOURCES	TO & FOR RATIFIED BY	DEVELOPMENT	ACT (19...)	* SD UNIT		* COALITION OF 42	
10	CONSERVATION	JAMAICA RE. HEALTH,	PRINCIPLES OR	* CZM	* ENVIRONMT	Gov's PROGRAMS	ENGOs, NGOs, ETC.	
11	AUTHORITY (NRCA)	AGRICULTURE, ENERGY,	ENVIRONMENTAL	* WILDLIFE	& PLANNING	TO PHASE OUT:	LAND REFORM: "LAMP"	
12		ENVIRONMENT, HUMAN	PROTECTION PER SE.	* BIODIVERSITY	* LEAD IN GAS	* OZONE DEPLETING	& "PSMP"	
13		RIGHTS, MARITIME,		* PROTECTED	SUSTAINABLE			
14		NUCLEAR, & TRADE		AREAS	DEVELOPMENT	SUBSTANCES	12 PARISH COUNCILS	
15		REQUIRING LEGAL,		* POLLUTION	COUNCIL OF	* SPECIFIC		
16		INSTITUTIONAL		CONTROL	JAMAICA	PESTICIDES		
17		STRUCTURES &		* WASTE MGMT	* MULTISTAKE-			
18		FINANCING.		& ENFORCEMENT	HOLDER INTER-			
19				* LEGAL SERVICES	ACTION			
20				* PUBLIC EDUCATION	* SD LINKS			
21				* DATA & GIS				
22					COUNCIL ON			
23				NATURAL RESOURCES	OCEANS & CZM			
24				CONSERVATION				
25				AUTHORITY ACT				
26				(19...)				
27								
28								
29								
30	RECOMMENDATIONS							
31								
32	MORE COHESIVE LINKAGES WITH	ACCESSION OR RATIFIC-	DURING REFORM OF	HARMONIZATION OF LAWS,	HARMONIZATION OF	ENSURE NEW LEGAL	TARGET GROUPS	(SEE UNDER NATIONAL
33	OTHER SECTORS, MINISTRIES,	ATION & FUNDING OF	CONSTITUTION,	ESPECIALLY WITHIN SECTORS &	POLICIES & LAWS, TO	REFORMS ADOPT AN	FOR SD/ENVIRONMT	PROGRAMS)
34	AGENCIES & CIVIL SOCIETY	SIGNED TREATIES	INCLUDE SD &	BETWEEN RELATED SECTORS.	REMOVE BARRIERS,	INTEGRATIVE, HOLISTIC	EDUCATION:	
35		* IMPLEMENTATION &	ENVIRONMENT		DUPLICATION, ETC.	& SUSTAINABLE	* GOVERNMENT	
36		ENFORCEMENT OF	PRINCIPLES		MANAGEMENT	SELECTED (& NON-)		
37		SIGNED TREATIES		SUNSETTING OF OUT-DATED	APPROACH, & RECOG-	DECISION-MAKERS		
38		* HARMONIZATION WITH		IRRELEVANT LAWS.	NIZE JAMAICA AS AN	AT ALL LEVELS		
39		NATIONAL POLICIES &			ARCHIPELAGIC ENTITY	* JUDICIARY, LAWYERS,		
40		LEGISLATION			POLICE, ETC.			
41					* POLICY-MAKERS			
42					* PRIVATE SECTOR,			
43					e.g. POLLUTING INDUSTRIES			

A	B	C	D	E	F	G	H
1	TOPIC 2	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	SUSTAINABLE TREATIES AND CONVENTIONS	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	& FOR ENGOs, NGOs, AND CBOs	LEGISLATION & FOR AMENDMENTS
3	HUMAN DEVELOPMENT						
4	& HUMAN RIGHTS						
5							
6	1) 1974 POPULATION & 1984 POPULATION DEVELOPMENT CONFERENCE	1962 ORDER-IN-COUNCIL "PROTECTION OF BASIC HUMAN RIGHTS & NEEDS"	LABOUR RELATIONS & DISPUTES ACT(19...)		NATIONAL POVERTY ERADICATION PROGRAM		LAND ADMINISTRATION AND MANAGEMENT PROJECT/REFORM RE. IMPLEMENTING THE NATIONAL
7							
8	2) AGENDA 21 PLAN OF ACTION (1992)	HUMAN RIGHTS & NEEDS	EMPLOYMENT OF WOMEN ACT (1942)		RESETTLEMENT & INTEGRATED DEVELOPMENT PROGRAM		LAND POLICY & REFORM-ING LAND USE & PLANNING.
9	3) PROGRAM OF ACTION FOR SMALL ISLAND DEVELOPING STATES		NATIONAL FAMILY PLANNING ACT (1967)	NATIONAL POPULATION POLICY (1992)	ESTABLISHMENT OF POPULATION POLICY COORDINATION CTTEE AND NATIONAL FAMILY PLANNING BOARD UNDER THE NFP ACT.		
10	4) UNIVERSAL DECLARATION OF HUMAN RIGHTS(19...)		FACTORIES ACT (19...)		MINISTRY OF LABOUR, SOCIAL SECURITY & SPORTS SET UP		
11	5) NAIROBI FORWARD-LOOKING STRATEGIES FOR THE ADVANCEMENT OF WOMEN(19...)		MONITORED BY MINISTRY OF LABOUR, FOR WORKERS' SAFETY, BREACHES OF ACT, WAGES, WORK.				
12	6) WORLD DECLARATION ON THE SURVIVAL OF CHILDREN (19...)		URBAN DEVELOPMENT CORPORATION ACT (19...)	NATIONAL LAND POLICY (SUBMITTED TO PARLIAMENT 1996)	ENVIRONMENTAL STANDARDS UNIT (ESU)		
13	7) FREEDOM OF ASSOCIATION & RIGHT TO ORGANIZE CONVENTION (19...)			re. RURAL & LAND MANAGEMENT	* ESU EFFECTS THE ENVIRONMENTAL MGMT SYSTEM STANDARDS NATIONALLY		
14	8) FORCED LABOUR CONVENTION (19...)						
15	9) INTERNATIONAL LABOUR CODE & ISO 1400						
16	RECOMMENDATIONS						
17							
18	BECOME A PARTY TO CEDAW re. WOMEN	REVIEW CONSTITUTION DURING REFORM	PROVIDE LEGAL BASIS TO ENSURE INTEGRATION OF WOMEN, POPULATION, HUMAN DEVELOPMENT & ENVIRONMENT INTO NATIONAL & SECTORAL PLANNING.	IMPLEMENT NATL INDUSTRIAL POLICY & ENSURE WOMEN'S INTEGRATION & EQUITY	STRENGTHEN INSTITUTIONS re. MANAGEMENT OF POPULATION & URBAN GROWTH, & IMPACTS ON ENVIRONMENT		MONITOR IMPACT OF LAND ADMINISTRATION & MGMT (LAMP) PROJECT/REFORM LINKS & COLLABORATION WITH ENGOs & ON THE POOR, ETC., WOMEN'S ORGZNTs & ON THE COASTS & WATERSHEDS
19	* ALSO TO RIGHTS OF CHILD CONVENTION	PROCESS FOR HUMAN RIGHTS & DEVELOPMENT ISSUES NOT PREVIOUSLY COVERED.					
20	*PROGRAM OF ACTION ON HUMAN RIGHTS			INCLUDE SD PRINCIPLES, e.g. "POLLUTER PAYS", USER PAYS", ETC.			
21	* RIGHT TO ORGANIZE & COLLECTIVE BARGAINING			**AMEND WOMEN'S EMPLOYMENT ACT ENSURING EQUITY & EQUAL RIGHTS IN/AT WORK, & IN HIRING.	CREATE PROGRAM OR FRAMEWORK TO REDUCE TECHNICAL BARRIERS TO TRADE & ISO 1400 STANDARDS.		
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1	TOPIC 3	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY	PENDING
2	NATURAL AND	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	& DR ENGOs, NGOs,	LEGISLATION
3	HUMAN-MADE	CONVENTIONS					AND CBOs	& DR AMENDMENTS
4	DISASTERS							
5								
6	OFFICE OF DISASTER	CONVENTION FOR THE	CONSTITUTION DOES	DISASTER PREPAREDNESS		NATIONAL DISASTER	PARISH COUNCILS	DISASTER & EMERGENC
7	PREPAREDNESS AND	PROTECTION & DEVELOP-	NOT INCLUDE	& EMERGENCY MANAGEMENT		PLAN (199...)		PLANS ARE REVIEWED
8	EMERGENCY MANAGEMENT	MENT OF THE MARINE	SUSTAINABLE	ACT (1995)			PETROLEUM CORPN	PERIODICALLY.
9	(OPDEM) - ESTD BY OPDEM	ENVIRONMENT OF THE	DEVELOPMENT			NATIONAL CONTING-	OF JAMAICA (PCJ)	
10	ACT (1995)	WIDER CARIBBEAN	PRINCIPLES OR	EMERGENCY POWERS		ENCY PLAN FOR OIL	* EDUCATION &	
11		(199...)	ENVIRONMENTAL	ACT (19...)		& CHEMICAL SPILLS	INTERNATIONAL	
12			PROTECTION PER SE.			* INVOLVES NRCA,	SEMINARS.	
13		INTERNATIONAL CON-		HOUSING ACT (PT. III)		OPDEM, COAST GUARD		
14		VENTION ON OIL SPILL				DEFENCE FORCE, &	UWI GEOGRAPHY	
15		PREVENTION, RESPONSE,		WATER RESOURCES ACT		JAMAICA MARITIME	DEPT. - CARIBBEAN	
16		& COOPERATION (OPRC)		(WRA) (199...), REPLACED		INSTITUTE	DISASTER MITIGATION	
17		(199...)		UNDERGROUND WATER			PROJECT	
18				AUTHORITY ACT.			* LANDSLIDE INVENTORY	
19		PROTOCOL re. COOPER-		* ESTD WATER RESOURCES				
20		ATION IN COMBATTING		AUTHORITY IN 1995.			JAMAICA BUREAU OF	
21		OIL SPILLS IN THE WIDER					STANDARDS (JBS) re.	
22		CARIBBEAN REGION					STANDARDS FOR OIL SPILL	
23		(199...)					& DISASTER EQUIPMENT.	
24								
25		VARIOUS OIL SPILL PLANN-						
26		ING & MANAGEMENT						
27		AGREEMENTS w/ L.A. &						
28		CARIBBEAN						
29								
30	RECOMMENDATIONS							
31		BECOME A PARTY TO OPRC		REVIEW AND HARMONIZE				
32		ABOVE, SUBJECT TO	DURING REFORM OF	LAWs, POLICIES, & REFORMS	HARMONIZATION OF		TARGET GROUPS	
33		FINANCIAL	CONSTITUTION,	ESPECIALLY WITHIN SECTORS &	POLICIES & LAWS, TO		FOR DISASTER EDUCATION	
34		OBLIGATIONS	ASSESS THE NEED TO	BETWEEN RELATED SECTORS.	REMOVE BARRIERS,		& TRAINING	
35			ADDRESS DISASTER		DUPLICATION, ETC.			
36		ENFORCEMENT OF	ISSUES.	ENSURE EFFICIENT, EFFECTIVE,			ESTABLISH STANDARDS	
37		SIGNED TREATIES AND		QUICK AND RESPONSIVE			FOR DISASTER & OIL SPILL	
38		HARMONIZATION WITH		DISASTER MANAGEMENT AT ALL			EQUIPMENT WITH JBS,	
39		NATIONAL POLICIES &		LEVELS, INCLUDING			NRCA, PCJ, & OTHER	
40		LEGISLATION.		PARISH COUNCILS.			AGENCIES OR GROUPS.	

A	B	C	D	E	F	G	H
1	TOPIC 10	CONSTITUTION OF JAMAICA	NATIONAL LEGISLATION	NATIONAL POLICY	NATIONAL PROGRAMS	LOCAL AUTHORITY	PENDING LEGISLATION
2	SUSTAINABLE TREATIES AND CONVENTIONS					FOR ENGOs, NGOs, AND CROs	LEGISLATION & OR AMENDMENTS
3	FORESTRY						
4	RESOURCE						
5	MANAGEMENT						
6	AGENDA 21: PLAN OF ACTION (1992)		(NEW) FORESTS ACT (OCTOBER 1998) GIVES FORESTRY DEPT. RESPONSIBILITY FOR SUSTAINABLE MGMT OF CROWN LANDS OR RESERVES FORESTS, PRIVATE & SOCIAL FORESTATION PROGRAMS, AGRO-FORESTRY, FOREST PROTECTION & INVENTORIES, WATER-SHED FORESTS, & GRANTS OF PERMITS & LICENCES	CONSERVATOR OF FORESTS (BY 1998) IS EXPECTED TO PRODUCE DRAFT NATIONAL FOREST MGMT & CONSERVATION PLAN, incl FOREST CONSERVATION POLICY, INVENTORY OF FOREST LANDS, PROTECTION OF FOREST RESOURCES, WATER-SHEDS, WILDLIFE	1990 NAT'L FORESTRY ACTION PLAN (NFAP) LISTS PRIORITIES, e.g. AGRO-FORESTRY IN BLUE MOUNTAINS & LAND USE CONTROL IN UPPER WATERSHED.	NATIONAL ENVIRONMENTAL SOCIETIES TRUST (NEST) * SOME MEMBERS ARE CONCERNED ABOUT DEMISE OF JAMAICA'S FORESTS & FOREST PROTECTION & CONSERVATION.	NATIONAL FOREST MANAGEMENT & CONSERVATION PLAN (DRAFT).
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30	RECOMMENDATIONS						
31							
32	MORE COHESIVE UNBECOME A PARTY TO OTHER SECTORS, (M1) INTERNATIONAL AGENCIES & CIVIL SOCIETY ON FOREST ESPECIALLY AGRICULTURE (AS A FOL UP TO AGENDA 21);	DURING REFORMS, CONSTITUTION & ASSESS WHAT LAWS IN OTHER SECTORS IMPACT FORESTS & ISSUES, AS W/ FORESTRY, AGRICULTURE & FISHERIES.	ROAD PROTECTION ACT LETS ITS AUTHORITY TO FELL TREES, IN GULLIES OR WATERCOURSES NEAR ROADS. HARMONIZE LAWS w/ SECTOR, & ASSESS WHAT LAWS IN OTHER SECTORS IMPACT FORESTS & ISSUES, AS W/ FORESTRY.	HARMONIZE POLICIES & LAWS w/ SECTOR, & BETWEEN RELATED SECTORS.	DEVELOP FORESTRY PROGRAMS THAT PROTECT & CONSERVE PARKS, WILD. LIFE, BIODIVERSITY, ECO. SYSTEMS, & EMPLOY ECONOMIC MEANS TO FUND THOSE DIRECTLY & SYSTEMATICALLY.	FORESTRY DEPT. SEEKS SEAT ON COUNCIL ON OCEANS & CZM, TO ENSURE RELATIONSHIP BET. FORESTS, COASTS & WATERSHEDS IS ADDRESSED.	TARGET GROUPS FOR FORESTRY RE-TRAINING & EDUCATION, incl. FORESTRY INDUSTRY, URBAN PARISH COUNCILS TOWN & COUNTRY PLANNERS & ENGOs/CBOs TO AMEND T&C PLANNING ACT TO INCLUDE URBAN FORESTS & RE-FORESTATION TO COUNTER DUST, EMISSIONS, HEAT BUILDUP.
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	A	B	C	D	E	F	G
1	TOPIC 11	INTERNATIONAL	CONSTITUTION	NATIONAL	NATIONAL	NATIONAL	LOCAL AUTHORITY
2	PROTECTION &	TREATIES AND	OF JAMAICA	LEGISLATION	POLICY	PROGRAMS	FOR ENGOs, NGOS,
3	CONSERVATION OF	CONVENTIONS					AND CBOs
4	WILDLIFE, ECOSYSTEMS,						
5	BIODIVERSITY						
6	& CULTURAL SITES	JAMAICA HAS SIGNED		A PLETHORA OF LAWS EXISTS:	POLICY PAPER ON NATIONAL	NRCA'S WILDLIFE UNIT HAS	NRCA HAS MANDATED
7		VARIOUS TREATIES, viz.:		1) WILDLIFE PROTECTION ACT	PROTECTED AREAS SYSTEM	DEVELOPED SPECIES MGMT	2) NGOS TO MANAGE JOHN
8		1) INT'L PLANT PROTECTION		EMPHASIZES HUNTING REGULATIONS	(1998) RESULTED IN JAMAICA	PLANS FOR SOOTY TERNS,	CROW MOUNTAINS NAT'L
9		CONVENTION (NOV.24, 1969)		1) RATHER THAN WILDLIFE	NAT'L HERITAGE TRUST(Under	MANATEE, IGUANA, SEA	PARK & MONTEGO BAY
10		2) CONVENTION FOR THE		(HABITAT) PROTECTION & MGMT	ACT, REGISTERING MANY	TURTLES, GIANT SWALLOW-	MARINE PARK
11		PROTECTION & DEVELOP.		* ESTABLISHES GAME SANCTU-	HISTORIC SITES	TAIL BUTTERFLY, & CROCS.	
12		MENT OF THE MARINE		ARIES & WARDENS.		* & DEVELOPED WILDLIFE	BATH BOTANIC GARDEN
13		ENVIRONMENT OF THE		* PROHIBITS KILLING "PROTECTED"	BEACH CONTROL. ACT HELPS	INVENTORIES TO ASSIST	IS PRESERVED & MANAGE
14		WIDER CARIBBEAN		SPECIES, & DISCHARGES OF	ESTABLISH NAT'L BEACH	CONSERVATION EFFORTS.	BY DIRECTORS OF BATH
15		(MAY 1, 1987)		INDUSTRIAL WASTES INTO WATERS;	POLICY, A RECENTLY DRAFTED		UNDER A 1942 ACT.
16		3) CONVENTION ON INTER-		* GIVES NRCA RESPONSIBILITY TO	BEACH POLICY HAS ATTRACT-		
17		NATIONAL TRADE IN EN-		ADMINISTER THE ACT & IMPLEMENT	ED CONTROVERSY, ESPEC.		
18		DANGERED SPECIES OF		SPECIES MGMT PLANS.	FROM LOCAL PUBLIC.		
19		WILD FLORA & FAUNA		2) NRCA IS MANDATED BY ACT TO			
20		4) CONVENTION ON BIO-		MANAGE THE ENVIRONMENT, SET			
21		LOGICAL DIVERSITY		UP LEGAL FRAMEWORK FOR	NAT. LEGISLATION CONT'D	NAT. LEGISLATION CONT'D	NAT. LEGISLATION
22		(JAN. 6, 1995)		NAT'L PROTECTED AREAS (LAND	5) BEACH CONTROL REGS.	6) WATERSHED PROTECTION	8) (DRAFT) FISHERIES
23		5) CONVENTION ON WET-		& SEA), & PROTECT WILDLIFE.	DEAL w. BEACH CARE, HOTEL	ACT PROTECTS WATERSHEDS	BILL HAS CONSERV.
24		LANDS OF INT'L IMPORT-		3) MARINE PARK REGS 1992 &	& PUBLIC ACTIVITIES, WHILE	& ADJOINING AREAS, w. NRCA	ATION MEASURES
25		ANCE, ESPEC. AS WATER.		NAT'L PARKS REGS. 1993, NEGRIL	BEACH CONTROL ORDERS	MANDATED TO CONSERVE TH	(SEE: TOPICS 8&7)
26		FOWL HABITAT(MAY 20/97)		ENVTL. PROTECTION AREA ORDER	DEAL w. MONTEGO BAY, PORT	7) (NEW) FORESTS ACT (1996)	9) RIVER RAFTING
27		6) CONVENTION re. PRO-		(NOV. 1997) & MONTEGO BAY	ROYAL, OCHO RIOS, & BLACK	MANDATES DEPT. TO MANAGE	ACT CONTROLS
28		TECTION OF WORLD CULT.		MARINE PARK (1996).	CORAL PROTECTION.	FORESTS ON CROWN LANDS	RAFTING.
29		URA/NATURAL HERITAGE.		4) BEACH CONTROL ACT VESTS		RESERVES SUSTAINABLY, &	10) CRUELTY TO
30		(JUNE 14, 1983)		FORESHORE/SEA FLOOR RIGHTS		PROTECT WILDLIFE ET AL.	ANIMALS ACT, & OTHERS
31	RECOMMENDATIONS			IN CROWN.			
32		LINKED TO THOSE		HARMONIZE LAWS w/IL & BETWEEN,	HARMONIZE POLICIES & LAWS	IDENTIFY, INVENTORY, & FAST	TRAIN & USE MORE ENGOs
33		TREATIES ALREADY		SECTOR(S) TO REDUCE AD HOC,	TO REDUCE DUPLICATIONS,	TRACK ACTION PLANS TO	CBOs, LOCAL AUTHORITIES
34		COMPREHENSIVE APPROACH TO		PIECEMEAL APPROACH TO WILDLIFE	BARRIERS, ETC., & ESTABLISH	SAVE & PROTECT FRAGILE	TO MANAGE PROTECTED
35		LOOKING AFTER THE		BIODIVERSITY, ECOSYSTEM ISSUES.	EFFICIENT, PROPERLY TRAINED	ECOSYSTEMS: MOUNTAINS,	AREAS, KEY SITES, ECO-
36		WILDLIFE, BIODIVERSITY,		MIRGRATORY SPECIES, ECOSYSTEMS	& FUNDED ENFORCEMENT	WETLANDS, MANGROVES,	TOURISM; & INVOLVE
37		2) PROTOCOL ON SPECIALI		SUNSET OUT-DATED, IRRELEVANT	MECHANISMS	REEFS	MORE PRIVATE SECTOR
38		PROTECTED WILDLIFE ARE		LAWs &/OR REGULATIONS.			AS SUPPORTERS/FUNDER
39		3) PROTOCOL ON SAFEY IN		INTRODUCE & IMPLEMENT COMPLETE	PROGRAMS TO DEAL WITH	LIKELIKE FOR SITES OF	OF PARKS & SITES.
40		BIOTECHNOLOGY.		LEGAL & INSTITUTIONAL STRUCTURE	BIODIVERSITY PROSPECTING	CULTURAL & HISTORIC SIGNI-	* USE ECONOMIC TOOLS.
41		4) INT'L CODE OF CONDUCT		FOR PARKS & PROTECTED AREAS, w/GENETICALLY ENGINEERED	UNCONTROLLED DEVELOPMT	FINANCE (NOW PRONE TO	5) a. TOURISM HEAD TAXES
42		FOR PLANT GERMPLASM		ADEQUATE FUNDING FOR SUPPORT, ORGANISMS, & IPR.			PARK FEES, ETC. TO FUND
43		COLLECTING & TRANSFER.					& MAINTAIN PARKS, SITES

PROGRAMME (CONT'D)

WEDNESDAY, 10 June, 1998

(Chairman - Mr. David Smith, Executive Director, Jamaica Conservation Development Trust)

9:00-11:00 Group Discussion

11:00-11:15 **COFFEE BREAK**

11:15-12:15 Report back to meeting

12:15-1:15 **LUNCH**

(Chairman - Mr. Evan Oniss, Asst. Attorney General, Attorney General's Office)

1:15-4:00 Discussion

4:00-5:00 Report back to meeting

THURSDAY, 11 June, 1998

(Chair - Mrs. Beverley Perreira, Manager for Special Projects, UWI, Mona)

9:00-9:40 The Process of Legal Reform in Jamaica

(Mr. Kurt Rattray, Actg. Deputy Director of Legal Reform)

9:40-10:00 Policy/Legislation Interface

(Carole Stephens, Legat Officer - NRCA)

10:00-11:00 Summary of Group Discussions

(Mrs. Theodora Carrall, IDRC & Hopeton Peterson, PICAD)

11:00-11:15 **COFFEE BREAK**

11:15-12:15 Discussion of Next Steps and Action Plan

12:15-1:00 **LUNCH**

(Chairman - Mr. Hugh Hymni, Attorney-At-Law)

1:00-4:00 Discussion of Next Steps and Action Plan (cont'd)

4:00-5:00 **CONCLUSION**

(Rapporteur, Mr. George de Romilly)

SEMINAR

ON

“SUSTAINABLE DEVELOPMENT LAWS AND INTERNATIONAL TREATY OBLIGATIONS”

Tuesday, 9 June, - Thursday, 11 June, 1998

Venue: The Crowne Plaza Hotel,
211A Constant Spring Rd.
KINGSTON 8.

The Ministry of Environment & Housing (ME&H) and
The Natural Resources Conservation Authority (NRCA)

SEMINAR OBJECTIVES

- a) To review existing environmental resources management laws and regulations; identify deficiencies or shortcomings within the existing legal framework.
- b) To review commitments under international treaties where national legislation needs to be established.
- c) Prioritize national legislation or regulations to address identified shortcomings;
- d) Identify administrative, legal and other criteria that should be included in priority legislation;
- e) To discuss and design an action plan to facilitate the development and drafting of priority national legislation or regulations.

PROGRAMME

TUESDAY, 9 JUNE 1998

8:30-9:00	Registration
9:00-10:00	Opening Ceremony
10:00-10:15	COFFEE BREAK
	Case Studies & Discussion
	<i>(Chairman - Mr. David Bais, Attorney-At-Law, Jamaica Bar Association)</i>
10:15-11:00	Policy Harmonization and the Legal Framework for Sustainable Development <i>(Dr. Winston Anderson - Lecturer in Law, UWI Barbados)</i>
11:00-11:20	European Union <i>(Prof. Anthony Clayton, UWICED)</i>
11:20-11:40	New Zealand <i>(Prof. Tim McBride, New Zealand)</i>
11:40-12:00	Fiji <i>(Mr. George de Romilly, de Romilly & de Romilly, Canada)</i>
12:00-12:30	Legal Reform Initiatives in Jamaica <i>(Ms. Jacqueline DaCosta & Ms. Cheryl Gopaul, LAAP)</i>
12:30-1:30	LUNCH <i>(Chairman - Mrs. Eleanor Jones, Managing Director, Environmental Solutions Ltd.)</i>
1:30-1:40	Instructions on what to do in breakout groups <i>(Miss Leonie Barnaby)</i>
1:40-4:00	Group Discussions
4:00-5:00	Report back to meeting
5:30-7:30	COCKTAIL RECEPTION

**Address by the Hon. Easton Douglas, Minister of Environment and Housing at
the Seminar on Sustainable Development Law and International Treaty
Obligations, 9 June, 1998**

Salutations.[Madam Chairperson, Miss Sonia Jackson, Permanent Secretary; Senator Hon. A.J. Nicholson; Rev. Robert Thompson; Chairman and Board Members of the Natural Resources Conservation Authority; Executive Director and staff of the NRCA; Representatives of Legal, NGO and other Institutions; distinguished participants at home and from overseas]

For those of you who are visiting, especially for the first time, I extend a warm welcome and invite you to enjoy the beauty of our shores and the hospitality of our people.

This has been an exciting week so far. In the National Environmental Awareness Week we have had the Green Expo; the launch of the Coastal Water Quality Improvement Project for US\$8.9 million; and tomorrow the Governor General will launch the National Environmental Education Action Plan for Sustainable Development....

The Church Service at the Tarrant Baptist Church will be broadcast and I would urge all to listen to the sermon. I guarantee that every person, Christians and others who would like to be worthy in the sight of God will start to indulge in good environmental practices.

It is a pleasure to address you at this seminar concerning the vital areas of sustainable development legislation and environmental treaty obligations. Of particular interest are the regional and international perspectives and experiences which may be able to give us relevant and useful information as we examine the issues that affect us and consider how best to deal with them.

I must thank the International Development Research Centre and the Strategy for International Fisheries Research of Canada who originally proposed that Jamaica should hold this consultation to review our environmental laws and policies and develop a framework for sustainable development legislation. For the sponsorship of this Seminar, I must also thank the IDRC and the SIFR as well as well as the Commonwealth Secretariat/World Bank Project on Caribbean Capacity Building for Environmental Management, coordinated by the University of the West Indies Centre for Environment and Development.

This seminar is taking place within the context of sustainable development as outlined in Agenda 21 and the Programme of Action for Small Island Developing States. Later on, a presentation will be made on the implications of sustainable development and on our international treaty obligations.

The themes of the seminar - harmonization of law and policy and international dimensions such as trade issues - are vital and are in keeping with recent recommendations of international meetings dealing with sustainable development. I note, in fact that there are frequent references to policies being implemented in a "mutually reinforcing manner": the decisions of the review of Agenda 21 include the point that economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development.

Jamaica as a developing country must not only deal with its economic development issues but also the rationalization of its environmental laws and the increasing requirements of international treaties

A 1996-97 UNDP review of the unmet technical cooperation needs of Caribbean Small Island Developing States (SIDS) noted the inadequacy of current legislative and administrative frameworks for environmental management and the promotion of sustainable development.

The review noted that "within the two leading economic sectors of Caribbean SIDS, namely tourism and agriculture, there are potentially detrimental consequences for the environment deriving from current practices. At the same time, differing points of views are expressed in support of policies favourable to expanding economic growth at the expense of environmental considerations, and on the other hand, in opposition to "development activities" perceived to be detrimental to the environment. To some extent, the problem derives from the sometimes compartmentalized nature of government policy-making which is organized along sectoral lines and the weak institutional capacity for multi-sectoral and interdisciplinary policy formulation, implementation and monitoring."

"The challenge of promoting intersectoral linkages aimed at the development of sustainable livelihoods requires conceptual, organizational and behavioural changes which must be addressed in a mutually reinforcing manner

- the institutional capacity of Caribbean states to monitor the environmental impact of the use of agro-chemicals is uneven.
- Little attention is being paid to the legal framework for proper management of land resources.
- Specific legislation governing soil and water conservation is limited and generally outdated, and sound land management practices are not being pursued in some countries. In addition, old laws such as measures which accelerate the acquisition of title to public lands by adverse possession, where the land is developed by squatters, offer indirect incentives to environmentally unsound practices such as the deforestation of marginal lands and the draining of wetlands for cultivation. Similarly, the legislation relating to agricultural land

tenure, which is common in the region, ties the security of tenure to the concept of good husbandry, which is not systematically based on sustainability criteria.

- The legal and administrative framework for the management of parks and protected areas is a subject which cuts across the priority areas of biodiversity, tourism, and coastal and marine resources. The track record of Caribbean SIDS in this area leaves much to be desired.
- Waste management projects in the tourism sector, such as the development of facilities to handle shipborne wastes, appear to be driven more by international law such as obligations under MARPOL than by the domestic legislation on environmental sanitation, developed as part of public health regulations. In general this legislation simply adopts the approach of penalizing undesirable practices. The legislation in the region has not developed sufficiently in the direction of offering incentives and disincentives to bring about the reduction, reuse, and recycling of wastes. In fact, in some countries, salvaging material from refuse is unlawful."

The domestic legislation in place in Caribbean Small Island Developing States was seen as often being inconsistent with the obligations imposed by multilateral instruments to which many states are signatories. These include CITES, the Ramsar Convention, Agenda 21 and the Biodiversity Convention as well as the non-binding Statement of Forest Principles adopted at Rio Conference on Environment and Development.

These are also some of the major issue of concern to Jamaica.

The review of Agenda 21 by the UN General Assembly in a Special Session in June last year, noted that growth can foster development only if its benefits are fully shared. It must therefore also be guided by equity, justice and social and environmental considerations. Development in turn must involve measures that improve human ecology and the quality of life itself.

Achieving sustainable development cannot be carried out without greater integration at all policy making levels, including the lowest administrative levels. In the context of good governance, properly constructed strategies can enhance prospects for economic growth and employment and at the same time protect the environment.

By the year 2002, the formulation and elaboration of national strategies for sustainable development that reflect the contributions and responsibilities of all interested parties should be completed in all countries, with assistance provided, as appropriate, through international cooperation, taking into account the special needs of the least developed countries.

The review concluded that in integrating economic, social and environmental objectives, it is important that a broad package of policy instruments, including regulation, economic instruments, internalization of environmental costs in market prices, environmental and social impact analysis, and information dissemination be worked out in the light of country-specific conditions to ensure that integrated approaches are effective and cost-efficient. To this end a transparent and participatory process should be promoted. This will require the involvement of national legislative assemblies as well as all actors of civil society including youth to complement the efforts of Government for sustainable development

As far as this Region is concerned, among the priority topics for the Regional Environmental Action Plan in Latin America and the Caribbean in the next four years is the preparation of case studies and good practices on environmental legislation and institutional matters, decentralization, urban environmental management, environmental policy instruments and mobilization of financial resources.

There are some reservations about the effectiveness of some of the changes being made as far as environmental law is concerned. One of bases for the proposal to develop the case studies I just mentioned is what is seen as the continuation of environmental deterioration in spite of new constitutional and legislative frameworks and institutional arrangements in the field of the environment.

In a similar vein, a commentary on environmental law stated that it would seem impossible to expect developing countries to industrialize in a way that completely protects the environment for future generations if basic resources are missing to guarantee the survival of even the current generations . Therefore one should not be overly optimistic about the development of effective environmental legislation over the short term.

Today very few developing countries have established a specialized environmental control agency or specialized prosecutors who devote their time exclusively to environmental matters.

It is clear that much needs to be done, but the effectiveness of what is being done can also be questioned.

It is important for us to give as much information as possible and develop the awareness of the decision-makers. This means the involvement of Parliamentarians, national consultations such as this seminar, activities such as the National Environmental Awareness Week which includes the Green Expo, and this year, the launching of the National Environmental Education Action Plan for Sustainable Development.

It will also be necessary for practical measures to be taken - the pace of development of legislation, the capacity of the courts to deal with environmental breaches, the quality of the analysis of technical aspects of policy proposals, enforcement of environmental laws - all will need improvement if we are to have effective sustainable development legislation.

This seminar can provide opportunities for us to gain knowledge and to work together to see what is the best way forward to a legislative and institutional framework that will support sustainable development.

It will be up to us to ensure that your efforts are not in vain and that the recommendations do not simply become empty words. I will be presenting the results from this seminar to the Cabinet as soon as practical and I am sure that in conjunction with the other initiatives now underway, it should be possible to see some response to the proposals in the shortest possible time.

May I once again thank you all and wish for you a meaningful, stimulating and successful seminar.

Policy/ Legislation Interface

Jamaica's current legislative framework for environmental protection and management has been described as ad-hoc and fragmented with cross-sectorial areas of control and overlapping mandates. Policy formulation, development and implementation in Jamaica may also be described in similar terms. There are national policies, sectoral policies, subsectorial policies and action plans created by Ministers, Ministries and Statutory Agencies, all without an agreed upon framework of action. This problem is heightened by the lack of awareness by Agencies of Government of the principles behind individual policies, the failure to disseminate these policies across sectors and the lack of harmonisation and integration of objectives prior to implementation. The purpose of this presentation is to:-

1. Comment on the role of policy formulation within legal reform
2. Give a background on the Jamaica National Environmental Action Plan highlighting its purposes.
3. Discuss the role of the State of the Environment Report in assisting efforts of environmental management.
4. Speak to the deficiencies in the current framework and make recommendations for change.

Policy Formulation and Legal Reform

The co-relation between legislative reform and the study, creation and implementation of policies or programs is often not a clear issue. Martin Burch in **Public Policy in England** has defined policy as being concerned with "examining what are the products of government, what government does, and neglects to do and with what consequences, and what government should do."

Policies are however not a source of environmental law and may only provide guidance in creation or implementation of an Act. Further Policy may be characterised as changing, not static. It is an “evolving and sometimes a never ending task” . Policy can also take different forms, from the initiation of ideas that will later form a part of a green paper, to the formal process of national policy formulation, administrative policy decision-making for implementation of provisions of an Act by e.g a statutory authority, policy for guidance in interpretation and the application of sections of an Act. The issues therefore as to the role of policy formulation in legal reform are both substantive and procedural for example-

1. Should Voluntary user pay schemes be utilised in marine parks rather than the use of command and control techniques within regulations charging user fees ?
2. Should criteria for the designation of parks and protected areas be administratively set or should these principles and requirements be incorporated within legislation ?.
3. Should the enforcement of all environmental laws in the country be centralised or decentralised?
4. Should a wide discretion be given in an Act to local parish councils for making planning decisions ?
5. Should there be an independent body set up to hear all appeals under the NRCA, Town and Country planning Beach Control, Water Resources Acts rather than the Minister?

There are no easy answers to these questions. These issues are made more confusing by the prescription of a diverse range of policies to accompany the enactment of environmental legislation in Jamaica.

There are numerous sources of government policy which reflect a desire to promote and encourage environmental protection .In a few of the more recent pieces of environmental legislation there is a direct mandate given to create policy by statutory authorities to give advise to a Minister. The NRCA Act 1991 which created the Natural Resources Conservation Authority and amalgamated the mandate of the Beach Control Act 1956 the

Watershed Protection Act 1963 and Wildlife Protection Act 1945 under s.4(d) requires the Authority to advise the Minister on matters of general policy relating to the management development and conservation of the environment . The NRCA in carrying out this mandate has initiated and carried out policy preparation in a number of diverse areas. A White Paper on Parks and Protected Areas was completed in 1997-8 from this process regulations are being drafted for all types of parks or protected areas in Jamaica, A Green Paper on Beach Policy is currently before the public for commentary and seeks to broaden public access to the foreshore, there are also Draft National Environmental Policy policies on Protection and preservation of the Coral reefs, Protection of Mangroves and Coastal Wetlands , National Maricultural , Draft policy for conservation of sea grasses, Protected animals in Captivity Policy and a Draft Policy on Protection of Watersheds. The Watershed policy speaks to the need of creating a new framework for action within watersheds and the drafting of regulations. Each of these policies outline areas where law reform is needed within the present legislative framework and play a role in initiating action for legal reform.

Outside of individual agencies but under the Office of the Prime Minister there are also teams which are given the mandate of garnering views on policy making and law reform. This has transformed the law reform process by generating teams with broad stakeholder participation which have taken on the mandate to operationalize and institutionalise policy initiatives. The examples that come most readily to mind are the LAMP and PSMP programs which have sought to look at substantive law together with a focus on institutional , administrative and procedural reforms. LAMP in particular has been initiated to implement the Jamaican Land Policy as the Government has recognised the fact that there has been a lack of appropriate legal instruments, institutional framework or rational organisational framework in this area which has historically impeded Jamaica's ability to address in a serious way environmental issues (Land Policy July 1996).

The role or force that a policy carries in the implementation of the law is therefore of central importance in the attempt to achieve the objectives of legislation. Lack of appropriate policies may result in any number of effects , two of these include

1. Failure to implement sections of an Act e.g. the Water Resources Act sections on water Quality controls which have not yet been implemented within a policy framework
2. Failure to implement regulations e.g. Regulations under the Watershed Protection Act to control uses of land have yet to be created.

The framework for rationalization of policy initiatives is already in some sense in existence and it is in the form of the JANEAP.

Background of JANEAP

The Jamaica National Environmental Action Plan is an action plan to document the major environmental problems facing the country and formulate the appropriate policy framework, institutional arrangements, legal instruments, strategies, programs and projects, to mitigate these problems. It is prepared by the NRCA with over 35 public and private sector agencies ,institutions and organizations. The first Jamaica Environmental Action plan was prepared in 1995. It seeks to incorporate the principles of sustainable development developed at the Stockholm Conference in 1972 . The action plan is to be based on data collected from a country environmental profile and an annual state of the environment report. A status report is produced yearly giving an update on the actions proposed in JANEAP. JANEAP has been successful in many respects. It has been one of the few plans which contains a comprehensive documentation of activities to mitigate environmental problems over the last 3 years. It sets objectives and priorities for action for air, land, water pollution control, coastal and marine resource management ,land use management, human settlement, forestry, agriculture and watershed management, waste management and national parks protected areas and wildlife. It is submitted to cabinet for approval after wide consultation.

The principles and objectives of JANEAP are positive statements based on the principles of sustainable development. However, the extent to which all agencies have used it as a policy framework is questionable. The intention in the formulation of JANEAP is that it be utilised for strategic planning by all Ministries and agencies of government. It is a three year planning tool that should be incorporated into the corporate plan of each Ministry and agency. It could even be utilised to rationalise some policy formulation. Unfortunately this is not what has happened.

The Planning Institute of Jamaica in 1997 in a paper entitled “ Rationale for the application of environmental economic policy of instrument for environmental management in Jamaica” has pointed out some of JANEAP’s failings in terms of its ability to provide a framework for sustainable development. It fails to address environmental conservation orientated agricultural development and sustainable tourism development and lacks a detailed economic analysis of all sectorial policy and there potential impact on the environment. There are also concerns that although JANEAP is monitored through status reporting each year it cannot make agencies accountable for actions not yet initiated. It may be seen simply then as documentation of activities to happen but fails to initiate and implement priorities. JANEAP also allows for consultation but there is no institutionalised arrangement for public participation by all public agencies, main private sector interests and NGO’s./CBO’s. Further JANEAP should comment on actions taken, by whom, the failure to complete plans, failure to complete within timetables and constraints and reasons for its failure to achieve targets it should not simply state achievements. The importance of having a policy framework within which the law is reformed is critical. JANEAP could provide such a framework however, the following must be clarified:-

1. The role of PIOJ in the formulation of JANEAP. The role of the PIOJ has decreased over the years. The PIOJ should play a larger role in the monitoring of JANEAP, from the outline of steps for initiation of a project to analysis of the use of resources within

agencies and Ministries. This role would include some participation in the planning process. The PIOJ should provide clarification of policy analysis in assessing the environmental effects of pre-existing policies. My questions would be Does the PIOJ attempt to enunciate aspects of inter agency participation required and the conflicts and compatibilities between policies. Does it conduct enough analysis of the regulatory techniques available and seek to promote their implementation e.g. market based and use of voluntary agreements or does it address issues of economic policy that effect the administration of the environment like privatisation of solid waste management in Jamaica. The most important issue may be whether it should relate the policies of government defining which are the overriding policies and circumstances in which they may do so, and which are subordinate(IUCN Guide to preparing and implementing national sustainable development strategies).

2. The role of the Sustainable Development Council

This is to be the institution that monitors progress of policies towards sustainable development. The questions that may be raised are whether the SDC requires a legal mandate to take on the role of monitoring policy. Does it operate within a framework which is open and accountable and involves all the relevant stakeholders, Public Sector, private sector and NGO's. How will it operate with the planning institute to conduct monitoring and evaluation of government policy.

3. The role of the State of the Environment Report

The Jamaica State of the environment report has as its objectives the provision of information about Jamaica's environment and natural resource use. It records changes and identifies trends and indicators measuring the effect of human activities and natural events. In the preface of the SOE the Minister of Environment and Housing Hon Easton Douglas has stated that it should be used by decision makers in planning for good environmentally sound management. Minister Douglas has described some of the information as sobering. The question is will policy and legislation reflect these indicators.

I will give some examples the JANEAP and the SOE both include recognition of the fact that Jamaica's waters are notoriously overfished. What drastic policy changes are needed to ensure that granting of fishing licences are restricted to an appropriate level for us to have a revitalised fishery and preserve our coral reefs and other natural resources on which tourism depends. Why are there only two declared fish sanctuaries in Jamaica? Is the declaration of marine parks congruent with the declaration of fish sanctuaries and what does this say to our people about recreation? Would the banning of spearfishing work? Would this need to be accompanied by programs to find alternatives for fishermen within the tourist industry?

The state of the environment report indicates issues which should be made priorities throughout government. Where ground water is under threat from sources of pollution from mining what action needs to be taken immediately? Which watersheds need to be targeted for rehabilitation or protection? Should issues that effect public health be made priorities for policy formulation or enactment of legislation e.g. standards for drinking water, hazardous waste management and measures to prevent lead poisoning

Recommendations

1. Priorities need to be set on environmental issues within the context of sustainable development as this model may then allow the prioritisation of regulatory agenda's within ministries for regulatory reform.
2. Integrated Planning of policy on the long term, medium term and short term has to be incorporated within work plans and co-ordinated between agencies even if this is only first achieved between the natural resource agencies e.g. Fisheries Forestry and NRCA.
3. Jurisdictions over policy making and issues which bridge overlapping functional mandates need to be clarified e.g. Proposals to increase the number of human settlements without a regard of possible effects on areas proposed to be declared as parks and protected areas.

4. Economic analysis of the loss of use of a resource must play a part in policy making and help set priorities for legislative action e.g Kingston harbour as a contaminated harbour is possibly the most important area of water in terms of potential income generation.

5. The creation of a non-legalistic means of co-ordination by the use of Memorandum of Understanding between agencies should be seen as a viable means of outlining mandates to avoid confusion and conflict in policy making. Where mandates overlap or priorities need to be set across sectors the indicators pointed out by the state of the environment report may be used as a justification for this approach.

I would like to conclude by saying that a lot has been done in the amalgamation of policy issues and legal reform. There is a framework for change. If serious thought is given to these issues I am sure that innovative means of improving consultation can be found or agreed upon to ensure that environmental law reform in Jamaica reflects the needs of our generation and those of future generations.

Introduction

Most commentators now agree that the challenge of achieving sustainable development places an unprecedented set of demands on government and business decision-making processes. There is a strong consensus that the task involves integrating social, economic and environmental demands, many of which have transboundary and intergenerational implications, but there are some very different schools of thought as to how to do this. In this presentation, therefore, I will review the ways in which governments juggle diverse demands, with especial reference to some of the particularly complex problems faced by the European Union.

One of the most important ways in which governments try to achieve particular manifesto commitments and other policy goals is by translating them into legal and regulatory requirements, programmes of institutional change and so on. Problems can arise at every stage in this process:

Government goals

Firstly, governments themselves may not be clear or entirely united about the objects of particular policies. Governments usually comprise an alliance of forces, groups and individuals, with diverse agendas. These agendas usually overlap to some extent but may also conflict, and groups sometimes compete, either to consolidate their position or to gain greater control over the national agenda. All governments face a range of domestic and foreign pressures, but the way in which they respond to these pressures, the options that they prefer and the development trajectories that result, are not simply determined by these external pressures, but are mediated by their internal structures and decision-making processes.

Most government decisions are also made in contexts of incomplete information and uncertainty. As a result, governments often cannot know - let alone pursue - technically and economically optimal solutions. Instead, governments, and groups within them, tend to engage in *satisficing behaviour*. They make a number of trade-offs between a variety of considerations in planning their activities, and they use various strategies to handle the different types of uncertainties inherent in different courses of action, involving complex (often tacit) judgments about the risks and benefits that might be encountered. The object of the exercise is rarely to achieve an optimal result, but usually to remain within certain bounds of what is generally perceived to be a satisfactory performance across a wide range of activities. Within that process, some outcomes tend to be given more prominence than others - those outcomes with particular symbolic or political importance, for example - which means that other objectives are, inevitably, downgraded. So the behaviour of governments cannot be reduced to a simple economic or technical rationality.

Translating policy goals into legislation

Further complications can arise as agreed policy goals have to be translated into precise legal or regulatory requirements and institutional structures. This is particularly difficult when the policy goals are as inherently broad and open-ended as sustainable development. The UK Parliament, for example, had to debate the enabling legislation that created Scottish Natural Heritage, the first governmental agency in the UK mandated to ensure that anything done - in this case, to the natural environment of Scotland - was done in a "manner that was sustainable". It became clear during the course of the debate that Parliament was not able to define the meaning of this commitment, so the bill was passed with key terms undefined, thereby effectively passing the problem down to the agency itself and to its sponsoring government department, which in this case was the Scottish Office. Unfortunately, this meant that the sponsoring government department was left to make all the key decisions as to what sustainable development meant in practice - and, for various political reasons, they chose to interpret the term very narrowly. This meant that Scottish Natural Heritage were effectively precluded from commenting on key economic development or transport planning decisions, for example, which were of central importance in the wider debate about sustainable development. This problem was compounded by the fact that the sustainable development portfolio at the Scottish Office was given to the existing Minister for the Environment. This might seem quite logical. There is, however, a tradition in the UK that Ministers do not comment, in public, on another Minister's

area of jurisdiction. This meant that the Minister was also effectively prevented from talking about key economic development or transport issues. This combination of events meant that the debate about sustainable development in Scotland was effectively contained and strangled by the government of the day.

This suggests that it may not always be sufficient to ensure that there is a commitment to sustainable development into national constitutions, while leaving the actual operational definitions to the courts and to government departments to work out in practice.

This combination of lack of policy agreement, or coherence, with the very real technical and political difficulties of operationalizing difficult and elusive concepts, can give rise to serious clashes between different government programmes. This overhead gives some examples:

[OHP 1 - see below]

These clashes have a number of serious consequences. Firstly, regulators - clearly - waste a lot of time and public funds as they struggle to undo each other's work. Secondly, it is inevitable that governments with directly conflicting policies will fail to achieve the goals of one or both programmes. Thirdly, we know, from various research programmes in this area, that ambiguous regulatory requirements (particularly in conjunction with rapid change), lack of coordination between regulatory agencies and direct policy conflicts create conditions of serious uncertainty for business and industry, which discourages investment.

So there is an important question as to how to avoid - or at least minimise - these sorts of problems. The European Union (EU) - which is now formally committed to achieving sustainable development - has a particular problem in this regard, as it has to make and enforce policy across fifteen nations, with a wide range of different political priorities, institutional arrangements, cultures and market conditions. So I thought that it would be interesting to look at some of the attempts currently being made in the EU to solve some of these issues.

The EU

First, some background. The European Union currently has 15 nations as full members; Germany, Italy, the UK, France, Spain, the Netherlands, Belgium, Portugal, Greece, Denmark, Ireland, Luxembourg, Austria, Sweden and Finland. There is a further group of nations with various forms of associate status, or linked in various trading agreements (such as Norway, Iceland and Switzerland), some of whom have applied for full membership. Another six nations - Poland, Hungary, the Czech Republic, Estonia, Slovenia and Cyprus - are set to become members in the next round of admissions, taking the number of full members up to 21 nations.

The EU currently has a total population of 380 million people and an aggregate GDP which comprises formal sector output of some \$8.5 trillion plus informal activity worth approximately \$1.5 trillion, giving a total of nearly \$10 trillion (between ¼ and 1/3 of global GDP). This is some 5 - 10% larger than NAFTA, which makes the EU currently the largest economic bloc on the planet.

The EU is also the only one of the current economic blocs to have an explicit political mission, and to have developed a full range of central governing institutions - a parliament, a council, an executive and a judiciary (respectively, the European Parliament, the Council of Ministers, the European Commission and the Court of Justice). It is, formally, a partnership of equal nations, but in some respects the decision-making tends to be dominated by a tri-polar group, with the large nations - Germany, France and the UK - having a degree of influence that reflects their political and economic weight.

The core political mission of the European Union, from the outset, has been to gradually bind the nations of Europe together, to promote peace and cooperation, and to reduce the risk of another outbreak of war. There have been two global conflicts in human history. Both happened this century, and both were European wars in origin. The damage sustained in other parts of the world was bad enough, but Europe itself - the source of both wars - was nearly destroyed twice. Some of the tensions that caused the two world wars have been resolved, but

There is also, however, an inextricably-intertwined political dimension to all these issues. The abolition of internal frontiers, and the creation of a single currency, effectively requires the member states to adopt common policies on internal security, immigration, and monetary and macroeconomic management. The single European currency will be managed by the new European central bank, which will be - inevitably - beyond the control of any one national government.

The on-going expansion of the Union also challenges the current role of the nation states within Europe. The former Conservative Government in the UK argued for a rapid "widening" (expansion) of the EU, but resisted all proposals for "deepening" (strengthening the pan-European institutions and structures, and thereby diluting the individual powers of the nation states). The current situation is that decisions on particular key issues must be taken by consensus, because the nation states each have the power to veto legislation that they believe is directly detrimental to their national interests. It is quite difficult to make this work with fifteen members, but no-one believes that it will be possible with twenty-one members. So there is now a general consensus - which includes the current UK government - that widening is impossible without deepening. This may lead to the abolition of the principle of the national veto, to allow more decisions to be taken by majority rather than by consensus.

In order to allow this process of integration to continue, the EU has developed three additional strategies, all of which will be deployed in the EU's strategy for sustainable development:

1) One is the principle of subsidiarity, which is a principle of decentralisation. The EU will not undertake those actions (including policy implementation) that can be more effectively undertaken by the member states. This has done something to allay the fears of the nationalists, but has actually created a further threat to the existing nation states. The underlying logic of subsidiarity leads, inevitably, to the conclusion that in many cases the most effective level for policy implementation is at the level of regional local government, not at the level of national government. The EU has established a Council of the Regions in acknowledgment of the increasingly important role of local government across Europe. So the nation states face a haemorrhage of power both up to European level, and down to regional level - and some commentators are wondering whether the 19th Century concept of the nation-state will remain an important tier of political organisation in Europe. This parallels global developments, of course. Nationalism is resurgent in many parts of the world, yet the role of the nation state itself is being brought into question by the ceding of real economic power to international product and capital markets.

The process of monetary union will be a particularly significant development in this regard. The need to adopt a single framework on monetary and fiscal issues represents a significant pooling of sovereignty. It will almost certainly lead to harmonised tax regimes, bank regulatory systems and so on. The alternative, however, is to continue to cede real control over currencies to the markets. As *Le Monde* pointed out, in a recent editorial, the only way in which France can retain any significant control over its currency is to merge it into the Euro.

2) The second principle is that of Framework Directives. The EU does not, as a rule, attempt to specify regulation in precise detail. Member states are obliged to incorporate directives from the EU into their national legislation and to make such other accommodations as may be necessary. Implementation remains the responsibility of the nation states, although the actions are agreed at European level. This helps to coordinate policies and actions across the Union, while leaving considerable scope for national interpretation.

3) The third principle is that of policy coordination and integration. Many of the EU's policies have, to date, been developed on an *ad hoc* basis. This has resulted in a lot of duplication of effort, and even to conflicts between incompatible policies. Many of the nationalist criticisms have focused on the cost of the European central institutions, and on the associated level of errors and fraud (errors and fraud are currently estimated to cost the EU some \$5 billion p.a., about 5% of the total EU central budget of \$100 billion). Some of the member states have made it clear that they will resist any proposal to expand the EU budget until this wastage and fraud is rooted out. There is a general move, therefore, to integrate actions much more closely across all areas of EU policy in order to reduce conflicts between policies, reduce the consequent waste of time, effort and resources, and to help the EU to achieve a range of policy objectives simultaneously.

Examples of conflicts in policies for business and industry in the US ¹.***Topic: air quality standards*****Agency**

Environmental Protection Agency
The Department of Energy

Policy

Push hard for stringent air pollution controls.
Push companies to switch from imported oil to “dirtier” coal.

Topic: vehicle standards**Agency**

The National Highway Traffic
Safety Administration
The Department of Transportation

Policy

Insist on extra safety equipment for cars (which adds weight
and increases fuel consumption).
Insist on lighter vehicles to save fuel.

Topic: rail freight**Agency**

The Department of Energy

The Department of Transportation

Policy

Try to keep rail freight rates for shipping coal low in order
to encourage plant conversions.
Try to keep rail freight rates for shipping coal high in order to
support the declining rail industry.

Topic: pesticides**Agency**

Environmental Protection Agency
The Department of Agriculture

Policy

Restrict use of pesticides.
Encourage use of pesticides.

Topic: health and safety**Agency**

The Occupational Safety and Health
Administration
Environmental Protection Agency

Policy

Choose lowest technically-feasible level of exposure to
hazardous substances, short of bankrupting an industry.
Use flexible standards for comparing risks with costs.

Topic: corruption**Agency**

The Justice Department

The Securities and Exchange Commission

Policy

Offer guidance to companies on complying with the Foreign
Corrupt Practices Act.
Do not promise immunity from prosecution for practices that
the Justice Department might permit.

Consequences

- Ambiguous regulatory requirements, rapid regulatory change, lack of coordination between regulators and direct policy conflicts create conditions of uncertainty for business and industry, which discourages investment.
- Regulators waste time and public funds as they struggle to undo each other’s work.
- Governments with directly conflicting policies will inevitably fail to achieve the goals of one or both programmes.

¹ Source: *Business Week*, 30/06/1980, cited in R Rothwell *Industrial innovation and government environmental regulation: some lessons from the past*. Technovation Vol 12 No 7. 1992.