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Subregional Headquarters for the Caribbean

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**CARIBBEAN REGIONAL REPORT FOR THE FIVE-YEAR  
REVIEW OF THE MAURITIUS STRATEGY FOR THE  
FURTHER IMPLEMENTATION OF THE BARBADOS  
PROGRAMME OF ACTION FOR THE SUSTAINABLE  
DEVELOPMENT OF SMALL ISLAND DEVELOPING STATES  
(MSI+5)**

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## CONTENTS

EXECUTIVE SUMMARY .....	vi
INTRODUCTION .....	xi
I. THE CARIBBEAN REGION .....	1
II. A POLITICAL, ECONOMIC, SOCIAL, AND ENVIRONMENTAL OVERVIEW .....	6
A. The political overview .....	6
B. The economic overview .....	9
C. The social overview .....	20
1. Population Trends .....	22
2. Ageing of the population .....	22
3. Migration .....	23
4. Youth and adolescents .....	24
5. Literacy and education .....	25
6. Health .....	27
7. Poverty and social protection .....	30
8. Crime and violence .....	34
9. Gender issues .....	35
10. Culture .....	36
D. The Environmental overview - Climate change, vulnerability, and resilience .....	38
1. Trade in environmental goods and services .....	42
2. International environmental and health standards .....	44
3. Green economies .....	46
4. Institutional reforms and partnerships .....	47
5. Environmental value of the Caribbean Sea .....	48
III. NATIONAL AND REGIONAL ENABLING ENVIRONMENTS .....	50
A. National Sustainable Development Strategies .....	50
B. Regional policy frameworks .....	54
1. Caribbean Community (CARICOM) Secretariat .....	54
C. Regional mechanisms .....	56
1. Association of Caribbean States (ACS) .....	56
2. Caribbean Catastrophe Risk Insurance Facility (CCRIF) .....	56
3. The Caribbean Regional Fisheries Mechanism (CRFM) .....	56
4. Regional Coordinating Mechanism for the MSI .....	57
D. The role of international partners .....	58
1. The Global Environment Facility (GEF) .....	59
2. The German Agency for Technical Cooperation (GTZ) .....	60
IV. PROGRESS IN IMPLEMENTATION OF THE MSI .....	61
A. Introduction .....	61
B. Results .....	62
1. Part A. National Sustainable Development Strategies .....	62
2. Part B. Thematic Areas in the MSI .....	68

V.	FIVE YEARS AFTER MAURITIUS .....	117
A.	Finance .....	118
B.	Capacity-building .....	120
C.	Science, technology and innovation .....	122
D.	Knowledge management .....	122
E.	Monitoring and Evaluation .....	123
VI.	THE WAY FORWARD .....	125
A.	Recommendations .....	125
B.	Outcomes .....	128
1.	National and Regional Enabling Environments .....	128
2.	Assessment of MSI implementation in addressing vulnerability in the Caribbean .....	128
3.	Recent trends and emerging issues .....	129
4.	Interlinkages and cross cutting issues .....	129
	SELECTED BIBLIOGRAPHY .....	130

## Tables

1.	Caribbean region: selected geographical data .....	2
2.	Thirteen selected Caribbean countries: Central government balances, 2005-2009 .....	12
3.	Thirteen selected Caribbean countries: Public debt, 2005-2009.....	14
4.	Six selected countries: Merchandise import composition, 2008 .....	16
5.	Fifteen selected countries: Human Development Index trends, 1980-2008 .....	21
6.	Sixteen selected countries in the Caribbean: Adult literacy rate and education index .....	26
7.	Nine selected countries: Public expenditures on education as a % of GDP .....	27
8.	Caribbean HIV/AIDS statistics .....	29
9.	Fourteen selected Caribbean countries: Government expenditure on healthcare .....	29
10.	Seventeen selected countries: Gini coefficients.....	30
11.	A comparison of various poverty measurements and the vulnerability in Sixteen Caribbean countries for 2003-2009 .....	33
12.	National planning processes in selected Caribbean SIDS .....	49
13.	Survey responses to inclusion of thematic areas of the MSI in national development plans.....	63
14.	Environmental challenges identified by Caribbean SIDS in order of priority .....	66
15.	Socio-economic impact of natural disasters on 15 selected Caribbean countries.....	72
16.	Caribbean coastal States with potential for continental shelf extension.....	86

## Figures

1.	Thirteen selected Caribbean countries: GDP annual growth rate, 2002-2009 .....	13
2.	The Caribbean: GDP rate; unemployment rate and the growth of employment rate in the countries of the Caribbean Community, 2006-2008.....	15
3.	Caribbean domestic production, consumption and imports of grains and pulses .....	16
4.	Contribution to overall inflation in the Caribbean.....	17
5.	Poverty indicators for Borrower Member countries of the Caribbean Development Bank (1996-2006) .....	32
6.	Intensity distribution of North Atlantic tropical cyclones 1970-2007 .....	39

## ACRONYMS

ACP:	African, Caribbean and Pacific
ACS:	Association of Caribbean States
AIDS:	Acquired Immunodeficiency Syndrome
BMC:	Borrowing member Countries (of the CDB)
BPFA:	Beijing Declaration and Platform for Action
BPoA:	Barbados Programme of Action
CaMPAM:	Caribbean Marine Protected Area Management
CARICOM:	Caribbean Community
CARIFESTA:	Caribbean Festival of Arts
CARIFTA:	Caribbean Free Trade Association
CARILEC:	Caribbean Association of Electric Utilities
CATHALAC:	Water Center for the Humid Tropics for Latin America and the Caribbean (Eng. Trans.)
CCCCC:	Caribbean Community Climate Change Centre
CCRIF:	Caribbean Catastrophe Risk Insurance Facility
CCST:	Caribbean Council for Science and Technology
CBD:	Convention on Biodiversity
CDB:	Caribbean Development Bank
CDM:	Clean Development Mechanism
CDCC:	Caribbean Development and Cooperation Committee
CDEMA:	Caribbean Disaster Emergency Management Agency
CDERA:	Caribbean Disaster Emergency Response Agency
CEHI:	Caribbean Environment Health Institute
CEMAs:	Cinematic and Entrepreneurship Motivation Awards
CHENACT:	Caribbean Hotel Energy
CET:	Common External Tariff
CFNI:	Caribbean Food and Nutrition Institute
CIDA:	Canadian International Development Agency
CIWIL:	Caribbean Institute of Women in Leadership
CLME:	Caribbean Large Marine Ecosystem
CMA:	Caribbean Marine Association
CMOU:	Caribbean Memorandum of Understanding on Port State Control
COP:	Conference of Parties
COTED:	Council for Trade and Economic Development
CROSQ:	CARICOM Regional Organisation for Standards and Quality
CRMI:	Caribbean Risk Management Initiative
CRSF:	Caribbean Regional Strategic Framework on HIV and AIDS
CSA:	Caribbean Shipping Association
CSD:	Commission for Sustainable Development
CSME:	Caribbean Community Single Market and Economy
CTO:	Caribbean Tourism Organization
CWWA:	Caribbean Wastewater and Waste Management Association
DFID:	United Kingdom Department for International Development
DOHA:	Doha Development Round
DRR:	Disaster Risk Reduction
EC:	European Commission
ECCB:	Eastern Caribbean Central Bank
ECCAA:	Eastern Caribbean Civil Aviation Authority
ECLAC:	Economic Commission for Latin America and the Caribbean
ECOSOC:	Economic and Social Council

ECCU:	Eastern Caribbean Currency Union
ECTEL:	Eastern Caribbean Telecommunications (Authority)
EDI:	Education for All Development Index
EEZs:	Exclusive Economic Zones
EIAs:	Environmental Impact Assessments
EMS:	Environmental Management Strategy
EPA:	Economic Partnership Agreement
ESCAP:	Economic and Social Commission for Asia and the Pacific
EU:	European Union
FAO:	Food and Agriculture Organization
FCPF:	Forest Carbon Partnership Facility
FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
GEF:	Global Environment Facility
GIWA:	Global International Waters Assessment
GNI:	Gross National Income
GOCD:	Global Outreach and Community Development
GOOS:	Global Ocean Observing System
GSPS:	Growth and Social Protection Strategy
GTZ:	German Agency for Technical Cooperation
GWP-C:	Global Water Partnership-Caribbean
HDG:	Horizontal Drug Group
HDI:	Human Development Index
HIV:	Human Immunodeficiency Virus
ICPD:	International Conference on Population and Development
ICT:	Information and Communications Technology
IDB:	Inter-American Development Bank
IDP:	Integrated Development Plan
IFIs:	International Financial Institutions
IGTF:	Inter-Governmental Task Force
IMF:	International Monetary Fund
IWCAM:	Integrated Watershed and Coastal Area Management
IWRM:	Integrated Water Resources Management
KM:	Knowledge Management
LDC:	Less Developed Countries
M & E:	Monitoring and Evaluation
MDCs:	More Developed Countries
MEAs:	Multilateral environmental agreements
MPAs:	Marine Protected Areas
MSI:	Mauritius Strategy for Further Implementation of the Barbados Programme of Action for Small Island Developing States
MSP:	Medium Sized Project
MTESP:	Medium Term Economic Strategy Paper
NDPs:	National Development Plans
NDS:	National Development Strategy
NEMs:	National Environmental Management Strategies
NSDCs:	National Sustainable Development Councils
NSDS:	National Sustainable Development Strategies
OCT:	Overseas Countries and Territories
ODA:	Official Development Assistance
OECD:	Organization for Economic Co-operation and Development

OECS:	Organisation of Eastern Caribbean States
OTN:	Office of Trade Negotiation
PANCAP:	Pan-Caribbean Partnership Against HIV and AIDS
PARIS21:	Partnership in Statistics for Development in the 21 <sup>st</sup> century
R&D:	Research and Development
RCM:	Regional Coordinating Mechanism
REDD:	Reducing emissions from deforestation and forest degradation
SGP:	Small Grants Programme
SIAs:	Social Impact Assessments
SIDS:	Small Island Developing States
SIDSNet:	Small Island Developing States Network
SIDS/POA:	Programme of Action for the Sustainable Development of Small Island Developing States
SPS:	Sanitary and Phytosanitary
SPSS:	Statistical Package for Social Scientists
STI:	Science, Technology and Innovation
TAC:	Technical Advisory Committee
TSTT:	Telecommunication Services of Trinidad and Tobago
UNAIDS:	Joint United Nations Programme on HIV/AIDS
UNCCD:	United Nations Convention to Combat Desertification
UNCED:	United Nations Conference on Environment and Development
UNCLOS:	United Nations Convention on the Law of the Sea
UNDESA:	United Nations Department of Economic and Social Affairs
UNDP:	United Nations Development Programme
UNEP:	United Nations Environment Programme
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UNFCC:	United Nations Framework Convention on Climate Change
UNFPA:	United Nations Population Fund
UNGCSDS:	United Nations Global Conference on the Sustainable Development of Small Island Developing States
UNIFEM:	United Nations Development Fund for Women
UNODC:	United Nations Office on Drugs and Crime
UTT:	University of Trinidad and Tobago
UWI:	University of the West Indies
WBG:	World Bank Group
WECAFC:	Western Central Atlantic Ocean Fisheries Commission
WSIS:	World Summit on the Information Society
WTO:	World Trade Organization

## EXECUTIVE SUMMARY

The small island developing States (SIDS) of the Caribbean referred to in this report comprise Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Cuba, Dominica, the Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, The Netherlands Antilles, Trinidad and Tobago and the United States Virgin Islands. As far back as 1994, these countries expressed commitment to implementation of the Barbados Programme of Action (BPoA) for SIDS and have reiterated their support in making progress in achieving the targets set out in the Mauritius Strategy for further implementation of the Barbados Programme of Action for the Sustainable Development of SIDS (MSI).

Chapter I is the preamble highlighting the rationale for SIDS implementing the MSI. Chapter II provides the political, economic, social and environmental context within which Caribbean SIDS covered in this Synthesis Report are committed to implementing the MSI. Chapter III provides a review of the performance, by thematic area, of these countries in pursuing the targets of the MSI, and focuses on critical issues that may hinder or encourage progress. Chapter IV details the progress that has been achieved by Caribbean SIDS in implementation of the MSI. This chapter also includes a catalogue of a number of the initiatives that are being implemented nationally and collectively by Caribbean SIDS. It also highlights some of the interventions that are being carried out in collaboration with international financial institutions (IFI) and donors. Chapter V sets out to review the successes, lessons learned and challenges that Caribbean SIDS have faced in the five years since Mauritius.

The impact of the global financial and economic crisis of 2006 has been particularly devastating on SIDS given their openness and high dependence on a narrow range of income-generating sectors such as tourism. This crisis has had, and continues to have, a major impact on Caribbean SIDS and their efforts to achieve progress in national sustainable development. Ongoing impacts throughout 2010 are certain and these may extend in some countries into 2011. This situation has been compounded by the international food crisis, which has had a severe impact on Caribbean SIDS. The heavy reliance on food imports has been due to the liberalization of trade, which has seen greater extraregional imports of agricultural goods and competition over substitute uses of agricultural land especially from the tourism sector and housing markets. Furthermore, there has been declining interest in sustainable agriculture.

The crisis resulted in an increase in headline inflation rising together with food inflation. Food inflation varied considerably across the Caribbean between July 2006 and June 2009 but in every case prices rose higher. In the case of the Eastern Caribbean Common Union (ECCU) area, food inflation tended to be much lower than elsewhere in the Caribbean and this may seem paradoxical, since many of these countries rely heavily on imports. While no clear explanation emerges, it is possible that more effective anti-inflationary measures were employed. Additionally, by the close of 2009, and with the exception of the Bahamas, Suriname, and Trinidad and Tobago, all other Caribbean countries showed high public debt levels ranging from 70% of GDP for Belize, to 170% for Saint Kitts and Nevis. Moreover, it is estimated that the Caribbean will see an overall fall in economic output in 2009, estimated at 2.3%.

The pursuit of regional integration through the Caribbean Community Single Market and Economy (CSME) is important but the progress has been slow and this has limited the gains from collaboration. Several key pillars, such as the coordination of economic activity, free movement of all citizens within the region and the harmonization of quality standards, have yet to be completed. The liberalization of trade under the WTO has challenged decades of preferential trading arrangements

between the European Union (EU) and the African, Caribbean and Pacific (ACP) countries. In response to challenges to the Lomé Cotonou arrangements under which Caribbean SIDS still received some non-reciprocal benefits, in January 2008 the Caribbean subregion, acting under the CARIFORUM umbrella, signed an Economic Partnership Agreement (EPA) with the EU.

In the area of social development, the international community has recognized that achieving human development while overcoming environmental challenges is an immense but central challenge to humanity. This has been expressed in various action plans adopted on the occasion of global international conferences on issues related to social development and has culminated in the dedication of a specific goal on sustainable environmental development in the framework of the Millennium Development Goals adopted at the Millennium Summit in 2000.

A review of demographic trends in the region shows that while populations are currently undergoing drastic demographic changes towards ageing populations, all populations are expected to decline in numbers. However, the majority of populations live in coastal areas that are prone to natural disasters, such as flooding and hurricanes. Caribbean SIDS populations have been found to be one of the most mobile worldwide, with considerable streams of people moving to, through and from the region.

An assessment of the situation of children, youth, and families has revealed that they are generally doing well. However, there is a growing trend of youth dropping out of school. Further, the integration of youth into mainstream society is challenged by the often dwindling quality of schooling and the lack of connectivity of the education system with the labour market. While there seem to be no gender disparities in the early school years, gender gaps open in the achievements in secondary and tertiary education where young women have continuously outperformed young men. Literacy in Caribbean SIDS is known to be rather high; however, none of the countries disposes of recent empirical evidence to support this statement. Violence and crime have become endemic in the Caribbean, affecting individual safety as well as economic prosperity. Drug and gun trafficking and related violence, along with rising homicides and corruption in government and the private sector have hampered progress.

Over the past decades, Caribbean SIDS have experienced significant advances in the eradication of infectious diseases. However, changes in lifestyles and the ageing of the population pose new challenges in the form of chronic diseases such as obesity, high blood pressure, and diabetes. Albeit much lower than in some areas in sub-Saharan Africa, the Caribbean subregion still has the second highest prevalence rates worldwide although recent data indicate a slowdown of the spread of these diseases. Other threats to health and life in the Caribbean are substance abuse and traffic accidents, particularly in the case of young men.

In the area of poverty, available information points to the fact that, while the Caribbean – prior to the recent economic downturn – has experienced steady economic growth rates, systematic eradication of poverty has remained a challenge for most countries. Social security systems are in place that, due to lack of efficient targeting and monitoring, only provide limited relief to those in need in the majority of countries.

Progress, however slow, has been made in the area of gender mainstreaming. Some countries have introduced policies to ensure equal male and female participation in national political machineries and governments, and in some countries, women have accessed leadership positions at the highest levels. In some instances, institutional mechanisms have been put into place to prepare women to pursue leadership positions and to educate the public on the importance of female leadership.

Significant changes in perception have taken place over the BPoA implementation period about the role of the environment in sustainable development. Some Caribbean SIDS have now embraced major policy shifts, adopting various approaches to transform their economies into green economies. Dominica is using the concept of transformation into an Environmentally Sound Organic Island; in Guyana, the emphasis is on implementing a Low Carbon Development Strategy, and in Barbados focus is being placed on the transformation into a Green Economy.

The acceptance of the philosophy of a green economy is having a profound impact on the way Caribbean SIDS approach their future development, in particular in the use and protection of natural resources. The environment is now seen, although this may not yet be fully reflected in policy and regulatory terms, as an integral part of these countries' long-term social and economic development strategies.

The debate surrounding climate exemplifies this trend. From the point of view of SIDS worldwide, climate change, in addition to being an environmental issue, is equally a developmental and security issue. Linked to changes in climate is the incidence of disasters. Caribbean SIDS are continually subjected to devastation wrought by natural disasters, hurricanes being the main cause. They are also vulnerable to geophysical phenomena, as demonstrated by the 12 January 2010, 7.0 magnitude earthquake which devastated Haiti. Global data examined for the last two decades suggest that four natural hazard types: earthquakes, volcanoes, tropical cyclone (hurricanes), flood and drought, have been responsible for 94% of deaths triggered by natural disaster.

It appears that Caribbean SIDS have made progress, with regard to the implementation of the MSI since the convening of the historic United Nations Global Conference on the Sustainable Development of Small Island Developing States (UNGCSIDS) in 1992. In the midst of serious constraints, countries have reported such progress at both the national and regional levels where there has been increased institutional capacity for carrying out policy reforms and in formulating appropriate strategies and action plans, for example, in the areas of climate change and renewable energy. Furthermore, many Caribbean SIDS have developed national energy policies and others are in draft form awaiting approval. This progress was achieved primarily through the efforts of the Caribbean SIDS themselves, with critical support from international development partners and intergovernmental regional organizations and non-governmental organizations, and the international financial institutions.

Access to financial and technical resources to facilitate implementation and public awareness of the MSI continues to encounter many serious problems and constraints, both endogenous and exogenous. Financing development activities is challenged by the insufficiency of domestic savings to fund the upgrading of traditional sectors and new activities. Foreign Direct Investment (FDI) has remained an important source of finance, averaging 9.7% of GDP between 2000 and 2007. However, opportunities need to be created to increase the growth multiplier from FDI by developing the skills and technology competence of the workforce and negotiating better agreements for training and sharing of technology to build domestic capacity.

The global trend of declining official development assistance (ODA) has been evident in SIDS and has stemmed from the graduation of Caribbean countries to middle income per capita levels. However, this decision to reduce the flows of ODA fails to take into account Caribbean SIDS high levels of vulnerability to economic shocks and natural disasters. In many countries, real per capita income levels have actually been diminished by adverse economic developments and natural disasters. At the International Meeting in Mauritius in 2005, the donor community committed to increasing the level of support to the sustainable development efforts of SIDS. However, these promises and commitments remain largely unfulfilled, in particular those related to the provision of financial resources, technology

transfer and capacity-building, crucial cross-cutting issues for advancing implementation of the MSI in areas relating to the Commission for Sustainable Development (CSD-17) cluster of issues.<sup>1</sup> Increased focus on capacity-building and science and technology projects and programmes is needed.

Equally important in monitoring performance in achieving the targets set out in the MSI, is the establishment of formal systems for monitoring and evaluation of activities. However, there are a number of challenges, including a lack of benchmarking indicators, processes that are driven by donors, and a shortage of financial, technical and institutional capacity. To date, although such systems exist, they appear to be ad hoc and, in essence, ineffective.

In consideration of the progress made and the challenges that Caribbean SIDS face in implementation of the MSI, the following recommendations are made:

- (a) In order to stimulate growth while maintaining macroeconomic stability, it is recommended that the countries focus on national and regional markets, and seek to raise the level of human capital through private and public sector partnerships. Complementary to this is the need for increased ODA to the subregion, and in this regard, there is an opportunity for EPA needs to quickly capitalize the Caribbean Development Fund to finance targeted activities.
- (b) The development of climate change models at scales appropriate to SIDS, so as to afford them support in planning for adaptation to climate change.
- (c) Improved access to, and transfer of, environmentally sound technologies to support adaptation to, and mitigation against climate change: by, inter alia, assessment of technology needs, identification of barriers to and improvement of enabling environments for technology transfer, and the identification of capacity related needs.
- (d) Measures for risk transfer should be explored at the sectoral level particularly in the agricultural and low-income- housing sectors. The issue of insurance and re-insurance schemes should again be highlighted and an appropriate international institution be identified to undertake a feasibility study on cost-effective and affordable facilities that could be made available to SIDS. In this regard, the Caribbean Catastrophe Risk Insurance Facility (CCCRIF) needs to widen its breadth of coverage for disasters.
- (e) The Organisation of Eastern Caribbean States (OECS) solid waste management strategy should be considered a best practice.
- (f) Improvement in the development and management of coastal and marine resources would necessitate the mainstreaming of policies on coastal zone management with other policies, such as watershed management, for the benefit of all the communities.
- (g) There is need for ratification and implementation of international agreements that are relevant to Caribbean SIDS, as well as enactment of appropriate legislation and enforcement of this legislation.
- (h) Owing to their co-dependence, it is recommended that water resource management be integrated with energy services. Additionally, sanitation and waste management areas could benefit from an integrated approach that could enhance efficiency.
- (i) It is necessary to establish national authorities for administration and management of land and for watershed management, to address issues such as land degradation, soil erosion and desertification. It is also recommended that programmes be put in place, to make land more affordable and accessible to local populations, especially low-income groups.

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<sup>1</sup> <http://www.un.org/esa/dsd/csd/csd17.shtml>

- (j) Regional cooperation for research and development for SIDS-appropriate applications of renewable energy and energy efficiency such as the Bagasse project in Cuba and Belize is recommended.
- (k) Exploration of the possible use of regional development banks as facilitators for energy transfer could be explored. Consideration of the establishment of an international SIDS investment fund to finance investments in programmes towards energy efficiency, renewable energy and capacity for the development of energy services could also be examined.
- (l) The establishment of trans-border or multi-national biodiversity and land and marine conservation areas in the region is recommended.
- (m) It is necessary to share information especially best practices among SIDS and to promote networking as a mechanism for bridging the digital divide.
- (n) It is necessary to rationalize air services in the Caribbean. Policies to improve land and sea transport should be considered.
- (o) Gender equity must be seen as central to planning and development.
- (p) Given their challenges, development finance has to focus on activities that increase capital formation, raise the quantity and quality of exports and import-competing goods and services, and raise the learning and knowledge of the workforce.

It is clear that countries require support from the international and regional communities in implementation of several areas of the MSI and, as such, it is recommended that the Regional Coordinating Mechanism (RCM) be institutionalized as soon as possible. This RCM would provide direction and oversight to implementation of the MSI, would promote environmental governance, and would report on the policy measures that SIDS have adopted to address the negative impacts of the global food and energy crisis of 2008. This would be done within the context of the Millennium Development Goals and the countries' development objectives.

## INTRODUCTION

Small Island Developing States (SIDS) convened their first meeting on sustainable development in Barbados in 1993. This meeting resulted in the *Barbados Programme of Action* (BPoA) for SIDS and focused on specific thematic areas related to sustainable human development that SIDS would be expected to implement. At this meeting, ECLAC and the Economic Commission for Asia and the Pacific (ESCAP) were appointed focal points for SIDS. Monitoring of the BPoA was conducted in the convening of the five-year ministerial review in 1999 and in a 10-year review that took place in Mauritius in 2005 and resulted in the *Mauritius Strategy for Further Implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States* (MSI). During this period, and in 2000, world leaders gave their support to the Millennium Declaration,<sup>2</sup> which resulted in the Millennium Development Goals<sup>3</sup> that set out a framework for sustainable development by the global community. The targets of Goal 7 that seek to ensure environmental sustainability are particularly relevant to SIDS.

United Nations General Assembly resolution 63/213 (February 2009)<sup>4</sup> entitled: “Follow-up to the Implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development for Small Island Developing States”, reaffirmed General Assembly decision 62/191<sup>5</sup> to “review progress made in addressing the vulnerabilities of small islands developing States through the implementation of the Mauritius Strategy at the sixty-fifth session of the General Assembly.” Resolution 63/213 stressed, “that the review should provide the international community with an opportunity to conduct an assessment of the progress made, lessons learned and constraints encountered in the implementation of the MSI and agree on what needs to be done to further address the vulnerabilities of SIDS.”

Recognizing the need to provide coordination of the activities of Caribbean SIDS<sup>6</sup> in implementing the MSI, the Sixteenth Intersessional of the Conference of Heads of Government of the Caribbean Community (CARICOM),<sup>7</sup> in commenting on the initial review of the MSI in February 2005, agreed that:

*“...particular attention should be paid to the key issue of an agreed mechanism to coordinate the implementation of the sustainable development initiatives in the Region following the Mauritius Strategy, ensuring in the process, that maximum benefits are derived from the Region’s scarce human and financial resources and that duplication is avoided....”*

This agreement was supported at the Fifteenth Meeting of the OECS Technical Advisory Committee as well as by the Eleventh Meeting of the OECS Ministers’ Environment Policy Committee (EPC) in

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<sup>2</sup> See [online]: <http://www.un.org/millennium/declaration/ares552e.htm>

<sup>3</sup> See [online]: <http://www.un.org/millenniumgoals/>

<sup>4</sup> See [online]: [http://www.un.org/esa/policy/devplan/cdpdocs/ares63\\_213.pdf](http://www.un.org/esa/policy/devplan/cdpdocs/ares63_213.pdf)

<sup>5</sup> See [online]:

[http://www.unohrlls.org/UserFiles/File/SIDS%20documents/Resolutions/N0747523\\_A%20Res%2062%20191.pdf](http://www.unohrlls.org/UserFiles/File/SIDS%20documents/Resolutions/N0747523_A%20Res%2062%20191.pdf)

<sup>6</sup> Antigua & Barbuda, the Bahamas, Barbados, Belize, Cuba, Dominica, the Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts & Nevis, Saint Lucia, St. Vincent & the Grenadines, Suriname, Trinidad & Tobago.

<sup>7</sup> See [online]: [http://www.caricom.org/jsp/communications/communiques/communiques\\_index\\_2001-.jsp?menu=communications&prnf=1](http://www.caricom.org/jsp/communications/communiques/communiques_index_2001-.jsp?menu=communications&prnf=1)

2008.<sup>8</sup> The outcomes of these meetings provided the mandate for establishment of the RCM in 2006, of which ECLAC serves as the secretariat (ECLAC, 2008, 2009).

In keeping with the General Assembly resolution 63/213, as well as the CARICOM and OECS mandate, the Economic Commission for Latin America and the Caribbean (ECLAC) Subregional Headquarters for the Caribbean, as the focal point for SIDS, has embarked on a process of documenting progress made by Caribbean SIDS in implementing the MSI, the concrete actions taken in order to achieve the targets, best practices and any challenges they may be encountering, or anticipate that they may face, in implementing the MSI. These activities are conducted within the context of the relevant multilateral environmental agreements (MEA)<sup>9</sup> to which Caribbean SIDS are signatory and under which they are required to meet specific requirements, for implementation and reporting, which complement the thematic areas of the MSI. Additionally, ECLAC noted the progress that SIDS have made at the national and regional levels in building institutional capacity for sustainable development, in formulating strategies and action plans, and in carrying out policy reforms. However, the slow rate of implementation of the BPoA and the MSI was also noted as the islands face challenges in the area of technical, financial and human resource capacity that have been compounded by the financial crisis.<sup>10</sup>

Pursuant to this mandate, and one year after the MSI was agreed to, ECLAC conducted an assessment of the challenges that Caribbean SIDS were encountering or were expected to meet in implementing the MSI (ECLAC, 2006). Results of this study revealed that the countries still lacked the technical, human resource and financial capacity to effectively address the thematic areas of the MSI. More specifically, access to appropriate technology for addressing climate change and support in the use of technological applications towards successful implementation of the MSI was still necessary. Furthermore, it was apparent that lack of public awareness in the area of energy, namely efficiency and renewable energy technologies was hindering successful implementation of initiatives for the reduced use of fossil fuels as energy sources. This is particularly important given the links between energy use and the possible rising of sea levels as a result of climate change.

In continuation of its function as focal point for Caribbean SIDS, ECLAC also embarked on another assessment that sought to evaluate the progress achieved and challenges faced in the implementation of the MSI, five years after it was agreed to and in the context of the changing global environment. As part of the MSI+5 Review, a Caribbean regional preparatory meeting was also convened on 17 and 18 March 2010.

This report seeks to document the progress that Caribbean SIDS have made in implementing the MSI within the current economic, social and environmental contexts. It also focuses on documenting the lessons learnt as well as best practices that have resulted; addresses the special constraints and challenges that confront Caribbean SIDS, and seeks to apprise policymakers of recent trends and emerging issues that need to be addressed by SIDS in the Caribbean subregion. It is expected that policymakers in Caribbean SIDS will benefit from the results of this study and will utilize the results in planning for further implementation of the MSI by addressing the constraints, and capitalizing on the opportunities and best practices. Furthermore, it would inform the deliberations of the two-day high-level review by the

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<sup>8</sup> See [online]: <http://www.oecs.org/esdu/esdu-news/2-oecs-countries-target-priority-areas-for-more-effective-environmental-management>

<sup>9</sup> See [online]: [Convention on Biological Diversity](#), [Cartagena Convention](#), [Cartagena Protocol on Biosafety](#), [UN Framework to Combat Climate Change](#), [Convention to Combat Desertification](#), [Convention on Trade in Endangered Species](#), [Convention on Straddling Fish Stocks and Highly Migratory Fish Stocks](#), [Basel Convention on Hazardous Wastes](#), [London Convention on the Prevention of Marine Pollution](#), [Convention on Migratory Species](#), [Convention for Prevention of Pollution from Ships](#), [Stockholm Convention on Persistent Organic Pollutants](#), [Kyoto Protocol](#), [Montreal Protocol](#), [Ramsar Convention on Wetlands](#)

<sup>10</sup> United Nations General Assembly A/64/278. Report of the Secretary General. 2009.

CSD, of progress made in the implementation of the MSI that will take place in September 2010. This meeting will be convened in accordance with General Assembly resolution 63/213.

The present report is intended to cover all of the 19 islands identified by the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries, and Small Island Developing States (OHRLLS) to be within the Caribbean region.

However, countries within the Caribbean region are members of the English-speaking Commonwealth, the Spanish-speaking Organization of Ibero-American States, or the French-speaking La Francophone Group. In addition to belonging to different language groups, Caribbean SIDS have different systems of data collection, and do not all collect the same types of data sets. This diversity simply does not allow for a single analysis. The vast majority of the tables presented contain data for selected countries only, although the selection of countries varies with the types of data being presented. *A caveat to the present report, therefore, is the extent of coverage and lack of similar data sets for a uniform analysis.*

In consequence, the presentation henceforth will look at different groupings of Caribbean SIDS. The primary grouping is CARIFORUM, within which are the OECS and the Eastern Caribbean Currency Union<sup>11</sup> and the Caribbean Community. Cuba and the Netherlands Antilles are not part of this grouping; hence, where appropriate, separate national analyses will be undertaken for these countries.

*ECLAC had conducted a questionnaire survey in order to ascertain the status of implementation of the MSI in the Caribbean. Unfortunately, of the 19 countries covered in the report, only eight countries responded. Information from the questionnaire has therefore been supplemented with information from other sources for the countries that did not respond. The information available for the non-responsive countries is, however, not aligned with the types of questions that were asked in the questionnaire.*

*Furthermore, only three Caribbean SIDS have completed their National Assessment Reports at the time of preparing this report and this has further limited the depth of the analysis.*

*Despite these difficulties, ECLAC considers this report to be a seminal benchmark and a body of knowledge on the implementation of the MSI in the Caribbean. It is this report that will be used as the baseline to review the further implementation of the MSI in another five years time.*

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<sup>11</sup> Includes all the Member States of the OECS with the exception of the British Virgin Islands.

## I. THE CARIBBEAN REGION

The Caribbean region generally refers to an area 10° to 23 ° North and 60° to 80° degrees West extending in a broad arc of over 4,000 km from the Bahamas in the north to Guyana and Suriname in the south; the region also includes Belize which is in Central America. Countries within the Region border the Caribbean Sea.

The United Nations ECLAC/Caribbean Development Corporation Committee<sup>12</sup> covers 24 countries in the Caribbean. For the purposes of the present report, however, only those 19 countries<sup>13</sup> identified by the OHRLLS<sup>14</sup> will be covered.

The countries are widely different in physical and population size as well as landforms and geology (table 1). The most populated Caribbean countries are Cuba, the Dominican Republic, and Haiti, whilst those with the smallest populations include Saint Kitts and Nevis, Dominica, and Grenada. Haiti is by far the poorest country.<sup>15</sup>

In terms of land area, the mainland territories are among the largest including Guyana, Suriname, and Belize, while the larger islands include Cuba, Haiti, the Dominican Republic, Jamaica, and Puerto Rico. The countries with the highest elevation include Jamaica, Cuba, Puerto Rico, Guyana, and Belize.

Three marine geographical features,<sup>16</sup> often intermixed, are evident in the Caribbean archipelago and in the mainland low-lying territories. There are four different types of landscapes that characterize the region. Most of Cuba, the Bahamas, Belize, the Turks and Caicos Islands, and Barbados consist of limestone plateaus. Then there are the mountainous countries of Haiti, the Dominican Republic, and Jamaica. There is also the arc of mountainous volcanic islands from Saba to Grenada through the Windward and Leeward Islands.

The diversity of the Caribbean is further profiled by the multiple languages spoken and the political status of each of the countries. Of the 19 countries, the majority (14) are English speaking;<sup>17</sup> 2 are Dutch speaking; 2 are Spanish speaking; and Haiti is French and Kweyol speaking. Two islands are part of the Kingdom of the Netherlands and one is a territory of the United States of America (United

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<sup>12</sup> At its sixteenth session in 1975, the Economic Commission for Latin America agreed to create the Caribbean Development and Cooperation Committee (CDCC) as a permanent subsidiary body, which would function within the ECLA structure to promote development cooperation among Caribbean countries. Secretariat services to the CDCC would be provided by the Sub-regional Headquarters for the Caribbean. Nine years later, the Commission's widened role was officially acknowledged when the Economic Commission for Latin America (ECLA) modified its title to the Economic Commission for Latin America and the Caribbean (ECLAC).

<sup>13</sup> Antigua and Barbuda, Aruba, The Bahamas, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, US Virgin Islands.

<sup>14</sup> See [online]: [www.un.org/special-rep/ohrlls/ohrlls/default.htm](http://www.un.org/special-rep/ohrlls/ohrlls/default.htm).

<sup>15</sup> The size of its population (58% of the total population of CARICOM), its market-size is the fourth largest in CARICOM. But, owing to its extremely low level of per capita income, the market power of Haiti is not commensurable with population size.

<sup>16</sup> There is first an outer ring of mainly coral islands with white sand beaches from The Bahamas, to the Turks and Caicos, the Cayman Islands and embracing parts of Cuba, the Dominican Republic, Puerto Rico, the Virgin Islands, Anguilla, Antigua and Barbuda, the eastern parts of Saint Lucia, the Grenadines, parts of Grenada, Tobago, and Barbados. The second inner ring of more volcanic islands, with black sands, includes the islands of the Greater Antilles - Cuba, Haiti, Dominican Republic and Puerto Rico. The inner ring also includes Saint Kitts and Nevis, Dominica, parts of Saint Lucia, Saint Vincent, and parts of Grenada. The third distinct feature is the alluvial coast of Guyana, and Suriname on the South American mainland between the vast estuaries of the Orinoco and the Amazon.

<sup>17</sup> Kweyol is also spoken in Dominica and Saint Lucia which are predominantly Anglophone

States Virgin Islands). The Caribbean region is truly a cultural, political, linguistic, economic, and social mosaic.

**Table 1: Caribbean region: Selected geographical data**

Country	Population <sup>18</sup> (‘000)	Physical size (sq. km)	Maximum elevation (m)
Antigua and Barbuda	85.6	442.6	402
Aruba <sup>19</sup>	103.7	180	188
Bahamas, The	307.6	13,880	63
Barbados	284.6	430	336
Belize	307.9	22,966	1,160
Cuba	11,451.7	110,860	2,005
Dominica	72.7	751	1,447
Dominican Republic	9,650.1	48,670	3,175
Grenada	90.7	344	840
Guyana	752.9	214,969	2,835
Haiti	9,035.5	27,750	2,680
Jamaica	2,826	10,991	2,556
Netherlands Antilles <sup>20</sup>	227	800	862
St. Kitts and Nevis	40.1	261 <sup>21</sup>	1,156
Saint Lucia	160.3	616	950
St. Vincent and the Grenadines <sup>22</sup>	104.6	389	1,234
Suriname	481.3	163,820	1,230
Trinidad and Tobago	1,223	5,128	940
U.S. Virgin <sup>23</sup> Islands	110	1,910	475

Source: See [online]: <https://www.cia.gov/library/publications/the-world-factbook/geos/vq.html>; Accessed on April 3 2010.

The World Bank has categorized 10 of the Caribbean Development and Cooperation Committee (CDCC) Member Countries as Developing Countries.<sup>24 25 26</sup> Of these countries, Belize and Guyana have been classified lower- middle-income<sup>27</sup> countries. Cuba, Dominica, the Dominican Republic, Grenada, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Suriname have been classified as upper - middle-income<sup>28</sup> economies. Antigua and Barbuda, The Bahamas, Barbados, Netherlands Antilles, Trinidad and Tobago, and the United States Virgin Islands are all classified as high-

<sup>18</sup> Estimated at July 2009

<sup>19</sup> Part of the Kingdom of the Netherlands

<sup>20</sup> Part of the Kingdom of the Netherlands

<sup>21</sup> Saint Kitts 168 sq km; Nevis 93 sq km

<sup>22</sup> Saint Vincent and the Grenadines is comprised of 32 islands and cays

<sup>23</sup> Territory of the United States of America

<sup>24</sup> In general discussions in World Bank reports, the term "developing economies" has been used to denote the set of low and middle income economies. Bank publications with notes on the classification of economies state that the term "developing economies... does not imply either that all the economies belonging to the group are actually in the process of developing, nor that those not in the group have necessarily reached some preferred or final stage of development."

<sup>25</sup> Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, and Suriname.

<sup>26</sup> See [online]:

<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402~pagePK:64133150~piPK:64133175~theSitePK:239419.00.html#LAC> Accessed on April 3 2010.

<sup>27</sup> 2008 GNI Per Capita of US \$ 976 to US \$ 3,855

<sup>28</sup> 2008 GNI Per Capita of US\$ 3,856 to US \$ 11,905

income economies.<sup>29</sup> Haiti has been classified as a Low Income Economy.<sup>30</sup> The significance of this classification is that those countries that had a per capita income in 2008 of less than US\$ 1,135 and lack the financial ability to borrow from the International Bank for Reconstruction and Development (IBRD) can borrow from IDA.<sup>31</sup>

The islands in the Caribbean region generally have tropical marine climates, with more diurnal and local variations in temperature than seasonal ones, and with strong seasonal variability in rainfall distribution. Most islands have a dry season from December to May and a rainy season from June to November, which is the hurricane season. The Caribbean region is extremely vulnerable to hurricanes. These severe or intense climate events are a constant feature, with cyclonic activity reaching its peak between August and October.

Hurricane activity in 2004 was particularly devastating: hurricanes and tropical storms caused approximately US\$ 6 billion in economic damages to The Bahamas,<sup>32</sup> the Dominican Republic<sup>33</sup>, Grenada<sup>34</sup>, Haiti<sup>35</sup>, and Jamaica.<sup>36</sup> In 2007, Hurricane Dean caused extensive flooding in Saint Lucia, Dominica, Jamaica, Haiti, and the Dominican Republic. Tropical Storm Gustave stormed through Jamaica, and The Bahamas in August. This was followed by Hurricane Ike in September. Ike left four persons dead, with estimated damages between US\$ 3 billion and US\$ 4 billion in Cuba. Tropical Storm Gustave, Hurricanes Fay, Hanna, and Ike, all within a three-week period, caused more than 350 deaths in Haiti.<sup>37</sup>

Caribbean economies share many of the characteristics of small States, with open and vulnerable economies, limited diversity in production, exports concentrated on a few products, thin markets, and high transportation costs. Despite their best efforts, governments of Caribbean SIDS face considerable challenges in seeking to generate sustained economic growth rates that exceed the rates of unemployment and poverty. These challenges are exacerbated by a series of external shocks, including the global financial crisis, energy price shocks, fluctuating commodity prices, the rising cost of external credit, the dismantling of preferential market arrangements for traditional agricultural commodities, and the introduction of stringent market entry conditions including sanitary and phytosanitary (SPS) restrictions. Vulnerability to external price shocks is further exacerbated by the rising cost of imported food items. Although the most recent preliminary estimates suggested that the region's food import bill stood at US\$ 3 billion in 2006, a more accurate number for the region as a whole may now be as much as US\$ 5 billion as a result of the global surge in food prices that began in 2007.<sup>38</sup>

<sup>29</sup> 2008 GNI per Capita of US\$ 11,906 or more

<sup>30</sup> 2008 GNI per Capita of US\$ 975 or less

<sup>31</sup> IDA loans are deeply concessional—interest-free loans and grants for programmes aimed at boosting economic growth and improving living conditions. IBRD loans are non-concessional. Blend countries are eligible for IDA loans because of their low per capita incomes but are also eligible for IBRD loans because they are financially creditworthy.

<sup>32</sup> Economic Commission for Latin America and the Caribbean, InterAmerican Development Bank (2004) *Hurricanes Frances and Jeanne, Their Impact in the Commonwealth of the Bahamas*

<sup>33</sup> Economic Commission for Latin America and the Caribbean, United Nations Development Programme (2004) *Los Efectos Socioeconómicos del Huracán Jeanne en la República Dominicana*

<sup>34</sup> Organisation of the Eastern Caribbean States (2004), *Grenada: Macro Socio-economic Assessment of the Damages Caused by Hurricane Ivan*

<sup>35</sup> Economic Commission for Latin America and the Caribbean, United Nations Development Programme (2004). *Le Cyclone Jeanne en Haïti: dégats et effets sur les départements du nord-ouest et de l'artibonite : approfondissement de la vulnérabilité*

<sup>36</sup> Economic Commission for Latin America and the Caribbean, United Nations Development Programme, Planning Institute of Jamaica, *Assessment of the socioeconomic and environmental impact of Hurricane Ivan on Jamaica*

<sup>37</sup> See [online]: <http://new.unep.org/pdf/FastFacts-Hurricane-Ike.pdf>

<sup>38</sup> Shridath Ramphal Centre, (2009), "The View from Europe: Caribbean Agriculture and Food Security." Accessed [online]: [http://www.shridathramphalcentre.org/index.php?option=com\\_content&view=article&id=498:the-view-from-europe-caribbean-agriculture-a-food-security&catid=22&Itemid=100014](http://www.shridathramphalcentre.org/index.php?option=com_content&view=article&id=498:the-view-from-europe-caribbean-agriculture-a-food-security&catid=22&Itemid=100014) on April 4

If the Caribbean's food import bill was unsustainable before the global economic crisis, the austerity budgets that governments now have to introduce to weather the recession are making the development of a new Caribbean agricultural model essential. Unfortunately, the Caribbean is still struggling to develop this new agricultural model. While small-scale agriculture and land ownership continues to have a deep rooted and emotional appeal, large-scale farming with its echo of servitude - in the Anglophone Caribbean at least - remains far from attractive. Even in Cuba, with its large land mass and a pressing need to reduce imports and develop a new and efficient approach to agriculture, finding a viable incentive system to increase food supply is far from being resolved.

The growing debt burden of many Caribbean countries is also generating considerable concern. Seven Caribbean countries are included among the ten most indebted countries in the world.<sup>39</sup> The net result of this increasing debt burden has been a deepening of the economic vulnerability of the region and the erosion of the impressive social development gains that were achieved from the 1970s through to the mid 1990s.

Over the past decade, several Caribbean countries have sought to transform their economies away from agriculture and manufacturing into tourism and financial services. Tourism is the major foreign exchange earner in the region, accounting for 20% of foreign exchange earnings, and about 12% of total employment.<sup>40</sup> The contribution of "Travel & Tourism" to Gross Domestic Product is expected to rise from US\$ 39.9 billion in 2008 to US\$ 69.9 billion by 2018. However, as the fallout from the events of 9/11 and the global financial crisis have shown, tourism is no less vulnerable than agriculture to external shocks. Heightening this vulnerability is the threat posed by climate change and associated sea level rise, compounded by increased hurricane occurrence and damaging storm surges. This issue is of great concern given the fact that the tourism industry infrastructure in all the islands is concentrated almost exclusively along the narrow coastal zone.

Caribbean countries must also contend with declining FDI and ODA. Between 2006 and 2008, FDI inflows had decreased considerably in all the countries mentioned in the report except Cuba, the Dominican Republic, and Trinidad and Tobago. Interestingly, during this period, both Barbados and Trinidad and Tobago also reported outward flows of FDI. Of these two countries, the volume of outward flows in 2008 from Trinidad and Tobago was about five times more than that of Barbados.<sup>41</sup>

The economic growth prospects of the Caribbean region are also constrained by a variety of natural factors, including adverse physiographic conditions in many countries. These conditions are primarily related to limited land space (on account of mountainous terrain) where flat arable lands and lands for other development purpose are confined to the relatively narrow coastal zone which is vulnerable to storm surges and salt water intrusion.

Despite the progress in Caribbean functional cooperation, integration, and trading arrangements, there remain many challenges. Economic disparity is often cited as one of the impediments to deeper regional integration, especially of CARICOM member States. Trinidad and Tobago accounts for about 30% of CARICOM GDP, whereas six OECS member States account for only 8% of CARICOM GDP.<sup>42</sup>

Caribbean Governments are faced with a dilemma: how to pursue sustainable human development within a context of poor resource endowment, harsh internalities and externalities, low rates

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<sup>39</sup> Sahay R, (2005), *Stabilization, Debt and Fiscal Policy in the Caribbean*. IMF Working Paper WP/05/26

<sup>40</sup> World Travel and Tourism Council, 2007

<sup>41</sup> UNCTAD, (2009), *World Investment Report*. Available[online] at [www.unctad.org/wir](http://www.unctad.org/wir)

<sup>42</sup> Inter-American Development Bank (2005), *CARICOM Report No. 2*. Integration and Regional Programmes Department, Institute for the Integration of Latin America and the Caribbean.

of economic growth, weak institutional capacity and the rising expectations of a burgeoning population. It is against this background that this Five-year Review of the Mauritius Strategy for the Further Implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States has been undertaken for the Caribbean.

## II. A POLITICAL, ECONOMIC, SOCIAL, AND ENVIRONMENTAL OVERVIEW

### A. THE POLITICAL OVERVIEW

Politically, the Caribbean is fragmented into independent States, associated states and colonial dependencies. The independent States represent about 90 % of the population and an equal proportion of the landed area. The Netherlands Antilles are self-governing territories associated with The Netherlands. Puerto Rico is associated with the United States of America. A few other islands remain colonies of the United Kingdom. There is no political coordination between these entities. History and culture have coincided to create insular divisions. Thus, part of the centrifugal legacy of colonialism remains permanently expressed in the island of Hispaniola, divided between the French-speaking State of Haiti on the western end, and the Spanish-speaking State of the Dominican Republic on the east. Similarly, the minuscule island of St. Martin is divided between French and Dutch administrations.

Despite the political fragmentation of the Caribbean, many of the countries have had a deep history of forging economic alliances and integration arrangements. These alliances and arrangements operate on many platforms that can be best described as concentric circles. The innermost of these circles constitutes the OECS<sup>43</sup>, which is made up of seven Full member States and two Associated States. All of these States are the smallest in the Caribbean in terms of population and size. The OECS was established by the Treaty of Basseterre in 1981, and was formed from an organisation which had enjoyed, up to that point, a relatively successful history of functional cooperation among its members in some technical fields, and cooperation on some political issues. Among the significant achievements of the OECS model of functional cooperation are its institutions: the OECS Secretariat, the Eastern Caribbean Central Bank (ECCB), the ECCU, the Eastern Caribbean Supreme Court, the Eastern Caribbean Civil Aviation Authority (ECCAA), the Eastern Caribbean Telecommunications Authority (ECTEL). Extensive functional cooperation was also created by the services provided by the Overseas Joint Diplomatic and Technical Missions, the OECS Pharmaceutical Procurement Service, the OECS Export Development Unit, the Environment and Sustainable Development Unit, and the Education Reform Unit.

*“Going it alone or fragmenting into unworkable reconfigurations of the regional project cannot be an enduring solution”. Prime Minister Thompson of Barbados*

The independent members of the OECS are now in the cusp of signing an Economic Union Treaty that will create a unified economic territory out of the separate economic entities. The new Treaty provides for greater implementation capacity, by increasing the executive capacity and including restricted legislative powers in the remit of the OECS Authority of Heads of Government; creating an OECS Parliamentary Assembly to review the legislative actions of the Authority and to assess the annual performance of the organs and institutions of the OECS; and creating an OECS Commission which provides for Commissioners from each member territory to facilitate the policymaking and administration of the organisation in the achievement of its purposes. This is considered particularly critical for such small States as those of the OECS, which have limited fiscal space and regulatory resources and highly stretched policy capabilities. These States are also mindful of the fact that the achievement of the OECS

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<sup>43</sup> Full members of Antigua and Barbuda, Dominica, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines; and the Associated members of Anguilla, the British Virgin Islands.

Economic Union will add value to the wider CARICOM initiative and their participation in the Caribbean Single Market and Economy (CSME).

The next circle is that of CARICOM<sup>44</sup> which was established in 1973 by the Treaty of Chaguaramas. From its inception, the Community has

**“Indeed, as we accelerate and deepen the integration process in the OECS, it is our aim that the OECS Union would be seamlessly integrated into the Caribbean Single Market and Economy. In other words, it is our intention that the OECS Economic Union Treaty would give due recognition to the provisions of the Revised Treaty of Chaguaramas, and that in creating the Economic Union we would be able to build on the legal framework already established in respect of the Single Market and Economy,” Prime Minister Denzil Douglas of St. Kitts and Nevis**

concentrated on the promotion of the integration of the economies of member States, coordinating the foreign policies and functional cooperation of the independent member States, especially in relation to various areas of social and human endeavour. There are five main organs of the Community.<sup>45</sup> There are several institutions of the Caribbean Community responsible for formulating policies and supervising cooperation and services such as education, health, labour matters, and foreign policy. These institutions include Caribbean Disaster Emergency Management Agency (CDEMA); Council of Legal Education (CLE); Caribbean Examination Council (CXC); Caribbean Meteorological Institute (CMI); Caribbean Food Corporation (CFC); Caribbean Telecommunications Union (CTU); Caribbean Environment Health Institute (CEHI); Caribbean Agriculture Research and Development Institute (CARDI); Caribbean Organisation of Tax Administrators (COTA); and the Commonwealth Caribbean Medical Research Council (CCMRC). The Community is also involved in a number of functional cooperation programmes in the areas of renewable energy, climate change; disaster management, environment, HIV/AIDS, Information and Communications Technology (ICT), legislative drafting, and food security.

The Treaty of Chaguaramas was revised in 2001. The revised Treaty provides the basis for the CSME. The CSME is intended to benefit the people of the Caribbean Region by providing more and better opportunities to produce and sell goods and services and to attract investment. It will create one large market among the participating member States. The main objectives of the CSME are: full use of labour (full employment) and full exploitation of the other factors of production (natural resources and capital); competitive production leading to greater variety and quantity of products and services to trade with other countries.

When completed, the CSME will provide for the free movement of goods, services, capital, labour and right of establishment within the Community, and harmonized laws and regulations affecting commerce. A Regional Development Fund to assist in mitigating negative impacts of OECS participation in the CSME has been established.

The third circle is the Caribbean Forum of ACP States, also known as CARIFORUM, which was created in 1992 by inter-governmental agreement, as a political group including not only the CARICOM Member States, but also what were then the new signatories to the Lomé Convention, namely, the Dominican Republic, Haiti and Suriname although the latter two have since acceded to CARICOM. Cuba is also now a member state of CARIFORUM, although it is not a signatory to the Cotonou Agreement. The CARIFORUM mandate is to manage and coordinate policy dialogue between the Caribbean region and the EU, to promote integration and cooperation in the Caribbean and to coordinate the allocation of

<sup>44</sup> Includes all the OECS Member States, The Bahamas, Jamaica, Haiti, Barbados, Trinidad and Tobago, Guyana, Suriname, Belize, Turks and Caicos Islands and the Cayman Islands.

<sup>45</sup> the Council for Finance and Planning (COFAP); the Council for Trade and Economic Development (COTED); the Council for Foreign and Community Relations (COFCOR); the Council for Human and Social Development (COHSOD) and the Council of Ministers responsible for National Security and Law Enforcement

resources and manage the implementation of Regional Indicative Programmes financed by the European Development Fund and regional programmes financed by member States of the EU and any other source. The EU-Caribbean EPA was concluded on a CARIFORUM wide basis.

All Caribbean countries are also part of the Association of Caribbean States<sup>46</sup> (ACS) which constitutes the largest circle. The Convention Establishing the ACS was signed on 24 July 1994 in Cartagena de las Indias, Colombia, with the aim of promoting consultation, cooperation and concerted action among all the countries of the Caribbean, comprising 25 member States and three associate members. Eight other non-independent Caribbean countries are eligible for associate membership. The

#### **PROGRESS IN REGIONAL INTEGRATION IN THE CARIBBEAN**

The deepening process of economic integration, which began with the Grand Anse declaration in 1989, evolved to a common market CARICOM in 1973, and has now emerged as the Caribbean single market and economy (CSME), in 2006. The continual imperatives of integration among Caribbean SIDS have been motivated by a number of factors characteristic of most SIDS: small markets, small price taking firms, small populations and limited opportunities for economies of scale in domestic markets. Scarce human technical resources also imply limited capacity for trade and other negotiations by individual countries.

The challenges of globalization, with the attendant emphasis on tariff reduction and the removal of preferences have exposed the fragility of Caribbean SIDS to global competition and created the momentum to deepen the integration movement. However, the move to a fully integrated economic union has been constrained by political and other considerations, and the desire to protect local producers from competition.

objectives of the ACS are enshrined in the Convention and are based on the following: the strengthening of the regional cooperation and integration process, with a view to creating an enhanced economic space in the region; preserving the environmental integrity of the Caribbean Sea which is regarded as the common patrimony of the peoples of the region; and promoting the sustainable development of the Greater Caribbean. The main organs of the Association are the Ministerial Council, which is the principal organ for policymaking and direction of the Association, and the Secretariat. There are five Special Committees, on Trade Development and External Economic Relations; Sustainable Tourism; Transport; Natural Disasters; and Budget and Administration. There is also a Council of National Representatives of the Special

Fund responsible for overseeing resource mobilization efforts and project development.

There are a number of other initiatives within these main concentric circles. CARICOM, for instance has signed a Free Trade Agreement with the Dominican Republic; the Central American Common Market (CACM);<sup>47</sup> trade agreements with Columbia and Venezuela; and a trade and economic cooperation agreement with Cuba. These agreements may not be fully operational; they are, however, clear attempts at alliance building within the very diverse Caribbean Region.

There has been significant progress on functional cooperation, handled by separate institutions. One such institution is the CDCC. All the Caribbean countries with the exception of the French Overseas Departments belong to CDCC, which is permanent subsidiary body within the ECLAC structure. CDCC pursues the objective of promoting and strengthening technical and economic cooperation among its membership and between them and other developing countries. Its operational activities are carried out

<sup>46</sup> Full Members Antigua and Barbuda, Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Suriname, Trinidad and Tobago, Venezuela.

Associate Members. Aruba, France (on behalf of French Guiana, Guadeloupe and Martinique), the Netherlands Antilles and Turks and Caicos.

Observers Argentina, Brazil, Canada, Chile, Ecuador, Egypt, Finland, India, Italy, the Kingdom of the Netherlands, Korea, Morocco, Peru, Russia, Spain, Turkey, Ukraine, and the United Kingdom.

<sup>47</sup> Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama

under the regular work programme of the ECLAC Caribbean Subregional Headquarters, which is its secretariat. ECLAC has five main thematic departments: economic development, social development, science and technology, sustainable development, and information services through the Caribbean Documentation Centre.

The process of internationalization has gone hand-in-hand with the increasingly intense opening of markets. The countries of the Caribbean have joined this complex race to open on all fronts: at the multilateral, regional, and bilateral levels, and even unilaterally. Thus, they are participating in the negotiating processes of the World Trade Organization (WTO), deepening their regional integration schemes, and signing bilateral and subregional trade agreements, while continuing to build the Free Trade Area of the Americas (FTAA). These interlinked trade processes will impose profound changes on the Caribbean.

At the regional level, this has translated into a renewed effort to deepen existing ties in the framework of rejuvenated schemes inspired by the new open regionalism. Central America hopes to have an effective customs union, has signed agreements with the Dominican Republic, and is currently negotiating a free trade agreement with the United States of America; CARICOM, enlarged with the inclusion of Haiti and Suriname and with close ties to the Dominican Republic and Costa Rica, is pushing

**A new global and regional trade environment presents the Caribbean countries with critical challenges, but also many opportunities to reposition itself as a growing and competitive region, translating into significant economic and social gains," Yvonne Tsikata, World Bank Director for the Caribbean.**

its Single Market and Economy. At the bilateral level, agreements continue to be formalized between neighbouring countries. The ties among the economies of the Caribbean are growing and are being strengthened in every direction.

Even in the absence of market liberalization and integration, recent experiences show that in the shared geographic space underlies a cooperation imperative in the environment and natural disasters, subjects that have assumed importance due to degradation of the regional coastal and marine environment and the effects of global climate change. It would be a mistake, therefore, to think of Caribbean regionalism as a purely or mainly economic strategy, since globalization has important non-economic dimensions, including the environment, health, and culture, in which regional cooperation is relevant, especially for small developing countries in the Caribbean.

## B. THE ECONOMIC OVERVIEW

Over the past decade, the Caribbean as a whole experienced relatively robust growth. Real GDP grew by 3.6 % over the 1997-2006 period, driven mainly by the strong performance of Trinidad and Tobago (8.6%), Belize (6.2 %), and the Dominican Republic (6.0 %). Growth in OECS countries was relatively strong as well, averaging 3.5 % over 1997-2006. This outcome reflects mainly the good performance of Antigua and Barbados (4.8 %) and Grenada (4.3 %).<sup>48</sup> At the same time, inflation rates have fallen in most of the Caribbean countries, particularly in those with fixed exchange rate regimes (11 out of 15 countries).<sup>49</sup> Average inflation fell below 7 % over the period 1997-2006. Many countries recorded a significant drop in their inflation rates down to single digit levels in 2005-2006, compared to double digits

<sup>48</sup> World Bank and the Organization of American States, (2009). *Caribbean: Accelerating Trade Integration, Policy Options for Sustained Growth, Job Creation and Poverty Reduction*. Document of the World Bank and the Organisation of American States, co-produced with the Governments of CARIFORUM Countries.

<sup>49</sup> Countries with fixed exchange rate regime include Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Suriname. Countries with flexible exchange rate regime include the Dominican Republic, Guyana, Haiti, Jamaica and Trinidad and Tobago.

levels in the late 1990s and early 2000s. OECS countries stand out as the best performers, with inflation rates hovering in the 1% to 4 % range on average during 1997-2006.<sup>50</sup>

Caribbean countries exhibit highly dissimilar levels of economic development. GDP per capita ranges from US\$ 29,800 in the Bahamas; US \$ 23,300 in Trinidad and Tobago; US \$9,700 in Cuba; US \$ 8,200 in the Dominica Republic; and US \$17,100 in Puerto Rico, to US \$ 3,900 in Guyana and US \$ 1,300 in Haiti.<sup>51</sup> It is estimated that, even within CARICOM, the different in per capita income between the richest and poorest country is 35 to 1.<sup>52</sup>

Related to the varying levels of economic development are differences in production and export structures. Trinidad and Tobago's economic activity is heavily concentrated in the oil and natural gas sector, while Jamaica and Suriname have large mineral sectors. Agriculture is important in Belize and Guyana, while the vast majority of the other Caribbean countries are service oriented. Divergent production structures make it difficult for a common development strategy. It is also difficult to come up with a common strategy for external trade.

One of the fundamental indices of economic fragility in the Caribbean has been the heavy reliance on a few preferential markets for major exports. The EU, the United States and Canada account for some 68% of CARICOM exports, with the United States and Canada accounting for a larger share. Overall, the three markets combined were the destination of more than 70% of total exports in six out of the eleven countries where information was available. The United States, EU and Canada are now in recession. In addition, the international prices of aluminium, oil, bananas, sugar, and rice, among other key Caribbean exports, have fallen from their peak levels. There are, therefore, serious implications for the Caribbean in terms of both trade balances and fiscal revenue. However, the reduction in oil prices since mid-2008 has benefited most Caribbean countries who are oil importers. However, those countries which have sizeable hydrocarbon sectors such as Belize, Suriname and, especially, Trinidad and Tobago, are suffering from significant declines in revenue.

Trade within the Caribbean region has tended to be dominated by the More Developed Countries (MDCs) as between 2000-2007 the average contribution to intra-regional imports of this group was 77.8%. In terms of intra-regional exports, between 2000 and 2007 the MDCs exports to the region were 92.3% and 93.6 % respectively. Exports have been dominated by Trinidad and Tobago that has benefited enormously from the improved prices for natural gas and other carbon based fuels. Trinidad and Tobago accounted for 80.4% of intra-regional exports in 2007. Among the conclusions that can be drawn from analysing the trade data are, firstly, that a significant percentage of imports is sourced extra-regionally and, secondly, that there is no evidence that trade in the region has been impacted by the deepening of the integration movement since 2006. The regional experience with overall trade in goods and services has also been badly affected by the recent economic crisis as the current account deficits of many countries have widened.<sup>53</sup>

Cuba's trade policy is directed towards promoting ties primarily with the countries of the Bolivarian Alternative for Latin America and the Caribbean (ALBA) and the People's Republic of China. Although the Bolivarian Republic of Venezuela is Cuba's largest trading partner, trade between the two

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<sup>50</sup> However, high food and fuel prices have manifested themselves in sharply rising inflation in many Caribbean countries. For instance, in Haiti, inflation rose to 15.6 % in May 2008, up from 7.9 % in September 2007, reflecting higher prices for food, fuel, and public transportation, which together account for two-thirds of Haiti's CPI.

<sup>51</sup> See [online]: <https://www.cia.gov/library/publications/the-world-factbook/geos/vq.html>; Accessed on April 3 2010.

<sup>52</sup> Inter American Development Bank, *ibid*

<sup>53</sup> In cases where the current account deficit has improved this is due to reduced imports.

countries is concentrated in just a few goods. Cuba trades a much larger range of goods with the People's Republic of China, its second-largest trading partner.<sup>54</sup>

Aruba has a small open economy. Its main industries are tourism, offshore financial services, transport (mainly shipping), and oil refining. The island has few natural resources and is heavily dependent on imports, including food and manufactures. Aruba depends primarily on tourism with approximately 70% of visitors coming from the United States. Growth is strongly dependent on tourism demand, and after recovering strongly in 2004, when a pick up in tourism increased domestic demand and strong growth in gross fixed investment underpinned growth of 7.4%, GDP growth fell again in 2005 following the disappearance of an American tourist on the island and extensive negative coverage in the United States media: growth averaged just 1.2% in 2005-2007.<sup>55</sup>

The United States is also the main export market for The Netherlands Antilles, being the main purchaser of oil products and a source of tourists.<sup>56</sup>

During 2009, the global economic recession negatively affected key economic indicators in Caribbean SIDS, but the worst affected were countries that depended heavily on tourism and related services, because of the falling demand for such services in the main markets of North America. The Caribbean is the most tourism-intensive region in the world. Countries that are most reliant on tourism are Antigua and Barbuda, and The Bahamas, while Guyana, Suriname, and Trinidad and Tobago are least reliant. However, all countries are highly dependent on the weakening United States, European and Canadian tourist markets. These three sources accounted for shares as high as 95% in the Bahamas and Jamaica in 2008. Data from the Caribbean Tourism Organisation (CTO) for the first three, in some cases two months, of the year reveals that Antigua and Barbuda and Saint Lucia (both -14%) registered the sharpest fall in tourist arrivals. The statistics from CTO also show sharp falls in arrivals by cruise ship passengers: down 29% in Jamaica. Such declines continue to have a corresponding detrimental impact on employment in the sector. Indeed, at the beginning of 2009, heavy job losses were reported, led by the Atlantis resort in The Bahamas, the country's largest private employer, which made redundant about 800 workers – some 10% of the resort's workforce.

#### REMITTANCES IN GUYANA

Officially recorded remittances into Guyana rose to US\$ 225.9 million at the end of 2006, from US\$29.2 million at the end of 2000. The growing importance of these funds as a source of foreign exchange is reflected in the fact that they have outpaced foreign direct investment and official development assistance. These figures, however, underestimate the true magnitude of remittances, since they represent only official balance of payments statistics and exclude remittances transferred through informal channels. Although a substantial proportion of remittances are used for consumption purposes and smaller amounts dedicated to productive activities, collectively, these expenditures contribute to the achievement of the development needs of the country.

*Debra Roberts, Senior Economist  
Central Bank of Guyana*

Remittances are a significant contributor to GDP, particularly in Guyana and Jamaica, with remittances totalling 23% and 16% of GDP, respectively. The rate of growth in remittances to the Caribbean during 2008 has slowed considerably, and there is every expectation that remittances will diminish as the recession in the developed world deepens with the subsequent contraction in the demand for labour.

<sup>54</sup> ECLAC, 2009. Economic Survey of Latin America and the Caribbean • 2007-2008

<sup>55</sup> *ibid*

<sup>56</sup> Oxford Economic Country Briefings, October 2008. Available [online] at: [http://findarticles.com/p/articles/mi\\_qa5299/is\\_20081001/ai\\_n30923345/?tag=content:coll](http://findarticles.com/p/articles/mi_qa5299/is_20081001/ai_n30923345/?tag=content:coll)

In response to the crisis, fiscal and monetary policies were employed to reduce the impact on the domestic and external sectors. Expansionary fiscal policies have helped to expand the fiscal deficit and increase the public debt, which has become a serious constraint to growth for many Caribbean SIDS.<sup>57</sup>

In terms of fiscal policies, governments of the Anglophone Caribbean SIDS as well as Suriname all adopted generally expansionist strategies either through the undertaking of major infrastructural works, or increases in social spending, as a means of offsetting weakening internal and external aggregate demand.<sup>58</sup> The result of this fiscal expansion was the worsening of the fiscal deficit of the subregion, from an average of 2% of GDP in 2008 to 2.3% in 2009. The primary and global balances for a number of SIDS are summarized in table 2.

**Table 2 : Thirteen selected Caribbean countries: Central Government balances, 2005-2009**  
(Percentage of GDP at current prices)

	Primary Balance					Global Balance				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
<b>Antigua/Barbuda</b>	21.8	-4.3	-3.1	-3.6	-4.5	18.0	-7.8	-6.4	-6.7	-7.1
<b>Bahamas</b>	0.2	0.9	0.2	0.6	-2.7	-2.6	-1.5	-2.4	-2.0	-3.0
<b>Barbados</b>	0.6	3.1	2.8	-0.5	0.1	-4.3	-2.0	-1.8	-5.9	-3.2
<b>Belize</b>	3.5	2.8	4.3	4.1	1.6	-3.4	-4.2	-0.0	0.3	1.2
<b>Dominica</b>	5.8	5.4	4.0	4.2	4.2	2.6	1.4	1.0	0.8	2.2
<b>Grenada</b>	5.6	-4.5	-4.6	-4.2	-3.6	3.7	-6.4	-6.6	-6.1	-5.8
<b>Guyana</b>	-9.1	-9.3	-4.6	-5.1	-4.0	-13.5	-13.1	-7.5	-7.9	-6.5
<b>Jamaica</b>	11.1	8.8	8.1	5.6	3.0	-3.5	-5.3	-4.7	-7.4	-11.0
<b>St. Kitts &amp; Nevis</b>	4.0	6.0	6.0	8.9	19.7	-4.1	-2.4	-2.4	0.4	10.9
<b>St. Vincent and the Grenadines</b>	-1.3	-0.7	-0.6	2.1	0.7	-4.2	-3.9	-3.6	-1.3	-3.0
<b>Saint Lucia</b>	-3.5	-3.0	0.9	2.9	5.5	-6.5	-6.1	-2.1	-0.2	1.3
<b>Suriname</b>	1.7	1.7	5.7	5.8	0.8	-0.8	-0.6	7.1	2.3	-1.0
<b>Trinidad &amp; Tobago</b>	7.5	8.3	3.7	9.7	-3.3	5.0	6.3	1.8	7.8	-5.3
<b>Caribbean</b>	<b>3.7</b>	<b>1.2</b>	<b>1.8</b>	<b>2.3</b>	<b>1.3</b>	<b>-1.0</b>	<b>-3.5</b>	<b>-2.1</b>	<b>-2.0</b>	<b>-2.3</b>

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Fifteen of the Caribbean countries<sup>59</sup> are involved in two parallel processes of regional and global integration, which complement each other and will most likely shape the Caribbean trade environment during the next few years. The Caribbean Region is in the process of redefining its relations with its main trading partners, including the European Union and the United States, through the recently signed EPA, and exploring the possibility of moving from preferential to reciprocal arrangements with the United States. At the same time, the majority of Caribbean countries are redesigning the process of regional trade integration with the ongoing implementation of the CSME.

However, global integration is being conducted in a context of macroeconomic and financial imbalances. The region experienced large current account and fiscal deficits, as well as high levels of indebtedness, which in the past, slowed trade reforms and are currently a major concern in the evolving trade environment. These macroeconomic and financial imbalances are exacerbated by the current economic crisis. The region needs to strategically reposition itself to take advantage of new market

<sup>57</sup> Summarized from a Macroeconomic Overview of the Caribbean – Regional Analysis *Preliminary Overview of Latin America and the Caribbean*, (2009) prepared for ECLAC by Roberto Machado.

<sup>58</sup> Based on data gathered by ECLAC.

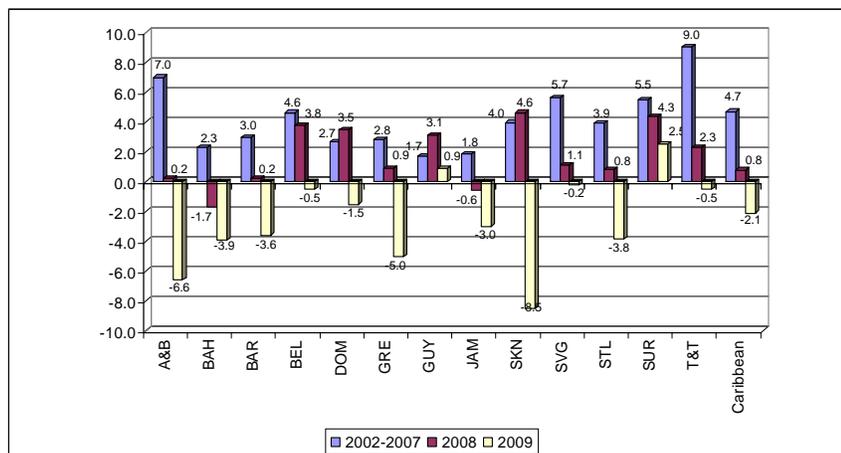
<sup>59</sup> Member States of CARICOM

opportunities, particularly in services, where the region has consistently demonstrated comparative advantage. On average, the Caribbean derives 45% of its GDP from services.

During the past five years, the economic crisis has affected all Caribbean SIDS but it has been particularly difficult for those countries that depend heavily on tourism and related services. The decline in international demand has seen a fall in tourist receipts with its consequent impact on the balance of payments. Non-tourist-dependent economies have also been affected through the decline in FDI, and the reduction in international demand and falling prices for a variety of exports, including oil and gas, bauxite and alumina and sugar. The crisis has aggravated a number of vulnerabilities, which were already emerging among Caribbean SIDS. Among these were the need to respond to the removal of preferences in the trading arrangement with the EU and the search for new sources of economic growth; the need to escape from the narrow production specialization, based on primary production; and the need to improve the competitiveness of firms, based on technical change.

The global recession had a negative impact on the performance of Caribbean economies in 2009, as per capita growth declined for most. For the Anglophone region as a whole (including Suriname), GDP per capita is estimated to fall by 2.8%, representing the first contraction of this measure since 1992. With respect to specific countries, the most significantly affected were Saint Kitts and Nevis (-8.5%), Antigua and Barbuda (-6.6%), the Bahamas (-4.0%), and Barbados (-4.0%). These figures reflect the significant decline in stay-over tourist arrivals to the region with the evolution of the crisis, with such declines ranging from 8.5% for Barbados to 15.2% for the Bahamas, over the 2007/2008 – 2008/2009 tourist seasons. Figure 1 below shows growth in annual GDP for selected Caribbean SIDS since 2002.

**Figure 1. Thirteen selected Caribbean countries: GDP annual growth rate, 2002-2009**  
(Constant US dollars at 2000 prices; percentage)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures

The economic crisis also served to worsen the public debt situation in the Anglophone Caribbean SIDS during 2009, and is now considered to have exceeded most debt sustainability standards. With the exception of the Bahamas, Suriname, and Trinidad and Tobago, by the close of 2009, all other Caribbean SIDS showed high public debt levels ranging from 88% of GDP for Belize, to as high as 170% for Saint Kitts and Nevis. Table 3 summarizes the situation with respect to public debt in the Caribbean by the end of 2009. Figure 2 summarises the GDP growth rate, employment rate, and unemployment for the period 2006 to 2008 for member States of the Caribbean Community.

The growth rate in Cuba for the period 2001 to 2009 averaged 5.6 %.<sup>60</sup> The year 2008 is described as being one of the most difficult for Cuba. Cuba's GDP growth in 2008 was 4.3%, 3 percentage points down from both the budgeted estimate and the previous year's achievement of 7.3%. The major factors attributed to this performance were (i) the severe spike in the international price of oil; (ii) the significant increase in food prices; (iii) the decline in the price of Nickel; and (iv) three high intensity hurricanes.<sup>61</sup> Inflation rates for 2008 and 2009 remained in the single digits, although there was a slight increase from 3.8 % in 2008 to 4.3 % in 2009.<sup>62</sup> The balance-of-payments current account for the period 2007 to 2008 showed a surplus equivalent to 0.8% of GDP.<sup>63</sup>

**Table 3: Thirteen selected Caribbean countries: Public debt, 2005-2009**  
(Percentage of GDP at Current Prices)

	Central Government					Non-Financial Public Sector				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
<b>Antigua/Barbuda</b>	107.8	94.6	82.0	82.6	90.2	120.2	104.0	90.9	91.7	103.7
<b>Bahamas</b>	32.9	32.8	35.1	36.6	..	41.8	42.6	44.7	47.9	..
<b>Barbados</b>	82.0	79.0	84.0	88.0	101.7	99.0	95.0	101.0	103.0	116.0
<b>Belize</b>	79.5	75.1	71.4	82.7	86.8	82.1	76.8	72.9	84.0	88.0
<b>Dominica</b>	95.9	92.6	82.0	74.1	72.3	117.8	111.7	98.8	88.8	87.0
<b>Grenada</b>	109.5	112.4	107.5	100.0	95.8	126.6	129.9	121.6	113.8	110.8
<b>Guyana</b>	188.4	155.3	98.8	103.7	128.0	..	..	..	..	..
<b>Jamaica</b>	119.1	117.8	110.9	109.9	118.5	..	..	..	..	..
<b>St. Kitts &amp; Nevis</b>	115.1	112.0	109.4	100.7	105.2	187.0	180.9	178.6	161.7	169.4
<b>St. Vincent and the Grenadines</b>	70.6	66.3	56.1	54.1	57.8	82.4	77.4	68.6	69.6	73.4
<b>Saint Lucía</b>	55.8	56.8	61.7	60.7	63.2	68.3	68.3	71.8	70.8	74.3
<b>Suriname</b>	38.9	24.9	28.5	..	..	..	..	..	..	..
<b>Trinidad &amp; Tobago</b>	20.1	16.8	16.8	14.5	19.0	35.6	31.7	29.4	25.1	31.3
<b>Caribbean</b>	<b>85.8</b>	<b>79.7</b>	<b>72.6</b>	<b>74.3</b>	<b>83.6</b>	<b>96.1</b>	<b>91.8</b>	<b>87.8</b>	<b>84.1</b>	<b>92.7</b>

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

<sup>60</sup> US Department of State, 2010. Background Note: Cuba. Bureau of Western Hemisphere Affairs.

<sup>61</sup> See [online]:

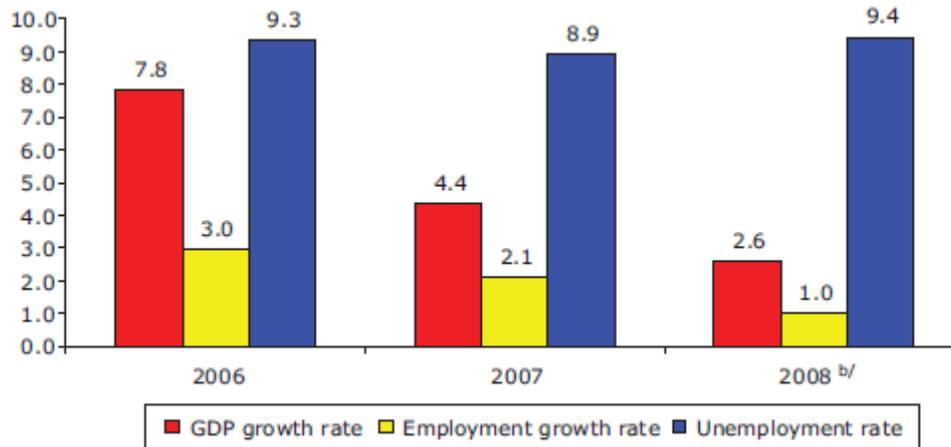
<http://www.tradeind.gov.tt/projects%20and%20programs/CTFO/Cuba%20Macro%20Econ%20Overview.htm>

Accessed on 7 April 2010.

<sup>62</sup> See [online]: [http://www.indexmundi.com/cuba/inflation\\_rate\\_consumer\\_prices.html](http://www.indexmundi.com/cuba/inflation_rate_consumer_prices.html) Accessed on 7 April 2010.

<sup>63</sup> See [online]: <http://ckmportal.eclacpos.org/dev/cu/economic-development/?searchterm=cuba>. Accessed on 7 April 2010.

**Figure 2: GDP growth rate, unemployment rate, and the growth of employment rate in the countries of the Caribbean Community 2006- 2008<sup>a</sup>**  
(Percentages)



**Source:** ILO Sub-regional office for the Caribbean

- a. Does not include Haiti
- b. Estimated

Most Caribbean countries experienced an increase in inflation in the first half of 2008, mainly because of rising food prices in the global economy. The Caribbean region is a net importer of food, with only Guyana and Suriname being exporters of a product – rice – whose international price has risen significantly during recent years. Other agricultural products are also important in the export baskets of some Caribbean countries such as Barbados, Belize, Guyana and Jamaica in the case of sugar, and Belize, Suriname, Dominica, Saint Lucia and Saint Vincent and the Grenadines in the case of banana and plantain. Notwithstanding, none of these products has witnessed a comparable hike in price on world markets.<sup>64</sup>

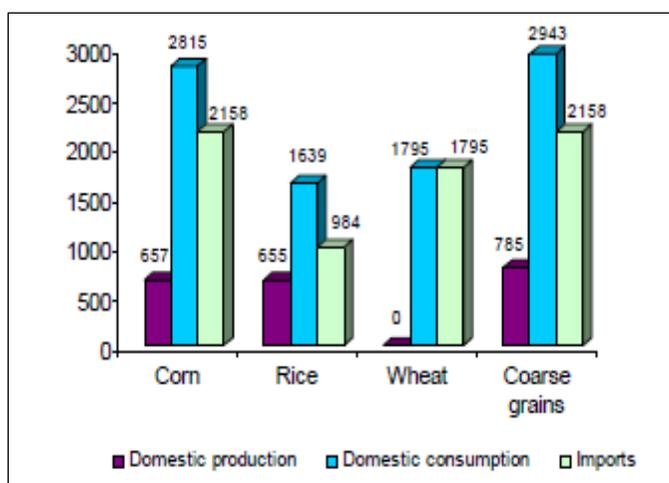
Figure 3 shows that the Caribbean is a net importer of most basic grains and pulses, including the ones that have experienced significant price increases, such as maize, rice and, especially, wheat. This high dependence on imports of wheat and other basic grains reveals that the Caribbean region is highly vulnerable to the escalation in world food prices, thus raising the issue of food security.

However, in recent decades the Caribbean has made significant improvements in food availability and consumption, which have favourably impacted nutrition indicators. For instance, malnutrition rates<sup>65</sup> (weight for age) in children below five years of age more than halved between 1994-1996 and 2000-2003 in Guyana (from 19% to 9.4%) and Belize (from 15% to 7.3%). By the same token, the Food and Agriculture Organization (FAO) (2006) estimates that between 1979 -1981 and 2001-2003, the daily average calorie intake per person increased in all MDCs, except for Trinidad and Tobago. It is worth noting that, in all cases in the Caribbean, daily average per capita intake of calories in 2001-2003 was above the 2,400 level estimated by the Caribbean Food and Nutrition Institute (CFNI) as the minimum requirement for adults to meet their nutritional needs.<sup>66</sup>

<sup>64</sup> Indeed, Caribbean sugar world prices went from US\$15.86 per pound in July 2006 to US\$12.88 in March 2008, a 19% dip.

<sup>65</sup> Caribbean Food and Nutrition Institute, 2007. "Overview. Vulnerability and food and nutrition security in the Caribbean". August.

<sup>66</sup> This basic nutritional requirement is extensively used in household surveys and poverty assessments throughout the region as the benchmark to determine indigence lines.



**Figure 3: Caribbean domestic production, consumption and imports of grains and pulses**

April 2007 to April 2008  
(Thousands of metric tonnes)

Source: United States Department of Agriculture<sup>67</sup>

Despite these positive trends, ECLAC<sup>68</sup> raises a particularly worrisome issue, namely, that changes in consumption patterns in the Caribbean have increased dependency on imported food as a result of the substitution of the traditional diet based on domestic produce for a diet more intensive in cereals like wheat and other staples that are mostly produced outside the region. This reinforces the vulnerability of the Caribbean to the escalation in world food prices. As net importers of food, Caribbean countries need to get the financial resources and foreign exchange to finance the import bill. Although food imports dependency is not a recent but a chronic problem, its economic and social relevance has increased under the current context of high international food prices.

**Table 4. Six selected countries : Merchandise import composition, 2008 (%)**

	Food	Non-Food	Total US\$M
The Bahamas	14.0	86.0	3129.0
Barbados	16.5	83.5	1684.7
Belize	9.5	90.5	870.0
Guyana	12.6	87.4	1300.2
Jamaica	12.1	87.9	7742.3
Trinidad and Tobago	6.2	93.8	9973.0

Source: Mendoza and Machado. 2009<sup>69</sup>.

Table 4 shows that food imports were 14% of total imports for the Bahamas in 2008, 16.5 % for Barbados, 9.5 % for Belize, 12.6% for Guyana, 12.1% for Jamaica and 6.2% for Trinidad and Tobago. When these data were combined with the amount of import cover available over the period, the Bahamas seemed the most vulnerable of the countries in this group to meet its food requirements.

<sup>67</sup> Sourced from ECLAC,(2008), "The escalation in world food prices and its implications for the Caribbean." LC/CAR/L.179 19 November 2008.

<sup>68</sup> ECLAC (2006). *Nutrition, Gender and Poverty in the Caribbean Region*. Economic Commission for Latin America and the Caribbean.

<sup>69</sup> Mendoza, Armando and Roberto Machado (2009), "The Escalation in world food prices and its implications for the Caribbean", Caribbean Development Report, Vol.2 ECLAC, Port of Spain, L/C/CAR/L.245

With several countries in the region challenged by considerable dependency on imported food, insufficient levels of economic development and diversification, and low levels of international reserves,

**Figure 4: Contribution to overall inflation in the Caribbean<sup>1</sup>** (Annual percentage change)

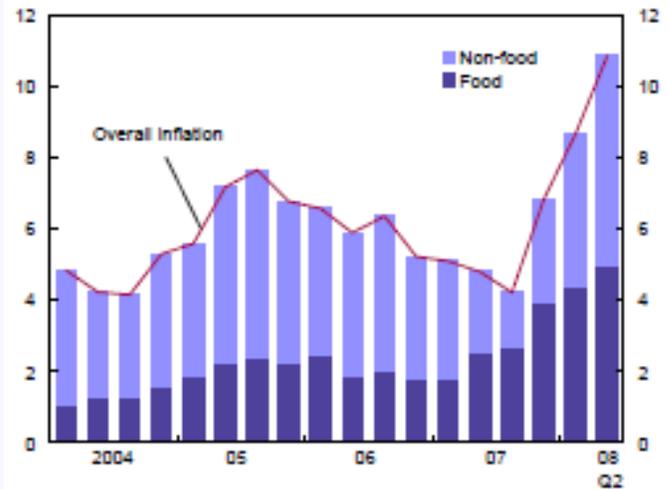
Source: IMF<sup>1</sup>

#### THE FOOD CRISIS IN HAITI TURNS VIOLENT

Prices for basic food commodities in Haiti, the vast majority of which are imported, rose an average of 30%-40% over 2007. In early April 2008, weeks of protests against rising food prices turned violent, with at least six people killed, including one United Nations peacekeeper. Haitians were reportedly frustrated by the Prével government's lack of action and protests continued until the President announced a plan to partially subsidize the cost of rice. On April 12, Haiti's Prime Minister resigned after the Haitian Parliament accused him of mishandling the government's response to the food crisis.

Source:

CRS Report for Congress, Updated July 2008



the already high external vulnerability is on the rise

Headline inflation has escalated on the back of higher world food and fuel prices. Food accounts for a large share of consumer baskets in most countries, reaching 54 % in St. Vincent and the Grenadines. Hurricane-related damages drove food price inflation up to 35 % in Jamaica.<sup>70</sup> Many countries generally allowed full pass-through of higher international fuel prices to domestic prices. In several countries the depreciating US dollar and strong domestic demand have pushed up inflation.

#### ABSORBING THE OIL SHOCK IN SOME CARIBBEAN COUNTRIES: THE ROLE OF PETROCARIBE

Petrocaribe S. A. is a Caribbean oil alliance with Venezuela to purchase oil on conditions of preferential payment. The alliance was launched in June 2005. The payment system allows for a few nations to buy oil on market value but only a certain amount is needed up front. The terms of this financing are common across countries (25-year maturity, with a 2-year grace period, at an interest rate of 2 %), while the amount of available financing varies, being governed by an import quota negotiated bilaterally with Venezuela in thousands of barrels per day. In addition, the share of imports that can be financed, as well as the grant element of the loan, fluctuate with the world price of oil. It allows for nations to pay part of the cost with other products provided to Venezuela, such as bananas, rice, and sugar. Venezuela has also provided financing under the *Alternativa Bolivariana para las Américas* (ALBA).

Source: IMF, 2008

With more costly imports, the external current account deficit has soared in most countries. Food and fuel imports are expected to rise substantially, pushing current account deficits to as high as 35% of GDP in the ECCU. Financing for current account deficits is expected to continue to come mainly from

<sup>70</sup> See [online]: [http://www.imf.org/external/pubs/ft/reo/2008/WHD/ENG/wreo1008\\_c2.pdf](http://www.imf.org/external/pubs/ft/reo/2008/WHD/ENG/wreo1008_c2.pdf). Accessed on 11 April 2010.

foreign direct investment and external assistance (most notably via PetroCaribe for some countries). On the other hand, the current emphasis on liberal concessions to FDI as a means of attracting such capital has dampened fiscal revenues and created a two-tiered system of investment, one for domestic firms and other for foreign firms. To attract FDI with greater spin off effects requires having a pool of labour resources that is capable of exploiting the benefits of such capital.

The depreciation of the United States dollar relative to other major currencies also contributed to inflationary pressures given that nearly all Caribbean countries have pegged their currencies to the US dollar. Many Caribbean SIDS are also facing a decline in ODA, which reflects their status, primarily as middle-income developing countries. While such graduation is positive, the several challenges set out above, pose considerable difficulties for Caribbean SIDS in their attempt to further implement the requirements of the MSI.

#### **THE ECCU RESPONSE TO THE GLOBAL FINANCIAL CRISIS**

The strategic response of the Eastern Caribbean Currency Union (ECCU) to the global and economic financial crisis was to develop the ECCU Eight Point Stabilization and Growth Programme in September 2009. This programme consists of the following:

1. Suitably adapted Financial Programmes for each country
2. Fiscal Reform Programmes
3. Debt Management Programmes
4. Public Sector Investment Programmes
5. Social Safety Net Programmes
6. Financial Safety Net Programmes
7. Amalgamation of the Indigenous Commercial Banks
8. Rationalization, Development and Regulation of the Insurance Sector

The first five points of the programme address: Financial Programming; Fiscal Reform; Debt Management; Public Sector Investment Programmes and Social Protection Programmes. While this programme is still in its infancy and it is too soon to evaluate, it aims to stabilize and transform the economies of the ECCU with three main objectives, namely: stabilization, stimulus, and structural reform. In addition, the plan outlines the critical role that partnership with the private sector would play in achieving the stated objectives of the programme.

Source: Eastern Caribbean News Room Press releases.

The immediate economic impact of the global recession the crisis has certainly aggravated a number of vulnerabilities which Caribbean SIDS face. Among these are the following:

- The need to respond effectively to the removal of preferences in the trading arrangement with the EU through economic restructuring, and the search for new sources of economic growth.
- The need to escape from narrow production specialization, based on primary production and to improve the competitiveness at the industry and firm levels.

#### **THE CUBAN RESPONSE TO THE GLOBAL CRISIS**

The Cuban Government has faced the impact of the global crisis by introducing foreign exchange restrictions, accumulating debt service arrears, lowering government subsidies by reducing its commodity distribution program, and by rationing energy.

Source:

Lorenzo L. Perez, 2009. The Impact of the Global Financial and Economic Crisis on Cuba. Paper presented at the 19th Annual Conference of the Association for the Study of the Cuban Economy, Miami, Florida

- The need to improve import productivity at the firm level to reduce the balance of payments constraint.<sup>71</sup>

At the time of writing the present report, the Caribbean Region is also battling a record drought that has shut down schools and courtrooms and sparked brush fires and a prison protest. Saint Lucia declared a water emergency after main reservoir levels dropped more than six metres, closing two schools and some courtrooms because of dry taps. In Guyana, a grass-roots women's organization staged a protest and fundraiser for a water truck, while the Central Islamic Organization of Guyana organized its first-ever prayer for rain. In Jamaica, where the island's largest dams have been operating at less than 40% capacity, inmates at a maximum-security prison protesting a lack of water started a riot that sent 23 to the hospital in February. Trinidad and Tobago has enforced its strict water conservation law for the first time since 1998. In Barbados, crews have battled more than 1,000 brush fires this year compared to 361 fires during the same period last year.<sup>72</sup> The National Water Commission in Jamaica, already grappling with one of the worst droughts in the nation's history, is now bedevilled by an upsurge in incidents of water theft, illegal connections, and vandalism and death threats to its employees.<sup>73</sup>

### THAT CARIBBEAN DROUGHT

"Caribbean officials link the prolonged drought to the weather phenomenon, El Niño, to climate change, and to a poorly maintained and funded water distribution network and the related fact that dam and reservoir levels are down by record levels as rivers dry up."

Source: David Jessop. See [online]: CARIBWORLDNEWS.COM

Caribbean economies now face difficult choices. The first is to seek to reduce the fiscal deficit while recognizing the need to stimulate economic activity. The rising public debt, which is a consequence of the fiscal deficit, has further reduced the opportunity for external financing, while excessive domestic borrowing may increase interest rates. One country, Jamaica, has recently concluded negotiations with the International Monetary Fund and it may well be that others will follow if fundamental change are not instituted to meet the several binding constraints they face. The challenge is to create an environment for sustained growth, but the foundations must be carefully laid within a programming context so that resources available and resources to be mobilized can be calibrated and identified.<sup>74</sup>

- In light of the dampened international demand, more emphasis has to be placed on efficient production for regional markets. This can only occur if administrative hurdles to the movement of goods, persons and services in the region are removed.
- Public policy must focus on projects which have large positive spillover effects to the private sector while increasing incomes through sustained employment.
- Closer collaboration between private and public sector interests must be encouraged to improve technological capacity at the firm level so as to create unique products of commercial value.
- In light of the recession, social safety nets must be monitored continually and be well targeted to assist those that are in need. In addition, the fulfillment of the Millennium Development Goals is an essential aspect of the development of Caribbean.

<sup>71</sup> Alleyne, Dillon 2009a Boosting private sector competitiveness for development. Department of Economics. UNECIAC

<sup>72</sup> Danica Coto, Associated Press Writer. See [online]: <http://www.virginislandsnews.com/news/worst-drought-record-saps-life-caribbean> Accessed on 13 April 2010.

<sup>73</sup> Jamaica Observer, March 25 2010. See [online]: <http://www.caribdaily.com/article/270892/nwc-grapples-with-water-theft-vandalism-as-drought-worsens/>. Accessed on 13 April 2010.

<sup>74</sup> A number of countries have enumerated development or sectoral plans which reflect various governments' perspective of the future. In light of the recent crisis in the world economy, many plans may have to be reassessed to incorporate the constraints and opportunities of a new global environment.

- There is an urgent need to create a more diversified tourism product, with greater linkages to agriculture, and cultural products while emphasizing environmental sustainability.

As they reduce fiscal deficits and respond to increasing food and oil prices, Caribbean countries also have to respond to the economic impacts of the prolonged drought. Guyana estimates that the drought can cost the economy as much as US\$ 15 million based on the present scenario in the agricultural<sup>75</sup> belt. There are also some indications of rising food prices caused by the drought. A sudden rise in inflation and prolonged drought are playing havoc with food prices in Trinidad and Tobago: Headline inflation rose to 3.7 % in the 12 months to January 2010, up from 1.3 % a month earlier.<sup>76</sup> There is also anecdotal evidence that food prices have increased since the drought began in October 2009 in OECS countries. High food prices in these countries can potentially increase poverty rates, infant mortality, and maternal mortality, worsen illiteracy rates, increase school drop-out and HIV and AIDS cases. Many households have been forced to reduce their nutritional intake and defer expenditure on other essential items – such as health and education – in order to cope. The situation is particularly critical for countries with high poverty incidence such as Dominica, Saint Vincent and the Grenadines, Saint. Kitts and Nevis, and Saint Lucia.<sup>77</sup>

### C. THE SOCIAL OVERVIEW

The populations of Caribbean SIDS in this study range in size from less than 100,000 (Antigua and Barbuda, Dominica, and Saint Kitts and Nevis) to around 10 million (Cuba, Dominican Republic and Haiti) and the majority have less than 500,000 inhabitants. In 2009, the total population of the Caribbean SIDS was about 38,162 million having more than doubled from 15 million in 1950 to around 33 million at the time of the first Global Conference on Sustainable Development of SIDS that was convened in Barbados in 1994.<sup>78</sup> The United Nations forecasts that the population will continue to grow and reach a peak of over 45 million by around 2050.<sup>79</sup> <sup>80</sup> Annual growth rates fluctuate from period to period and country to country but have declined from an average of over 2% in the 1950-1970 period to below 1% in the past 25 years.<sup>81</sup> In 2005-2010, only Belize is estimated to have an average yearly increase of its population of above 2%.

The non-island States of Suriname, Guyana, and Belize have very low population densities and are among the least densely populated in the world.<sup>82</sup> Barbados, in contrast, has one of the highest population densities in the world (nearly 600 persons per square kilometre). In almost all Caribbean

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<sup>75</sup> See [online]: <http://www.kaieteurnewsonline.com/2010/02/20/limiting-the-inescapable-consequences-of-a-scorching-drought/> Accessed on 13 April 2010.

<sup>76</sup> See [online]: [http://www.trinidadexpress.com/index.pl/article\\_business\\_mag?id=161606634](http://www.trinidadexpress.com/index.pl/article_business_mag?id=161606634). Accessed on 13 April 2010.

<sup>77</sup> Scott-Joseph, Ankie (2009), "The Nature of Rising Food Prices in the Eastern Caribbean An Analysis of Food Inflation During the Period 2005 – 2008 in a Context of Household Poverty." UNICEF Office for Barbados and the Eastern Caribbean, Paper No. 3. August 2009.

<sup>78</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

<sup>79</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

<sup>80</sup> Excluding the three most populous countries (Cuba, Dominican Republic, and Haiti), the other 13 countries will reach their peak around 2030.

<sup>81</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

<sup>82</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

SIDS, populations are concentrated in the narrow coastal areas, making them vulnerable to sea level rise. Additionally, many areas are prone to flooding and drought, which further limits the use of land.

According to the 2009 Human Development Report, the Caribbean Region is relatively well off when compared with the rest of the developing world. Nevertheless, the achievement in human development varies from country to country in the Region. (Refer to table 5 below).

**Table 5: Fifteen selected countries: Human Development Index trends – 1980 to 2007**

Human development index trends		Barbados	Antigua And Barbuda	Cuba	Bahamas, The	St. Kitts and Nevis	Trinidad and Tobago	Saint Lucia	Dominica	Grenada	Dominican republic	St. Vincent and The Grenadines	Belize	Jamaica	Guyana	Haiti
		1980	1985	1990	1995	2000	2005	2006	2007	HDI Ranking (2009)	HDI Index (2009)					
	1980	..	..	..	..	..	0.794	..	..	..	0.640	..	..	..	..	0.433
	1985	..	..	..	..	..	0.791	..	..	..	0.659	..	..	..	..	0.442
	1990	..	..	..	..	..	0.796	..	..	..	0.667	..	0.705	..	..	0.462
	1995	..	..	..	..	..	0.797	..	..	..	0.686	..	0.723	..	..	0.483
	2000	..	..	..	..	..	0.806	..	..	..	0.748	..	0.735	0.750	..	..
	2005	0.890	..	0.839	0.852	0.831	0.825	0.817	0.814	0.812	0.765	0.763	0.770	0.765	0.722	..
	2006	0.891	0.860	0.856	0.854	0.835	0.832	0.821	0.814	0.810	0.771	0.767	0.770	0.768	0.721	0.526
	2007	0.903	0.868	0.863	0.856	0.838	0.837	0.821	0.814	0.813	0.777	0.772	0.772	0.766	0.729	0.532
	HDI Ranking (2009)	VHHD	HHD	HHD	HHD	HHD	HHD	HHD	HHD	HHD	MHD	MHD	MHD	MHD	MHD	MHD
	HDI Index (2009)	37	47	51	52	62	64	69	73	74	90	91	93	100	114	149

Source: Human Development Report 2009 data. See [online]: [http://hdrstats.undp.org/en/buildtables/rc\\_report.cfm](http://hdrstats.undp.org/en/buildtables/rc_report.cfm)

The human development indicators provide an assessment of country achievements in different areas of human development. The Human Development Index (HDI)<sup>83</sup> is an important tool for measuring long-term trends in human development in a country. With reference to table 5, it is noted that all countries showed an increasing trend in HDI.

In the case of Haiti, while the World Bank estimated a GDP per capita of US\$ 1,555 in 2007, Haiti's HDI in 2007 was 0.532, placing it in the category of Medium Human Development, together with six other sister countries from CARICOM. At the same time however, 54.5% of the population in Haiti was recorded as living below \$ 1.25 per day for the period 2000 to 2007. The HPI-1<sup>84</sup> value of 31.5% for Haiti ranks it as 97<sup>th</sup> among 135 countries for which the index has been calculated. Barbados, on the other hand, is a very high human development country and has a HPI-1 value of 2.6%, ranking it as 4<sup>th</sup> among 135 countries for which the Index was calculated. The GDP per capita for Barbados was US\$ 17,956 in 2007. The Bahamas had a GDP per capita of US\$ 20,200 but its HDI gave it a lower ranking than that of Barbados. Similarly, while the GDP per capita for Trinidad and Tobago in 2007 was US\$ 23,507, its HDI ranking was lower than that of The Bahamas.

<sup>83</sup> The HDI combines measurements of per capita income, health and education. It provides a more rounded indicator of a country's development than per capita income on its own.

<sup>84</sup> The HPI-1 measures severe deprivation in health by the proportion of people who are not expected to survive to age 40. Education is measured by the adult illiteracy rate. And a decent standard of living is measured by the unweighted average of people not using an improved water source and the proportion of children under age 5 who are underweight for their age.

## 1. Population Trends

The demographic transition from the first stage of high birth and death rates to the post - industrial stage of low birth and death rates has been achieved by nearly all countries in the Caribbean subregion. In 1950-1955, the total fertility rates in the Caribbean were still between four and seven children per woman.<sup>85</sup> With the exception of Belize, the Dominican Republic and Haiti, the fertility rates in all countries are currently around, or below, replacement level. Adolescent fertility rates are relatively high. For example, in the Dominican Republic and Jamaica, around 20% of all births may be attributed to women of adolescent age and such pregnancies are, in general, perceived to be damaging to the health and socio-economic well-being of these adolescents.<sup>86</sup> The socio-economic impact of increased adolescent fertility often translates into an intergenerational cause of poverty.

Most countries have formulated population policies or have included a population dimension into existing programmes or national plans. The main reference framework in the region is the Plan of Action of the International Conference on Population and Development (ICPD).<sup>87</sup> This Plan of Action makes the link between population and the environment and notes that sustained economic growth within the context of sustainable development is essential to reduce poverty.

## 2. Ageing of the population

Elderly persons in the Caribbean represent at least 10% to 13% of the population. They represent 10% in Jamaica, 11% in Trinidad and Tobago and 13% in Barbados.

National policies on ageing and older persons have been formulated by most Caribbean SIDS.<sup>88</sup> The main challenge in implementation is in providing social pensions for the growing population at higher ages and to increase these pensions to allow them to live above the national poverty line. Therefore, adequate systems combining social pensions and contributory systems are needed to address this situation. Probably an even more arduous test will be the rising health costs associated with an ageing population. Creating affordable and sustainable systems of health care provision to all in society will therefore be a major challenge for most Caribbean SIDS. Fortunately, dependency ratios are favourable for at least a decade. This is a unique opportunity to reap the benefits of the demographic dividend before the balance between the productive and the other age groups tips.

### ST. KITTS AND NEVIS: PLAN OF ACTION on the Health of Older Persons

St Kitts and Nevis has taken the lead in the Caribbean in moving towards the implementation of the "Plan of action on the health of Older Persons, including active and healthy aging". The St Kitts and Nevis Ministry of Health and Social Development organized a national consultation to discuss their policy draft on aging from Oct 20 to 22, 2009. The document "National Policy on Aging, 2009- 2019 – Towards a society for all ages" was discussed by more than 60 participants representing a wide range of institutions, public and private sector, NGOs, Older Persons, as well as health, legal, social and community development sectors of the government.  
Source: PAHO Barbados and Eastern Caribbean Office

<sup>85</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

<sup>86</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

<sup>87</sup> See [online]: <http://www.unfpa.org/icpd/icpd.cfm>

<sup>88</sup> ECLAC (2009), "Review and appraisal of the implementation of the Cairo Programme of Action in the Caribbean (1994-2009)." LC/CAR/L.219

### 3. Migration

The population of Caribbean SIDS is one of the most mobile of the world. There have been several waves of migration throughout the history of the Caribbean. Present day migration is largely motivated by economic reasons. In recent times there have been three distinct periods of migration. In the 1930s, there was a wave of migration to Central America to work on the construction of the Panama Canal; the 1950s and 1960s saw a shift in the focus of migrant workers to the United Kingdom to work mainly as nurses and in public transportation; the most recent wave of migration has been directed to the United States and, to a lesser extent, Canada. While the waves of migration may have focused on a particular geographical area at a given time, smaller flows of migrants to other countries would have continued.

For many people in the Caribbean, the search for a better life has quite often begun within the region. This has become evident through the fact that the absolute number of foreign-born nationals originating in the Caribbean present in another country in the subregion has steadily increased over the last two decades. Migrant stock data published by the United Nations show clearly that the number of migrants has increased in the Caribbean. While the absolute migrant stock is comparatively small in the Caribbean, the migrant stock as percentage of the population is considerably high. According to the data available, on average, about 3% of the Caribbean population can be considered migrants. This, however, varies considerably from country to country, with the lowest percentage found in Jamaica, Guyana, Cuba and the Dominican Republic and the highest proportions reported for the British Virgin Islands, the Cayman Islands, Anguilla, the Netherlands Antilles, Aruba and the United States Virgin Islands. The majority of migrants originate in just a few countries, mainly in the smaller member States of the OECS, with the exception of Anguilla, but also Jamaica, Guyana, Suriname and Haiti.

In response to the needs of migrants, governments in the Caribbean have undertaken various efforts to provide access to basic social services, such as reproductive health and education services to migrants in their countries. For example the Bahamas, Antigua and Barbuda as well as Suriname have begun language training for their health and social workers in order to communicate with migrants from non-English speaking countries. However in spite of the efforts undertaken to improve apart from living and working conditions for migrants, a particular challenge faced is the supply of basic social and health services to undocumented migrants who, in fear of being expelled, quite often hide in inaccessible squatters and illegal settlements.<sup>89</sup>

Caribbean countries like Jamaica, Cuba and Trinidad and Tobago are strong exporters of qualified labour, particularly teachers, nurses and other health professionals. Family ties, geographic proximity and the use of the same language make the United States and Canada and, to a lesser extent, the United Kingdom, a preferred destination for migrants from the Caribbean. Increasing job opportunities in certain sectors of the labour market, along with the hope of a prosperous life, make moving north an attractive option for many Caribbean nationals. Based on data provided by the United States Bureau of the Census,<sup>90</sup> of all foreign nationals living in the United States, 10% are of Caribbean origin with the majority coming from Cuba (34%) and the Dominican Republic (25%) and more than 10% are from Haiti and Jamaica. Of all migrants from South America, each one-tenth is originally from Guyana.

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<sup>89</sup> ECLAC, 2006. *Migration In The Caribbean – What Do We Know?\** An overview of data, policies and programmes at the international and regional levels to address critical issues. ECLAC Port of Spain, Trinidad and Tobago

<sup>90</sup> Immigration Statistics were retrieved in April 2003 from the following web-site of the Department of Homeland Security in the United States: See [online]: <http://www.immigration.gov/graphics/shared/aboutus/statistics/index.htm>. Accessed on 16 April 2010.

This trend towards greater willingness to accept, and even to promote, the free movement of qualified professionals can also be observed within the Caribbean, where CARICOM has launched the CSME in early 2005. This agreement provides for the free movement of a certain group of highly qualified nationals within the CARICOM region. This has resulted in a number of countries experiencing positive intra-regional migration (Barbados and Trinidad and Tobago) while others such as the more populous countries with lower income levels, such as Cuba, Haiti and the Dominican Republic, are major countries of origin of intra-Caribbean flows.

#### 4. Youth and adolescents

Caribbean youth are generally doing well. They live in loving and caring families, attend school, and are involved in various social activities in their communities. A minority of young people drop out of school, have children early, and/or engage in violent behaviour and crime. However, there is growing recognition that the number of children and youth who cannot cope with the challenges experienced early in life is increasing. Some of the challenges are absent parents, unstable childcare arrangements, violence, and aggression experienced at home, in schools and among peers, lack of prospects in schools and the labour market, early sexual initiation and teenage pregnancies. These experiences are recognized to be key triggers for school drop out, engagement in criminal activities and disconnection from mainstream society. Youth unemployment is high and thus, improving the quality and opportunities for technical or professional formation and adequate employment is another challenge Caribbean countries need to respond to, quickly.

The health and well-being of the children and youth<sup>91</sup> in the Caribbean is, and has been, the focus of many studies, meetings, and policy directives set at the regional, subregional, and national levels. However, the prominent and severe lack of systematic analysis and monitoring of the situation of children, youth, and young families in Caribbean SIDS does not often allow targeted and systematic interventions to achieve the expected positive outcomes.<sup>92</sup>

Programmes have been put in place to address the basic needs of young children in the areas of health and education and to provide guidance and directives to youth and adolescents in the areas of professional formation and transition to adulthood. Critical issues, such as access to reproductive health and family planning facilities, combined with access to education and information on sexual and reproductive health have been promoted. However, adolescent fertility rates have been continuously high. For example, in the Dominican Republic and Jamaica, around 20% of all births may be attributed to women of adolescent age, impacting negatively on health, educational attainment and socio-economic well-being of these adolescents.<sup>93</sup>

To promote active youth participation in the regional youth movement and to promote sustainable development, CARICOM initiated the Youth Ambassador Programme<sup>94</sup>. In addition, and in order to further investigate the situation of young people in the CSME and to make recommendations for improving and strengthening the situation of young people, the CARICOM Commission on Youth

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<sup>91</sup> Children are defined as spanning the age period between 0 and 9 years of age, whereas youth is defined as spanning ages 10 to 24 years of age.

<sup>92</sup> ECLAC (2008), "Socio-demographic analysis of youth in the Caribbean – a three-country case study." LC/CAR/180

<sup>93</sup> Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2009). *World Population Prospects: The 2008 Revision. Highlights*. New York: United Nations.

<sup>94</sup> See [online]: [http://www.caricom.org/jsp/community\\_organs/cohsod\\_youth/cyapstrategicplan.pdf](http://www.caricom.org/jsp/community_organs/cohsod_youth/cyapstrategicplan.pdf) Accessed on 16 April 2010

Development was launched in 2007. The most recent activity in this framework was the special summit of CARICOM heads of government on youth development (27-30 January 2010, Paramaribo).<sup>95</sup>

## 5. Literacy and education

The Caribbean is known for high school enrolment rates in primary education that hardly show any gender disparities. However, the region is currently grappling with rising drop-out rates in secondary education, and the need to enhance quality schooling in the classrooms and the number of students who leave school with formal certification. Education at secondary levels remains abstract and alien to today's social and economic needs. School curriculums, introduced decades ago, are focused on competences assessed by the CXC,<sup>96</sup> and do not reflect new soft- and life-skills requirements, such as teamwork, critical thinking, positive work ethic, communication, entrepreneurship and commitment to continuous learning. Teaching such skills would have profound implications for teaching and pedagogy both for teachers and schools.

Adult (functional) literacy is important for people's inclusion in society and to contribute to the overall goal of sustainable development. General literacy rates are high in the Caribbean but literacy is still not universal in all Caribbean SIDS (Haiti and Belize are of greatest concern). Compulsory education in most countries is from 5 to 16 years but there are exceptions (Haiti: 6-11, Jamaica: 5-11, Trinidad and Tobago: 5-11, and Suriname: 5-12 have far lower limits. With the exception of Haiti and Jamaica, free education is a legal right in the Caribbean.<sup>97</sup>

### The "Yes, I Can" Cuban Teaching Method

This UNESCO-awarded winning audiovisual teaching method was created in Cuba to fight against illiteracy, one of the scourges of the twenty-first century. The programme is made up by sixty-five 45-minute lessons on television or forty 40-minute lessons in radio. The duration of the learning process will depend on the frequency of the contacts. In the last three years, it has been implemented in over 15 countries of Latin America, Caribbean, Oceania, and Africa.

Source: Luz Marina Fornieles Sanchez, AIN's SPECIAL NEWS SERVICE

Universal primary education was achieved in most countries in the region. Enrolment in lower and higher secondary education is generally already high. However, although net enrolment ratios are declining in some Caribbean SIDS (Dominica, Dominican Republic, Trinidad and Tobago, and Bahamas), expansion in enrolment is now occurring in pre-primary, secondary and tertiary education. The Education for All Development Index (EDI) developed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) is a composite measure capturing overall progress.<sup>98</sup> Cuba has achieved this goal while seven other countries, where data requirements permitted an assessment for estimating the indicator, are all in intermediate positions (table 6). Of concern, though, is a high dropout rate, especially among young boys. This can have serious effects on society as it is related to crime, youth unemployment, and teenage pregnancy.

<sup>95</sup> See [online]: [http://www.csmenetwork.com/2/index.php?option=com\\_content&view=article&id=6657:caricom-declaration-of-paramaribo-on-youth-in-caricom&catid=1:latest-news&Itemid=50](http://www.csmenetwork.com/2/index.php?option=com_content&view=article&id=6657:caricom-declaration-of-paramaribo-on-youth-in-caricom&catid=1:latest-news&Itemid=50). Accessed on 16 April 2010.

<sup>96</sup> The Caribbean Examinations Council (CXC) offers its Caribbean Secondary Education Certificate (CSEC) examinations to students at the end of the secondary education cycle. These examinations and certifications are accepted regionally and internationally. The Caribbean Advanced Proficiency Examination (CAPE) is offered to post-secondary candidates who either wish to find employment or wish to continue their further education at the tertiary level (more information on the CXC can be obtained via the following website: [www.cxc.org](http://www.cxc.org)).

<sup>97</sup> UNESCO (2009) *Education For All Global Monitoring Report*. Regional overview: Latin America and the Caribbean.

<sup>98</sup> UNESCO (2009) *Education For All Global Monitoring Report*. Regional overview: Latin America and the Caribbean.

In terms of gender, the educational achievements of Caribbean females at secondary and tertiary level have, in many instances, surpassed that of males. The available evidence shows that attainment of parity in school enrolment is not sufficient to ensure the full participation of women in the political and economic lives of their countries. Women's higher educational attainment has not translated into the expected empowerment for women or increased gender equality.

“This begs the question of the extent to which women's education develops capabilities which give them a competitive advantage beyond school and equip them with the competencies required to take advantage of employment opportunities and participate as full citizens in their various contexts.”<sup>99</sup>

**Table 6: Sixteen selected countries in the Caribbean: Adult literacy rate and Education Index<sup>100</sup>**

HDI Rank		Adult literacy rate 2007	Education index 2007	Adult illiteracy rate 1999-2007	Female adult literacy rate
37	Barbados	..	0.975	..	..
47	Antigua and Barbuda	99	0.945	1.1	99.4
51	Cuba	99.8	0.993	0.2	99.8
52	Bahamas	..	0.878	..	..
62	Saint Kitts and Nevis	97.8	0.896	2.2	..
64	Trinidad and Tobago	98.7	0.861	1.3	98.3
69	Saint Lucia	94.8	0.889	5.2	..
73	Dominica	88	0.848	12	..
74	Grenada	96	0.884	4	..
90	Dominican Republic	89.1	0.839	10.9	89.5
91	Saint Vincent and the Grenadines	88.1	0.817	11.9	..
93	Belize	75.1	0.762	24.9	..
97	Suriname	90.4	0.85	9.6	88.1
100	Jamaica	86	0.834	14	91.1
114	Guyana	..	0.939	..	..
149	Haiti	62.1	0.588	37.9	64

Source: ECLAC: *Statistical Yearbook for Latin America and the Caribbean*, 2009

<sup>99</sup> The United Nations Development Programme (UNDP) Regional Report on the Achievement of the Millennium Development Goals in the Caribbean Community

<sup>100</sup> Percentage aged 15 and above

Governments in the Caribbean are acknowledging the importance of education and have increased the share of GDP allocated to education steadily over the past almost 20 years (table 7). Only two countries, Barbados and Jamaica, seem to have reduced the percentage of GDP invested in education, while Guyana shows the most significant increase (in terms of GDP). However, this positive trend might end, given the negative impact of the recent economic downturn on domestic resources.

The Dominican Republic has formulated a Ten-Year Strategic Development Plan for Education (2003-2012). This Plan focuses on democratization and equity, educational quality, teacher quality, decentralization, and funding.<sup>101</sup> An analysis of the effect of child labour on school desertion is included in the plan.<sup>102</sup> The government provides some stipends for poor families who keep their children in school and out of work. A national literacy programme is conducted through the Secretariat of Education, NGOs, and private universities.

**Table 7: Nine selected countries: Public expenditure on education as a percentage of GDP**

Country	1991	2000 to 2007
Bahamas (the)	16.3	19.7
Barbados	22.2	16.4
Belize	18.5	18.1
Grenada	11.9	12.9
Guyana	6.5	15.5
Jamaica	12.8	8.8
Saint Kitts and Nevis	11.6	12.7
Saint Vincent and the Grenadines	13.8	16.1
Trinidad and Tobago	12.4	13.4

Source: United Nations Development Programme, 2009 Human Development Report, New York.

## 6. Health

Over the past decades, Caribbean countries have generally experienced a comparably good health status and have managed to eliminate many of the basic health problems that are normally associated with the developing world. This is substantiated by achievements measured through various demographic (see mortality analysis earlier in this chapter) and health indicators. Over the past few years, these admirable health standards have begun to falter in several countries, with growing complaints about the deterioration in the quality of health services provided, coupled with the growing inability of health administrations to respond effectively to the changing needs of users. Almost all countries are engaged in health sector reforms to enhance integration of primary, secondary and tertiary levels of health care and to promote effective enforcement mechanisms for health legislation and regulation. The emigration of health professionals, particularly nurses and midwives, has been posing additional challenges to public health officials.

<sup>101</sup> Secretariat of Education, *Plan Estratégico de Desarrollo de la Educación Dominicana 2003-2012*, Santo Domingo, April 2003, 16-17; See [online]: <http://www.seescyt.gov.do/tic/interfaz/articulo.asp?did=289&Seccion=Rep.%20Dominicana>.

<sup>102</sup> ILO-IPEC, Preparatory Activities for the Elimination of the Worst Forms of Child Labor, technical

While infectious diseases have been successfully contained, population ageing and the adoption of unhealthy lifestyles in the Caribbean have now introduced chronic illnesses such as obesity, diabetes, hypertension, cardiovascular diseases, and cancer as the main causes of death across the region. Although prevalence of tobacco smoking is among the lowest worldwide, obesity is among the highest in the world and mortality from lifestyle related diseases such as diabetes have reached levels double that of North America.

Besides changing lifestyles, investments are needed in specialist treatment. In SIDS with smaller populations, scale is an important factor in the ability to provide such specialized health services. Cuba is providing medical education and health care delivery, especially in primary care and eye care, to the Caribbean.

Gender differentials in health have to be recognized, since morbidity and mortality patterns differ widely between men and women. In addition, women with quite often only intermittent labour force participation throughout their lives have limited access to income and consequently, in many instances cannot afford the necessary health care services. With women outliving men by several years, the demand for health care services focusing on the special needs of elderly women is increasing.

In order to address the increase in non-communicable diseases, which are mainly life style related, a declaration committing the CARICOM heads of government to collective action to stop the epidemic of Chronic Non-Communicable Diseases was adopted.<sup>103</sup> The Pan American Health Organization (PAHO) is giving its support to the monitoring and evaluation of the declaration. There is a general shift in the region towards preventive programmes and health style -related education. In order to reduce traffic accidents, several countries have or will be introducing breath analyzers.

Albeit at much lower levels than in some areas in sub-Saharan Africa, the Caribbean is the region with the second highest HIV-prevalence rates. Nine Caribbean countries had adult prevalence rates above 1%. Bahamas (3.1%), Suriname (2.7%), Guyana (2.5%), Haiti (2.2%) and Belize (2.1%) are hardest hit with over 2% of the population infected in 2009 (Barbados, Dominican Republic, Jamaica, and Trinidad and Tobago have values between 1.1% and 1.6 %) . In these nine countries, over a quarter of a million persons are estimated to be HIV-positive.<sup>104</sup> Together with traffic accidents and violent deaths, HIV and AIDS account for the highest share of deaths among younger persons.

The Caribbean has made considerable progress in the prevention of mother-to-child transmission of HIV and is working towards the elimination of vertical transmission of HIV by 2015. The introduction of comprehensive antiretroviral treatment programmes have increased the longevity and health of persons living with HIV.<sup>105</sup> The Caribbean regional response to the HIV epidemic includes the formation of the Pan-Caribbean Partnership Against HIV and AIDS (PANCAP) in 2001. During the past five years PANCAP has developed the second Caribbean Regional Strategic Framework on HIV and AIDS (CRSF 2008-2012), which provides national and regional governments with strategic and programmatic directions to achieve the goal of universal access to HIV and AIDS prevention, treatment, care and support.

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<sup>103</sup> Declaration of Port of Spain, 2007. Available at [http://www.caricom.org/jsp/pressreleases/pres212\\_07.jsp](http://www.caricom.org/jsp/pressreleases/pres212_07.jsp). Accessed on April 28 2010.

<sup>104</sup> UNAIDS (2008), Report on the global AIDS epidemic 2008.

<sup>105</sup> Sy As (2009) Statement by UNAIDS at the ECOSOC Annual Ministerial Review Meeting, Montego Bay, Jamaica.

**Table 8: Caribbean<sup>106</sup> HIV/AIDS statistics**

Region	Adults (aged 15+) and children living with HIV/AIDS, 2007	New HIV infections among adults (aged 15+) and children, in 2007	Adult (aged 15-49) prevalence (%), 2007	Adult (aged 15+) and child deaths due to AIDS, in 2007
Caribbean	230,000	20,000	1.1%	14,000
Global	32.9 million	2.7 million	0.8%	2.0 million

Source: UNAIDS/WHO, See [online]: [2008 Report on the Global AIDS Epidemic](#), July 2008

Most countries have general access to public health care facilities and combinations of (compulsory) national and private health insurance plans. Guyana and Trinidad and Tobago have not implemented national health insurance and in Suriname, coverage is limited. Information available suggests that public health expenditure, as a percentage of GDP is very low in the Caribbean.<sup>107</sup> For example, in 2007 the figures for the Dominican Republic, Jamaica and Trinidad and Tobago, are 2.1%, 3.1%, and 2.5%, respectively. In several countries, private health expenditures are higher than public ones. The national health expenditure for nearly all countries in the region is only between 3% and 5% of GDP. Table 9 below summarizes government expenditure by selected countries on health care. With the exception of Haiti, all the countries reviewed spent less than 12% of total government expenditure on health care in 2006.

Availability of recent data on availability of human resources in the health sector is limited and may be disparate, ranging from about five physicians per 10,000 population in Antigua and Barbuda, Dominica, Guyana and Suriname to over 50 in Cuba and Saint Lucia.<sup>108</sup> Besides changing life styles, investments are needed in specialist treatment. In the islands with smaller populations, scale is an important factor in the ability to provide such specialized health services. Especially in primary care and eye care, Cuba is providing medical education and health care delivery in the Caribbean.

**Table 9: Fourteen selected Caribbean countries: Government expenditure on health care**

Location	External resources for health as percentage of total expenditure on health, 2006	General government expenditure on health as percentage of total expenditure on health, 2006	General government expenditure on health as percentage of total government expenditure, 2006
Antigua and Barbuda	0.2	67.3	11.3
Bahamas	0	51.1	13.9
Barbados	2.9	62.5	11.9
Belize	1.3	59.5	10.9
Cuba	0.2	90.7	10.8
Dominica	0.7	64.7	9.2
Grenada	0.7	65	9.5
Guyana	29.3	84.5	8.3
Haiti	65.8	67.6	29.8

<sup>106</sup> Bahamas, Cuba, Dominican Republic, Haiti, St. Kitts and Nevis, St Vincent and the Grenadines, Barbados, Dominica, Grenada, Jamaica, Saint Lucia, Trinidad and Tobago

<sup>107</sup> PAHO (2009), *Health situation in the Americas: Basic Indicators 2008*. Figures vary from source to source.

<sup>108</sup> WHO (2009). World Health Statistics 2009

Jamaica	1.3	53.1	4.2
Saint Kitts and Nevis	0	61.5	9.5
Saint Lucia	0.2	56.4	10.2
Suriname	8	41.9	8
Trinidad and Tobago	2.5	54.1	6.9

Source: WHO Statistical Information System

## 7. Poverty and social protection

As mentioned previously, the vast majority of the Caribbean SIDS fall into the high- or high-middle-income category, the exceptions being Belize and Guyana, considered lower-middle-income countries, and Haiti, the only country still classified as a low-income economy.<sup>109</sup> In terms of the Human Development Index (HDI), eight Caribbean SIDS are grouped among countries that have achieved medium human development, all others being indexed as either high or very high.<sup>110</sup> This makes the Caribbean the highest ranking region after the developed western countries (see table 10).

**Table 10: Seventeen selected countries: Gini-coefficients<sup>111</sup>**

Country	Year	Gini Coefficient	Source
Antigua and Barbuda	2005	0.48	CPA 2005/6
Bahamas (the)	-	-	-
Barbados	-	-	-
Belize	-	-	-
Cuba	-	-	-
Dominica	2002	0.35	CPA 2002
Dominican Republic	2004	0.52	UNDP HDI Report 2007/ 2008
Grenada	1998	0.45	CPA 1998
Guyana	-	0.45	UNDP HDI Report 2009
Haiti	2001	0.60	UNDP HDI Report 2009
Jamaica	2004	0.46	UNDP HDI Report 2007/ 2008
Nevis	2000	0.37	CPA 1999/2000
Saint Kitts	2000	0.40	CPA 1999/2000
Saint Lucia	2005	0.42	CPA 2005/ 2006
Saint Vincent	1995	0.56	CPA 1995
Suriname	-	0.53	UNDP HDI Report 2009
Trinidad and Tobago	2005	0.40	UNDP HDI Report 2009

The relatively advanced position in terms of GDP per capita and HDI does not mean that poverty and social exclusion do not exist in the Caribbean. Low economic growth, macroeconomic shocks, and limited social services contribute to the persistence of poverty in certain sections of the society. Access to facilities and services are not the same throughout the populations of many countries and considerable segments of the population suffer from social exclusion and poverty. Most likely to be among the poor are the vulnerable groups such as: older persons, single mothers, young males, unemployed youth, and unskilled workers. At the household level, poor families tend to have more children, are less educated and

<sup>109</sup> World Bank (2009), World Bank Development Indicators 2009

<sup>110</sup> UNDP (2009), World Development Report 2009

<sup>111</sup> The Gini coefficient is a measure of inequality of a distribution of income. It is defined as a ratio with values between 0 and 1

are often single-headed households. Advancements made and programmes in place, and planned, to alleviate poverty are now at threat with the current financial and economic crisis.

Availability of poverty statistics is limited and most figures<sup>112</sup> are not timely while (comparable) time-series are lacking. Poverty measurements in the English-speaking Caribbean are generally based on the establishment of national poverty lines that are derived from household surveys, such as Surveys of Living Conditions and others.<sup>113</sup> Poverty assessment studies at the end of the 1990s estimated that, for most countries, the percentage of persons living below the national poverty line was around a third of the population. Most affected by poverty are generally person with limited education and professional qualification, persons with disabilities, undocumented migrants and female-headed households.

Country Poverty Assessments conducted between 1996 and 2006, indicate that overall poverty levels for CDB Borrowing Member Countries (BMCs) are relatively high (figure 5). The proportion of the population living below national poverty lines ranges from 76% in Haiti to 9% in the Bahamas. The average poverty level for the BMCs (excluding Haiti) is about 26%. This includes about 10% of the population being indigent or extremely poor. Eleven of the BMCs have poverty levels well above 20 % and an equal number have indigence levels over 5% and in a number of cases are much higher, as in the case of Haiti and St. Vincent and the Grenadines, at more than 25%.<sup>114</sup> An important question is how the food crisis has affected the poor and vulnerable and, while data are not available for all countries in the region, those that are available suggest that the food crisis affected those that were already vulnerable in the population. The conclusion is that considerable hardship might have been experienced by persons in this group, since adjustment measures have not been immediate. In addition, work by Mendoza and Machado<sup>115</sup> seems to suggest that expenditure inequalities were also evident due to the food price increases.

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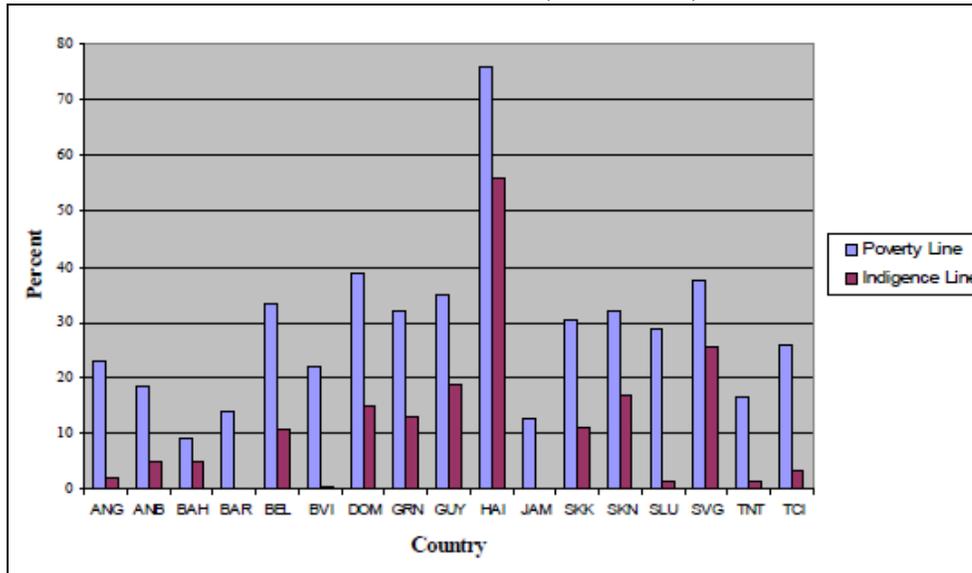
<sup>112</sup> It is important to note that, as all countries have their own poverty line and figures refer to different periods, these figures are not comparable. CDB and ECLAC have projects to assist countries in the Caribbean to produce comparable poverty estimates.

<sup>113</sup> In the framework of a regional project, ECLAC is currently assisting selected countries in establishing a national poverty line comparable over time.

<sup>114</sup> CDB, *ibid*

<sup>115</sup> *ibid*

**Figure 5: Poverty Indicators for Borrower Member Countries of the Caribbean Development Bank (1996 to 2006)<sup>116</sup>**



Source: Caribbean Development Bank, 2008<sup>117</sup>.

Advancements have been made towards poverty reduction but the challenge would be in sustaining such progress. Due to the current crises, difficult choices will have to be made among social spending, budget restraints and a further increased debt burden in the future. Although inflation in most countries had decreased, food and oil prices are still at historic heights and the food and energy crises are more obscured by the financial crisis and have not disappeared.

In addition, environmental degradation and disasters disproportionately affect vulnerable groups such as the lower income groups, disabled persons, and elderly persons. In general, the poor live on the fringes in areas most strongly affected by the deleterious impacts of waste, pollution and erosion as facilities for waste management do not exist. Access to potable water and sanitation facilities are also challenges to these communities. The lack of formal infrastructure and the location of these slums in often fragile environments, pose a threat to the health of inhabitants and in many cases are the cause of environmental disasters.

Female-headed households, immigrant groups and the elderly are, in general, overrepresented among those living in poor conditions. Social housing projects and projects to improve living circumstances, while at the same time reducing the impact on nature and environment, are being developed by some countries and being mainstreamed into national development plans.

<sup>116</sup> The graph includes Anguilla (ANG) and TCI (Turks and Caicos Islands) which are not part of this report). It does not include Cuba, Dominican Republic, Suriname, the Netherlands Antilles and The United States Virgin Islands which are included in this Report.

<sup>117</sup> Caribbean Development Bank, 2008. Poverty Reduction And Human Development In The Caribbean Addressing The Millennium Development Goals. Special Development Fund (SDF) 7. SDF 7/3 NM-3

**Table 11: A comparison of various poverty measurements and their availability in sixteen Caribbean countries for 2003 and 2009**

Country	HDI Rank		HPI Rank		Gini Index		Population below poverty line		Percentage of population living below US\$1 per day	
	2003	2009	2003	2009	2003	2009	2003 (head count index)	2009 (national poverty line)	2003 (below US\$1.00 per day)	2009 (below US\$1.25 per day)
Antigua and Barbuda	56	47	-	-	53	-	-	-	-	-
Bahamas (the)	49	52	-	-	-	-	-	-	-	-
Barbados	27	27	1	4	39	-	13.9	-	-	-
Belize	67	93	12	73	51	-	33	-	<2	-
Cuba	52	51	5	17	-	-	-	-	-	-
Dominica	68	73	-	-	49	-	-	-	-	-
Dominican Republic	94	90	25	44	47	50	-	42.2	<2	5
Grenada	93	74	-	-	45	-	32.1	-	-	-
Guyana	92	114	23	48	45	44.6	35	35	<2	7.7
Haiti	150	149	68	97	-	59.5	-	-	-	54.9
Jamaica	78	100	14	51	38	45.5	16.8	18.7	<2	<2
Saint. Kitts and Nevis	51	62	-	-	40	-	30.5	-	-	-
Saint Lucia	71	69	-	26	43	42.6	25.1	-	-	20.9
Saint Vincent and the Grenadines	80	91	-	-	56	-	37.5	-	-	-
Suriname	77	97	-	46	-	52.9	-	-	-	15.5
Trinidad and Tobago	54	64	8	27	30	40.3	21.2	21	12.4	4.2

**Sources:** United Nations Development Programme, 2003 Human Development Report, New York; Organisation of Eastern Caribbean States (OECS), 2002 Human Development Report, Saint. Lucia; Caribbean Development, Bank Poverty Assessments (various years); United Nations Development Programme, 2009 Human Development Report, New York.

To date, none of the English-speaking Caribbean countries is producing Purchasing Power Parity (PPP)-based poverty data comparable internationally and over time. Information derived from Surveys of Living Conditions and poverty assessments supported by the Caribbean Development Bank (CDB) provide information only for the country surveyed (see table 11 above). Thus, given the fact that all countries over time, with the exception of Jamaica, have adjusted their poverty measurements and base line levels, none of the national poverty lines are inter-temporally comparable. However, Caribbean countries are expected to participate in the forthcoming International Comparison Programme (ICP) round that will provide the necessary baseline data for comparable poverty measurements.<sup>118</sup> Consequently, secondary data are generally used to compare poverty and inequality levels in this part of the world.

### (a) Social security

Social security and social protection schemes are available to provide the basic services, generally through the two main avenues of social assistance and social insurance programmes. Social assistance programmes provide, on a non-contributory basis, cash-transfers, community based programmes and

<sup>118</sup> ECLAC (2009), The status of Millennium Development Goals Monitoring and Reporting in selected Caribbean Countries, LC/CAR/L.217

housing programmes to those in need. Social insurance programmes cover only those who have contributed during a mandatory period of time to a National Insurance Scheme (NIS), with pensions for the elderly and persons with disabilities. Non-contributory pensions are generally afforded to public sector workers. A third pillar, voluntary private contributory pension schemes, is only available in some countries.

Specific examples of such social protection programmes in the Caribbean are the Basic Needs Trust Fund (BNTF) programme, launched 25 years ago by the Caribbean Development Bank to improve living conditions in poor rural communities, and the Conditional Cash Transfer Programmes, with the Jamaican Programme of Advancement through Health and Education (PATH), thought to be one of the most successful in the Caribbean. To address the consequences of the recent food crisis and the impact of the economic downturn, some countries (Jamaica and Belize) have begun to engage, in collaboration with the World Bank or the Inter-American Development Bank, in an overhaul of their social services sectors. In addition to social security and social protection mechanisms, social housing projects and projects to improve living circumstances, while at the same time reducing the impact on nature and environment, are being developed by some countries.

However, given the fact that social assistance programmes are generally means tested, the major challenges faced are related to the efficiency of targeting mechanisms and to the lack of rigorous monitoring and evaluation of their efficiency and effectiveness.

## **(b) Research and data availability**

The availability of good quality data with adequate metadata is limited in Caribbean SIDS. Most government initiatives are not informed by empirical data, and systematic monitoring of programmes in place is more the exception than the rule. Data collection, monitoring and reporting is fragmented and skilled human resources for sound data analysis and reporting is scarce. While all Caribbean countries under consideration do have national statistical offices, they are often understaffed, limited in their resources and handicapped by outdated Statistics Acts that even prohibit sharing data even at the intergovernmental level (ECLAC, 2009). As discussed earlier in relation to poverty measurements, other data, such as censuses and administrative data, suffer from lack of complete country coverage, limited documentation of metadata and limited comparability across borders and over time, which definitely hampers systematic, efficient and timely data collection, monitoring and reporting.

In order to address these gaps, Caribbean countries are currently engaged in various regional initiatives, such as the multi-donor initiative, ‘Support to poverty assessment and reduction in the Caribbean’ (SPARC), and an ECLAC subregional project that provides technical assistance to the subregion to enhance monitoring and reporting capacities on Millennium Development Goals and other internationally agreed development goals.<sup>119</sup>

## **8. Crime and violence**

Crime and violence threaten individual safety and affect the social, economic, and political life of a country and its citizens. It impacts on growth and development and contribute to increased levels of poverty. As one of the most critical issues affecting Caribbean societies today, crime and violence have a significant impact on the achievement of development goals. Lower levels of life satisfaction, the erosion

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<sup>119</sup> For more information, please see website: [www.eclac.cl/id=37073](http://www.eclac.cl/id=37073)

of social capital, intergenerational transmission of violence and higher mortality and morbidity rates are just some of the non-monetary costs of crime and violence. Direct monetary costs include medical, legal, policing, prisons, foster care, and private security.

Organized crime is also a key characteristic of crime and violence in the subregion as evidenced mainly through drug trafficking and through kidnapping, money laundering and corruption, to a lesser extent. With estimates of 40% of cocaine entering Europe<sup>120</sup> and 12% of the cocaine entering the United States<sup>121</sup> transiting through the Caribbean, in spite of recorded decreases in the flow of drugs through the Caribbean, it remains a significant transshipment point for cocaine, heroine and synthetic drugs such as ecstasy, to the drug-consuming countries of the north.

### CRIME AND VIOLENCE IN THE CARIBBEAN

In his 2006 New Year's address, the Prime Minister of Jamaica, P.J. Patterson said, "Without a doubt, the high level of violent crime remains our most troubling and pressing problem." In opening the Parliament of Trinidad and Tobago in September 2005, President George Maxwell Richards said the country was in crisis due to the escalating crime rate. Through multiple channels, crime and violence threaten the welfare of Caribbean citizens. Beyond the direct effect on victims, crime and violence inflict widespread costs, generating a climate of fear for all citizens and diminishing economic growth. Crime and violence present one of the paramount challenges to development in the Caribbean.

*Source: World Bank and UNDO*

Trinidad and Tobago displayed a steady and relatively low (in comparison to Jamaica) homicide rate of fewer than 10 per 100,000 persons, then from 2000 it too, began an upward climb resulting in 30 per 100,000 persons in 2006. For Saint Lucia, a similar

pattern to that of Trinidad and Tobago obtained, with the homicide rate beginning at a relative low, below 10 per 100,000, with a noticeable increase in 2000 but levelling off a little lower than that of Trinidad and Tobago at 20 per 100,000 until 2005. Unfortunately, national data was unavailable for the period after 2005.<sup>122</sup>

In addition to its ability to impact on levels of violence, drug trafficking is accompanied by both the trade in and use of firearms to protect drug cargo. This trend impacts on the levels of gun violence, for example, 75.2% of all murders committed in Jamaica in 2006 involved the use of guns.<sup>123</sup> The trade also influences local drug use, gang violence, prostitution, and property crime.<sup>124</sup>

## 9. Gender issues

Caribbean SIDS have witnessed a number of positive developments during the past five years, revealing a mixed record of progress in the journey to increase women's leadership and participation in decision making both in public life and in Parliament. In some cases, there has been some marked regression as witnessed in the 2008 general elections in Belize, where no woman was

**Catalysts for Change** is a web-based resource portal created to serve as a focal point for discussion and dissemination of information on strengthening the political participation of women in the Caribbean region. The portal is a product of the joint UNDP and UNIFEM project "Gender Mainstreaming: Strengthening the Participation of Women in Politics in Caribbean Political and Parliamentary Processes." The portal provides an excellent opportunity to strengthen the network of women in politics, governance, and decision-making.

*Source: UNIFEM*

<sup>120</sup> Europol, statement made at the Horizontal Drug Group (HDG) of the European Union, 10 January 2006 in UNODC World Bank Report entitled crime, violence and development trends.

<sup>121</sup> US. National Drug Intelligence Centre, 2005 in UNDOC, World Bank

<sup>122</sup> A. Kambon and G. Henderson, 2008. Exploring policy linkages between poverty, crime and violence: a look at three Caribbean States

<sup>123</sup> Economic and Social Survey 2006.

<sup>124</sup> UNODC and World Bank.

elected to serve in parliament. Guyana has introduced a policy of mandatory representation of 33 % of women on the lists of all political parties contesting national and regional elections. Also, in Dominica, the government sought to increase women’s involvement in politics at the local government level by putting forward a policy of nominating women to fill at least two of the three positions on councils, if they were not among those elected.

There has been some improvement in women’s participation in the political and decision-making positions. In every instance where the data were available, it was apparent that a much higher presence of women were nominated to the Upper House as opposed to the Lower House where they were elected. This disparity can be considered a positive development because it indicates a willingness on the part of governments to improve on the status of gender equality in the Parliament. The available figures show that during the period 2007 to 2010 there were a total of 11 general elections in the Caribbean. From the available data, it is clear that participation of women in the Lower House still needs major improvement.

In 2007, Trinidad and Tobago had an increase of 7.4%, moving from 26.8% in 2007 compared to 19.4% in 2006. Female representation in the Upper House stood at 60.0% in the Bahamas and 41.91% in Trinidad and Tobago. Interestingly, even though Belize had 0% female representation in the Lower House, there was a 38.5% female representation in the Upper House.

Although women’s participation in the political process as voters and campaigners is high throughout the Caribbean, women are not duly represented in leadership positions. Women’s share of elected parliamentary seats in the Caribbean ranges from 0% in Belize to 29% in Guyana, and only 35% of businesses across the Caribbean are owned by women.

### CARIBBEAN INSTITUTE FOR WOMEN IN LEADERSHIP

UNIFEM and the Commonwealth Secretariat sponsored the launch of the [Caribbean Institute for Women in Leadership](#) (CIWiL) in Barbados, attended by more than sixty politicians, businesspersons, and women leaders from across the Caribbean.

CIWiL is an independent networking institute that aims to offer high quality research and trainings to advance women’s transformational leadership and increase the number of women in politics and decision-making at all levels in the Caribbean.

Source: UNIFEM

## 10. Culture

CARICOM has established a Regional Task Force on Cultural Industries, with a mandate to prepare a comprehensive Regional

Development Strategy and Action Plan for the cultural industries. The twenty-member Task Force comprises representatives from a wide cross section of relevant sectors. In addition, several CARICOM member States have made progress in some of the priority areas identified for culture in the Mauritius Strategy. Highlights of these activities are as follows:

**“Barbados is strategically repositioning its economy towards export orientation by looking at its policies for culture and the cultural industries”. Ian W. Walcott, Senior Business Development Officer at the National Cultural Foundation of Barbados.**

*National Cultural Policies:* Saint Lucia and Dominica have completed national cultural policies and Suriname, Trinidad and Tobago and the Bahamas have significantly advanced the development of their policies. Jamaica has been providing technical assistance to other member States in the development of cultural policies.

*Legal Framework:* Trinidad and Tobago, Barbados and Jamaica have adequate legislative frameworks for copyright, but in most member States, the provisions for patents are outdated. Trinidad and Tobago has also introduced new legislation to encourage the development of film and audiovisual production. Jamaica signed a film Co-production Treaty with the United Kingdom in 2007.

*Institution Building and Strengthening:* with respect to cultural industries, Trinidad and Tobago established the Trinidad and Tobago Film Company and the Trinidad and Tobago Entertainment Company in 2006; introduced a Film Festival in 2005; and constructed a National Performing Arts Centre in 2009. National Cultural Foundations based on the Barbadian model were established in Saint Lucia and Grenada; a Film Office was established in Dominica in 2006; and a Creative Industries Unit was established at Jamaica Trade and Invest<sup>125</sup> in 2007, building on a much earlier initiative when in 1984 a Film and Music Commission was established at the same institution.

The Caribbean Copyright Link (CCL) is an alliance of the author societies in Jamaica, Barbados, Trinidad and Tobago and Saint Lucia,<sup>126</sup> with the principal aim of enabling authors, composers and publishers from the region, to collect royalties from international markets, and strengthening the region's capacity for intellectual property management through joint action.

*Cultural Industries:* A major study on the state of the cultural industries in CARICOM was commissioned by the Office of Trade Negotiations, CARICOM Secretariat,<sup>127</sup> and completed in December 2006. The study, titled *The Cultural Industries in CARICOM: Trade and Development Challenges* was the first to present a comprehensive analysis of the cultural industries in the region, by examining several culture sectors in the Caribbean in terms of employment, exports in goods, services and intellectual property, and contribution to GDP.

CARICOM Secretariat and Caribbean Export, in collaboration with UNIDO, with seed financing from the Government of Turkey, are in the process of implementing a regional film project over the period February 2009 – 2011, to build capacity in entrepreneurship and innovation in the region's audio visual industry. The project is piloting a system of *Cinematic & Entrepreneurship Motivation Awards* (CEMAs) to create *CARIBFilm- DreamTeams*. The feature films produced through this project will be promoted at regional and international film festivals.

*CARIFESTA:* CARIFESTA, the region's roving, multidisciplinary, mega arts festival that showcases the cultural expressions of artists from various countries in the Caribbean region

The issue of securing appropriate levels of funding to support regional initiatives in arts and culture is of major concern to the artistic community in member States. The recognition of this need led to at least two attempts by the Community to establish a regional fund for culture before the Mauritius Strategy; however, a sustainable pool of resources has not been realized.

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<sup>125</sup> formerly Jamaica Promotions Ltd. (JAMPRO)

<sup>126</sup> The members of CCL are the Copyright Organization of Trinidad and Tobago (COTT); The Jamaican Association of Composers, Authors and Publishers (JACAP); The Copyright Society of Composers, Authors and Publishers Inc. (COSCAP), Barbados; and the Eastern Caribbean Copyright Organization for Music Rights Inc., established in January 2009 to replace the Hewanorra Musical Society (HMS).

<sup>127</sup> Formerly the Caribbean Regional Negotiating Machinery until the institution was merged with the CARICOM Secretariat in 2009.

There are a few national funds in some member States that provide grant support to the arts and culture. In Jamaica, the Culture, Health, Arts, Sports and Education (CHASE) Fund allocates 15% of its resources to provide grants for projects in culture, and the Tourism Enhancement Fund – both established by the Government - is another option. The privately run Lyford Cay Foundation in the Bahamas, and the public sector Cultural Action Fund in Barbados also provide some grant resources for national projects.

Additional challenges facing the region in the implementation of the priority actions in culture are:

- (a) The limited institutional and financial capacity of the Ministries of Culture in CARICOM, and the absence of a network of specialized agencies to support the development of arts and culture in most member States;  
Governments and the corporate sector in most Caribbean countries have not fully appreciated the new directions in the global economy and the ways in which their economies can diversify to meet new challenges and take advantage of emerging opportunities. *Keith Nurse*
- (b) The absence of a comprehensive regional policy framework and incentives regime to stimulate cultural industry development, and the need for an intersectoral policy approach to the sector, in collaboration with tourism, technology, trade, industry and education;
- (c) The absence of comprehensive policy initiatives in member States utilizing a range of measures such as legislation, regulations, programme support, and tax measures;
- (d) The limited data available on the arts and cultural industries to inform policymaking on an ongoing basis; the economic value of cultural industries is largely unmapped, unmonitored and undocumented;
- (e) The inadequate resources to finance cultural institutions, events, projects, scholarships and artists;
- (f) The underdeveloped state of infrastructure for the arts, festivals and other cultural industries across the region, where appropriate venues and physical facilities are lacking, including inadequate infrastructure for educational institutions in the arts;
- (g) Intra-regional trade in cultural goods and services has been impeded by cumbersome and restrictive border measures that have limited the growth of cultural enterprise. This is further compounded by poor marketing and distribution of products and services both regionally and internationally and the absence of relevant market intelligence for effective distribution.

#### **D. THE ENVIRONMENTAL OVERVIEW - CLIMATE CHANGE, VULNERABILITY, AND RESILIENCE**

In 2004, it was estimated that Central America and the Caribbean produced 558 metric tons of carbon dioxide (CO<sup>2</sup>) or 1.82% of total greenhouse gas emissions. When analysed further, the islands of the Caribbean were responsible for less than 1% of total green house gas emissions.<sup>128</sup> However, while the Caribbean produces only a tiny fraction of global greenhouse gas emissions, many of these islands are barely above sea level and are located in the hurricane belt, rendering them most vulnerable to the effects of climate change. Climate change is, therefore, of crucial importance to the sustainable development of the Caribbean.

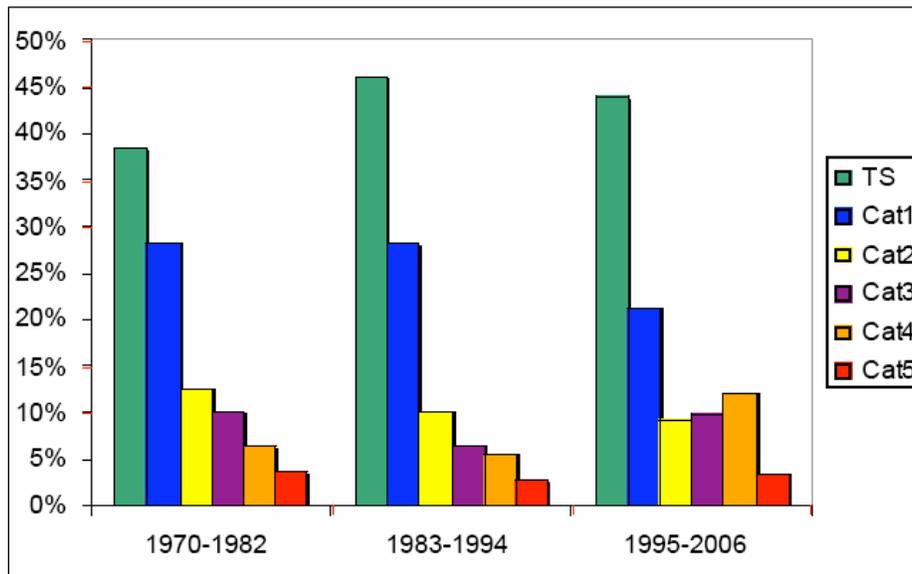
Climatic data indicate that, since 1995, there has been an increase in the intensity and distribution of more intense hurricanes in the Caribbean, as shown in figure 6 below. Climate variability, as manifested by changing and unpredictable weather patterns, already represents a major challenge for

<sup>128</sup> World Resources Institute, 2008 *Climate Analysis Indicators Tool (CAIT) Version 5.0*, Washington DC.

planners in the Caribbean.<sup>129</sup> Climate change -related disasters such as storms, hurricanes, floods, and droughts have very devastating effects on Caribbean SIDS, as entire islands are adversely affected ecologically, economically and socially, sparing no sector from their direct or indirect impact. There is no safety net, an unaffected area or sector which can cushion the adverse of these climatic related disasters.

Another significant threat posed by climate change is the deterioration in human health due to the increase presence of vector-borne tropical diseases, such as malaria and dengue, and the prevalence of respiratory illnesses. These diseases will affect the well being and productivity of the work force in the Caribbean, thus compromising the region's growth and development potential. With increasing frequency, countries in the Caribbean are facing situations in which scarce resources that were earmarked for development projects have had to be diverted to repair damage inflicted by disasters.<sup>130</sup> With a slow recovery process, if this trend continues – whereby scarce resources are continually being channelled into disaster recovery efforts – the coping capacity of the Caribbean is likely to be overwhelmed. If Caribbean SIDS are to achieve sustainable development under these circumstances, then they will have to take steps to become more resilient to climatic hazards and related environmental disasters.

**Figure 6: Intensity distribution of North Atlantic tropical cyclones 1970 – 2006**



Source: Dellarue, Howard, 2009<sup>131</sup>

The scope of response required by Caribbean SIDS to adapt to, and mitigate the effects climate change varies as each island state has its own special adaptation needs and resource constraints. To be most effective, adaptation and mitigation efforts have to be vertically integrated from the regional,

<sup>129</sup> Smith, Donna M. (2007) *Progress in climate change adaptation in the Caribbean community*, CARICOM Secretariat. See [online]:

[http://www.climateactionprogramme.org/features/article/progress\\_in\\_climate\\_changeadaptation\\_in\\_the\\_caribbean\\_community](http://www.climateactionprogramme.org/features/article/progress_in_climate_changeadaptation_in_the_caribbean_community).

Accessed on 17 April 2010.

<sup>130</sup> Vermeiren, Jan C., 1993: *Disaster Risk Reduction as a Development Strategy*. Presented at the Caribbean Session of the 1993 National Hurricane Conference.

<sup>131</sup> Dellarue, Howard, 2009. *Climate Change and Disaster Risk Reduction in Caribbean Small Island Developing States*. 45 ISOCARP Congress 2009

national to community levels, as well as horizontally integrated across the various sectors, and supported by appropriate institutional, legal and policy mechanisms.

CARICOM has sought to strengthen the institutional, technical and financial capacity of its member States to better adapt to the effects of climate change through the establishment of the Caribbean Community Climate Change Centre (CCCCC) in Belize. The CCCCC coordinates the Caribbean response to climate change, serving as the official repository and clearing house for regional climate change data, and providing climate change related policy advice and guidelines to CARICOM member States through the CARICOM Secretariat

A key step in the building of legal, institutional and technical capacity in the Caribbean was the establishment of national climate change action plans by the individual member States of CARICOM, as part of the Caribbean Planning for Adaptation to Climate Change (CPACC) project. These plans detailed the existing state of preparedness for the adverse effects of climate change within the various sectors of each island, current initiatives being undertaken to adapt to these negative effects, as well as the additional measures needed to more effectively tackle climate change nationally.

A review of the individual national climate change action plans for CARICOM member States reveals that, despite facing the same basic threats from climate change, the level of adaptation and response capacity differs widely among some member States. In the Bahamas, policy options to respond to climate change are limited and have been slow in developing, despite being one of the richest Caribbean territories, suggesting a lack of technical expertise. In the case of Guyana, while there has been considerable progress in building its institutional capacity to respond to climate change, implementation is seriously challenged by a lack of financial resources.

The governments of Barbados, Belize and Saint Lucia have established coastal zone management units to effectively manage their coastal resources through the creation and implementation of coastal zone management plans. As a prerequisite to the establishment of these coastal zone management units, legislative reviews and amendments were undertaken for the various planning and environmental laws in these islands so as to eliminate redundancy and ensure the harmonization of these laws.

Belize has undertaken Climate Change Vulnerability Assessments in Agriculture, the Coastal Zone and Water Resources as part of the United States Country Studies Programme. The CPACC project assisted Belize in its efforts to compile inventories of its coastal resources, make an economic evaluation of those resources and thus quantify their vulnerability.

New legislation has been proposed in Barbados to include a Climate Change Act, an Environmental Management Act, a Disaster Management Act, and the general inclusion of the Precautionary Principle in local legislation. The implementation of these new pieces of legislation will go a long way in addressing the issue of outdated laws, as of the thirty seven pieces of major legislation dealing with environment and land use issues in Barbados, only 10 were enacted since the establishment of Agenda 21 at the 1992 United Nations Conference on the Environment and Development (UNCED).

Cuba is the world's most prepared country to face natural disaster. The government has mobilized communities to evaluate vulnerable areas, helping with planning and recovery. It has also prioritized special training and a fund for civil defence to enable immediate response following a hurricane. Cuba has also established an efficient national communication network that has become vital for giving citizens sufficient warning of upcoming hurricanes<sup>132</sup> At least where this issue is concerned, the central

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<sup>132</sup> Oxfam, 'Weathering the Storm: Lessons in Risk Reduction in Cuba', April 2005.

government is highly committed to the protection of its citizens, the development of policies and building up resilience towards these crises, all of which has helped to save lives.

A serious impediment faced by Caribbean SIDS in the building of institutional, legal, and technical capacity to adapt to climate change is a clear lack of scientific data throughout the region, as concluded from a review of the individual national climate change action/ policy plans by CARICOM member States. For example, in Grenada there is a lack of bathymetry data and some countries do not have up to date

topographic maps. There is also a need for basic assessment of coral reefs, particularly in the OECS. Several islands of the Caribbean have highlighted the need for continual capacity-building as an adaptation option. For example, the Bahamas have identified a number of projects which will require both research and effective capacities to be built. Grenada has noted a number of institutional systems which are needed for vulnerability analysis and adaptation assessments. Capacity-building is critical for the Caribbean to address the challenges posed by climate change, and this capacity-building must be a dynamic process. This is a vital prerequisite for the development of detail technical models to aid vulnerability analysis in the Caribbean.

There have been some initiatives to address the situation. For example, the Caribbean Risk Management Initiative (CRMI) has become a vehicle for enhancing discussion and capacity-building in climate change risk management, including gender equality and vulnerable groups.<sup>133</sup> In 2005, a number of United Nations agencies including ECLAC, United Nations Development Fund for Women (UNIFEM), the CDEMA, and international development agencies such as the Canadian International Development Agency (CIDA) and the Organization of American States (OAS), convened a workshop on mainstreaming Gender in Natural Hazard Risk Reduction. The first of its kind to be held in the Caribbean, the workshop was designed to bring together stakeholders in the area of disaster management and gender-related issues to dialogue, as a first step to mainstreaming gender in natural hazard risk reduction management in Caribbean SIDS.

The Bali Action Plan (BAP) calls for “consideration of risk sharing and transfer mechanisms, such as insurance” to address loss and damage in developing countries particularly vulnerable to climate change. In helping to meet this challenge a number of Caribbean countries have established CCRIF. This Facility is a parametric insurance facility, owned, operated and registered in the Caribbean for governments of Caribbean States. It insures government risk and is designed to limit the financial impact of catastrophic hurricanes and earthquakes to Caribbean SIDS by quickly providing short term liquidity when a policy is triggered. It is the world's first regional insurance fund, giving Caribbean governments the unique opportunity to purchase earthquake and hurricane catastrophe coverage not available elsewhere and with lowest-possible pricing. CCRIF represents a paradigm shift in the way governments

## LESSONS FROM HAITI

Following the massive earthquake on January 12, 2010, Haiti has been severely devastated. While the magnitude of the earthquake, 7.0 on the Richter scale in itself was not exceptionally high, the effects have been enormous, largely due to the country's high vulnerability:

- Poverty
- Natural disasters
- Political instability
- International dependence
- Lack of preparedness

The earthquake has obliterated Haiti's socio-political structure, so national recovery needs to take into account everything, including constructing buildings and infrastructure, establishing rule of law, introducing new political authorities and institutions, and stimulating local and national markets, and international trade.

*Source: Forbes.com 01.21.10*

<sup>133</sup> 2009 - UNDP Report on Enhancing Gender Visibility in Caribbean Risk Management and Climate Change in the Caribbean.

treat risk. CCRIF made two payouts in its first year, both because of the magnitude 7.4 earthquake, which shook the Eastern Caribbean on 29 November 2008.

Although Caribbean SIDS have diverse geological and topographic characteristics, they share inherent vulnerabilities and common challenges. The many environmental and natural resource issues confronting Caribbean SIDS today are similar to those addressed in the BPoA and the MSI, although emphases in some areas may have evolved and new areas of concern emerged. The main drivers of environmental change in the Caribbean include:

- Global markets and external trade relations, which determine patterns of resource use, disrupt local livelihood strategies, and concentrate pressure on particular areas and resources;
- Consumption patterns and increased demand for environmental goods and services, particularly energy and water;
- Demographic change, towards greater concentration of population in environmentally sensitive areas such as coastal zones; and
- Dependency and fragmentation, which limit options for addressing environmental issues.

Climate is expected to become an increasingly important driver of environmental change, especially through projected warming sea temperatures, sea level rise, shifts in precipitation patterns and increases in the occurrence of extreme climatic events.

Ecozones of most importance to human well being in the Caribbean include watersheds, forests, coastal zones and coral reefs. All have been subject to severe and in some cases increasing pressure. Given the high dependency of poor people on natural resources, negative environmental trends have been a significant driver of poverty, and the degradation of these critical ecosystems has impacted particularly on the poor.

Caribbean countries have made significant progress in establishing comprehensive policy, institutional and legal frameworks for environmental management and sustainable development, although these vary widely. These countries are also active participants in the main environmental treaties and conventions, but these often place a large burden on small States with limited staff and technical resources. Therefore, Caribbean SIDS have come to depend heavily on regional mechanisms for addressing environmental issues. CARICOM, in particular, has a range of institutions addressing aspects of environmental management. The OECS Environment and Sustainable Development Unit undertakes a number of regional initiatives on behalf of the smaller islands. The Caribbean Environment Programme (CEP), implemented under the auspices of the United Nations Environment Programme (UNEP) and within the framework of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, is another important mechanism for regional cooperation, particularly on issues relating to coastal and marine conservation.

### **1. Trade in environmental goods and services**

The relationship between trade liberalization and environmental protection is especially pertinent to the Caribbean, where trade in goods and services is not only a significant source of foreign exchange, national income and employment but also a major charge on the fragile and limited natural resources of the region. The key economic sectors and industries affected by trade are natural resource based and primarily resource intensive sectors. Thus, there is the distinct possibility that trade liberalization and the opening of new markets, while creating economic, social and environmental benefits will also intensify

environmental pressures associated with the expansion of the productive system, especially if appropriate regulatory mechanisms are not in place or are not being effectively applied

Three recent agreements negotiated by CARICOM are noteworthy by virtue of their environmental provisions. These are the Revised Treaty of Chaguaramas, and the CARICOM – Dominican Republic and CARICOM – Colombia agreements.

### **(a) The Caribbean Single Market and Economy**

While the majority of the 240 provisions in the Revised Treaty of Chaguaramas governing the CSME have a trade focus, a valiant effort has been made to address the trade and environment nexus, both in terms of enhancing the contribution of environmental products and services to economic growth and reducing the negative impacts of economic growth on the environment. In this latter regard, notable features include:

- Article 13.2(h) requiring the Council for Trade and Economic Development (COTED) to promote and develop policies for the protection and preservation of the environment for sustainable development;
- Article 51.2(g) requiring that Community industrial policy should aim at enhanced industrial production on an environmentally-sustainable basis;
- Article 55 which calls for the formulation of proposals for sustainable tourism development and which recognizes the importance of the tourism sub-sector to the economic development of the region and the need to conserve the cultural and natural resources and to maintain a balance between a healthy ecology and economic development;
- Article 56.1(a) requiring that Community agricultural policy should aim at the fundamental transformation of the agricultural sector towards market oriented, internationally-competitive and environmentally-sound production of agricultural products; and
- Article 58 requiring the Community to adopt measures for (a) the effective management of the soil, air and all water resources, the exclusive economic zone and all other maritime areas under the national jurisdiction of the Member States; and (b) the conservation of biological diversity and the sustainable use of biological resources, especially those of important medicinal and traditional value<sup>134</sup>.

The Revised Treaty charges the Council on Trade and Economic Development with the responsibility for (a) establishing and promoting measures to accelerate structural diversification of industrial and agricultural production on a sustainable and regionally-integrated basis; and (b) promoting and developing policies for the protection and preservation of the environment and for sustainable development. Reasonable progress has been made at the national level towards ensuring that producers do not infringe the environmental standards of importing countries.

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<sup>134</sup> Revised Treaty of Chaguaramas Establishing the Caribbean Community including The Single Market and Economy – CARICOM Secretariat, 2002/2004

### **(b) The CARICOM-Dominican Republic Free Trade Agreement**

This Agreement is regarded as innovative in many respects. It provides reciprocal duty-free entry for a significant amount of trade between the two parties. It also includes special arrangements for trade in selected agricultural products and in services and for the promotion and protection of investment. In addition to recognizing the importance of sustainable trade, the agreement also includes three specific considerations related to the environment, as follows:

- It allows the parties to conduct risk assessments of environmental implications as long as they are not used as technical barriers to trade;
- It defines dangerous wastes and hazardous substances and establishes concerns regarding the environmental and health implications associated with trade in and movement of these goods within the region; and
- It establishes specific obligations regarding environmental protection.

### **(c) The CARICOM-Colombia Agreement**

This preferential trade agreement specifically includes provisions regarding technical cooperation in environmental management as one of the areas of cooperation.<sup>135</sup> However, it is not clear to what extent this Article is being implemented and by whom and what implementing mechanisms are in place to ensure the attainment of the objectives of the provisions.

## **2. International environmental and health standards**

Adherence to international environmental and health standards is an integral part of the trade and environment debate. It includes those obligations contained in MEAs, and the implications for competitiveness and market access.

Most Caribbean countries have been implementing trade liberalization policies as part of their stabilization and structural adjustment programmes aimed at increasing output and employment. The relatively undiversified economic base and trade structures of Caribbean countries make them vulnerable to any curtailment of market access. This could be particularly harmful if it is applied to the new products which the Caribbean countries are trying to develop in their efforts to diversify their economies.

Attempts to enforce the same environmental standards as those obtaining in the advanced countries through the use of trade-related environmental measures could have far-reaching implications for the development of Caribbean economies. Such attempts could restrict access to main markets or increase costs of production significantly, with consequent negative effects on export product competitiveness and overall levels of income.

The curtailing of market access of Caribbean countries as a result of inability to comply with higher standards may negatively affect small Caribbean firms attempting to enter new export markets, and be ultimately detrimental to higher environmental standards, given these countries' high levels of dependency on export revenues. Caribbean SIDS should negotiate their own environmental standards for market access, in accordance with the costs and benefits of these standards within the context of their own

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<sup>135</sup> Agreement Establishing the Free Trade Area between the Caribbean Community and Columbia, 24th July 1994. Article nineteen – Technical Cooperation. “ *The Parties agree “to encourage and promote cooperation in areas such as human resource development, institutional building, science and technology, research and development, environmental management, disaster preparedness and management, health research and management, energy, tourism and agricultural development.”*”

capabilities and priorities and not be subjected to trade restrictions to lift their environmental standards up to those of other more advanced countries.

The commitment of Caribbean countries to sustainable development, including environmental protection, should not be in contradiction with the trade liberalization policies which most of them have been implementing over recent years. That does not mean an absence of conflicts arising from the pursuit of the two sets of policies; but, trade liberalization which seeks to prevent the introduction of various distortions in the economies and allow for a more efficient use of resources should contribute to reinforcing the objective of sustainable development which has been adopted by the countries of the Caribbean.

Since there is some evidence that the quality of the environment improves with the level of development, it is likely that higher environmental standards would evolve with increasing incomes when there is higher demand for a cleaner environment and there are more resources which could be devoted to environmental issues. It will, therefore, be easier in time for countries, such as those of the Caribbean, to participate in the upward harmonization of environmental standards which is now being advocated. It should be noted, however, that trade liberalization, growth and increasing incomes are not substitutes for environmental policies; neither do higher levels of income necessarily lead to higher environmental standards. Environmental policies should be deliberately adopted and implemented and the transfer of environmentally sound technologies could lead to higher environmental standards at lower levels of incomes.

Environmental requirements in the main export markets of the Caribbean usually include permitted levels of pesticide residues in foodstuffs, emissions standards for machines, and packaging requirements. Although most Caribbean exports have not yet frequently faced technical barriers to trade based on these requirements, recently many have had to adjust to these changing environmental requirements. Exports of cut flowers from Jamaica were denied access to the German market because of packaging requirements. Papayas from Jamaica were denied access to the Swedish and Belgian markets because of pesticide residue levels. While these restrictions may be, under specified circumstances, within the rules of WTO, the United States denial of market access for shrimp from Trinidad and Tobago and Suriname because their trawlers were not fitted with turtle excluder devices was unlikely to be within the present WTO rules.

Within the context of environmental requirements, eco-labelling schemes which are in operation in a number of countries are widely accepted as a means of giving consumers environmentally related product information. They have, however, raised concerns regarding their possible use as non-tariff

“You get satisfaction to see the plant grow and to reap the harvest. For over a year I have been selling Fairtrade bananas and selling my full production [quota] to Fairtrade. I would like to see all my bananas being sold as Fairtrade because the extra effort that we have to put into meeting the criteria of Fairtrade bananas is helping to protect the environment. We need greater consumer demand in the United Kingdom so we could increase our Fairtrade production.” *Denise Sutherland, Fairtrade farmer from Langley Park, St. Vincent.*

barriers. This generally happens when they lack transparency or are not based on scientific criteria or give rise to cumbersome procedures of certification. These schemes have not yet become obstacles to Caribbean exports, but because of their rapid and

widespread implementation, it would be essential to take them into account in the future development of Caribbean exports.

The issue of environmental requirements should not be seen solely as being potentially detrimental to Caribbean exports, but also as capable of generating new trade opportunities which could be beneficial to the Caribbean. Already, there is evidence that some Caribbean countries are taking measures to increase their exports of eco-friendly products to take advantage of the opportunities created by the fast growing market for these products. The emergence of ecotourism in the Caribbean to capture the environmentally sensitive part of the tourism market is an example of these initiatives. Actions have also been taken to improve environmental standards in the Caribbean countries, including in the areas of agriculture and manufacturing. The establishment of institutional structures, such as the Environmental Management Authority (EMA) in Trinidad and Tobago, to promote environmental management policies and practices in the countries is a reflection of the increasing attention being given to the environment by policymakers.

### 3. Green economies

The Green Economy is an emerging global marketplace model that seeks to respond to the world's major environmental problems by optimizing social, economic and environmental value. This is most commonly referred to as the "triple bottom line." A Green Economy is one that is considered to be environmentally sustainable, socially just and locally rooted. Broadly therefore, the Green Economy seeks to consider the environment and society in the pursuit of economic goals.

Some Caribbean SIDS have embraced a major policy shift, the transforming of their economies into green economies, through several different approaches. The Barbados Government has conceptualized an approach to the transformation to a Green Economy as articulated in Goal 4 of the National Strategic Plan for Barbados 2006-2025 (NSP). This approach revolutionizes the way business and society operate, capitalizes on emerging markets and perpetuates sustainable socio-economic growth. It incorporates elements such as renewable energy sources, alternative fuels, sustainable building, corporate social responsibility and "green" investing. It further promotes sustainable practices within individual companies and institutions such as recycling, resource auditing and efficiency. Plans include targeting large sectors such as tourism, construction and power generation, and developing a supporting policy framework of fiscal measures, such as tax rebates and financial support for green businesses.

Dominica is expected to host an "International Green Investment Conference" slated for September 2010. The Green Investment Conference "will make the links between issues of climate change and social and economic change clearer by bringing together practitioners of green business in Dominica, along with their overseas counterparts, to establish knowledge-based business partnerships that result in commercial investments to green the Dominican economy."<sup>136</sup>

Guyana made an extraordinary offer in 2007 to place its entire rainforest areas under the control of a British-led international body in return for development aid and the technical assistance needed to develop a green economy. The deal represented potentially the largest carbon offset ever undertaken, securing the vast carbon sinks of Guyana's pristine rainforest in return for assisting the economic growth of South America's poorest economy. Speaking in his office in the capital, Georgetown, on the Caribbean coast, Guyana's President, Bharrat Jagdeo, said the offer was a chance for Britain to make a "moral offset" and underline its leadership on the most important single issue facing the world – climate change.

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<sup>136</sup> Dominica news. Available at <http://www.dominica-weekly.com/news/the-development-institute-tdi-ltd-announces-%E2%80%9Cthe-green-investment-dialogue%E2%80%9D/>. Accessed on April 19 2010.

"We can deploy the forest against global warming and, through the UK's help, it wouldn't have to stymie development in Guyana."<sup>137</sup>

In November 2009, Norway announced a US\$ 30 million commitment to implement an avoided deforestation plan in Guyana. If the programme demonstrates success, Guyana will receive an additional US\$ 250 million through 2015.

#### 4. Institutional reforms and partnerships

Systemic institutional as well as governance reforms at national, regional and international levels are essential to this transition. The need for short- to medium- term programming focus, to strengthen policies and capacities in key sectors, such as human resource development, energy, financial and information technology and communication services, is critical. The design of flexible, yet robust effective partnership platforms that facilitate North-South and South-South two-way knowledge transfers will play an important role in the near future. The establishment of the CCRIF as well as the expansion of a new Sustainable Finance Initiative from the Barbados to the Trinidad and Tobago banking sector – in collaboration with the United Nations Environment Programme Finance Initiative (UNEP FI) – provide examples of the evolving nature of needed partnerships for effective mainstreaming.

From a regional standpoint, the legal context in which some<sup>138</sup> of the Caribbean SIDS that are also member States of the Caribbean Community operate, has also changed. This is as the result of the incorporation by these countries of the *Revised Treaty of Chaguaramas Establishing The Caribbean Community Including the CARICOM Single Market and Economy (CSME)* into their national legislation and the jurisdiction of the Caribbean Court of Justice (CCJ), which pursuant to Article 211 of the Revised Treaty has "[...] *compulsory and exclusive jurisdiction to hear and determine disputes concerning the interpretation and application of the Treaty [...]*". This has implications for the way environmental and natural resources issues are likely to be addressed by these countries in the future, given the commitment by these member States to the creation of a CSME.

In the context, the decision taken by COTED-Environment for the preparation of the CARICOM Environmental and Natural Resources Policy Framework<sup>139</sup> becomes relevant and could form the major policy framework for how environmental interventions directly support sustainable development objectives.

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<sup>137</sup> MyClimateChange.net. Available at

<http://www.myclimatechange.net/default.aspx?Page=Article&SubjectId=39&cat=2&sub=4>. Accessed on April 19 2010

<sup>138</sup> Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Suriname

<sup>139</sup> Caribbean Community Secretariat, Summary of Recommendations and Conclusions of the Twenty/Fifth Special meeting of the Council for Trade and Economic development (COTED), [on the Environment], Georgetown, Guyana 17/18 April 2008.

## 5. Environmental value of the Caribbean Sea

The Caribbean Sea as a Special Area means the semi-enclosed sea, including its resources and appurtenant coastal areas, which, for acknowledged technical reasons relating to its oceanographic and ecological condition, requires the adoption of special mandatory measures for its preservation and sustainable development, with due regard to economic, social, as well as environmental parameters. *Association of Caribbean States*

Since the adoption of the MSI by the international community in 2005, there has been growing awareness among Caribbean SIDS of the social, economic and environmental value of the Caribbean Sea and its associated resources, its high vulnerability to impacts such as pollution, unsustainable resource exploitation, and climate change, and the need for a more sustained and systematic approach to the sustainable use and management of both the living and non-living resources contained therein and under the ocean floor. The marine and ocean resources of Caribbean SIDS have multiple value including, inter alia, for maritime shipping, tourism development including cruise tourism, coastal development, marine leisure (diving, yachting) and fishing, as well as having a very important socio-cultural dimension

The ocean space in many Caribbean SIDS is many orders of magnitude greater than their land resources, making the marine, and ocean environment critical to their future development. Whereas this creates opportunities, it also has many challenges. Some of challenges which Caribbean SIDS must address, in this regard, include, inter alia, pollution from both land-based sources and marine-based activities including shipping, the provision of adequate port reception facilities, the introduction of alien invasive species through ballast water and other trans-boundary carriers, with direct implications for the viability of the region's biodiversity, marine habitat destruction, and the implications not only for fisheries but for the region's adaptive capacity to extreme events.

Another critical matter is the rationalization of ocean governance. The importance of this issue is underscored by the recent arbitration cases between Barbados and Trinidad and Tobago<sup>140</sup> and Guyana and Suriname.<sup>141</sup>

The move towards real-time access to environmental information for economic decision-making, as well as the recognition of public procurement policies as tools for mainstreaming sustainability in development programmes, is being addressed by national governments undertaking macro institutional strengthening projects. Public procurement will feature heavily in the design of SIDS-appropriate sustainable consumption and production programmes. The Expert Group Meeting on Indicators convened in September 2009 in Barbados reflected clearly significant advances in philosophy and in the design of policy frameworks for sustainability metrics in the Caribbean. The Regional Coordinating

<sup>140</sup> Arbitral Tribunal Constituted Pursuant to Article 287, and in Accordance with Annex VII, of the UNCLOS, In the Matter Between Barbados and Trinidad and Tobago, Award of the Arbitral Tribunal, The Permanent Court of Arbitration, The Hague, 11 April 2006

<sup>141</sup> Arbitral Tribunal Constituted Pursuant to Article 287, and in Accordance with Annex VII, of the UNCLOS, In the Matter of An Arbitration Between Guyana and Suriname, Award of the Arbitral Tribunal, Permanent Court of Arbitration, The Hague, 17 September 2007.

Framework will, however, require significant strengthening, particularly for the effective functioning of the CSME and in terms of regional harmonization of MEA programming and implementation. A regional node for Small Island Developing States Network (SIDSNET) offers much opportunity in this respect, as do existing regional mechanisms such as the UNEP Caribbean Environment Programme.

### III. NATIONAL AND REGIONAL ENABLING ENVIRONMENTS

#### A. NATIONAL SUSTAINABLE DEVELOPMENT STRATEGIES

Caribbean SIDS have reported mixed success in integrating national sustainable development strategies, where they existed, into the National Development Plans (NDPs). The status of the development of NDPs is presented for Caribbean SIDS in Table 12.

It is noteworthy that Caribbean SIDS, in responding to an ECLAC rapid assessment questionnaire on the implementation of the MSI, responded, in the main positively, that most, if not all, of the thematic areas found in the MSI were articulated in the NDPs. Some 43% of respondents suggested that MSI issues were well reflected in the Integrated NDPs, with 14% suggesting that such issues were very well represented.

**Table 12: National Planning Process in Selected Caribbean SIDS**

Country	Name of Plan	Planning period	Remarks	Rate Success of integration of NSDS
<b>Antigua and Barbuda</b>	National Environmental Management Strategy	2004 to 2009	Antigua and Barbuda is in the process of preparing an integrated national development plan through its Economic planning and Policy Unit of the Ministry of Finance.	Very Well
<b>Barbados</b>	National Strategic Plan	2005 to 2025	<p><b>THE NATIONAL STRATEGIC PLAN</b></p> <p>The National Strategic Plan of Barbados 2005-2025 (NSP) recognizes that Barbados has many strengths and opportunities, which the Government can use to forge a path of economic and social development; it identifies several vulnerabilities for the country's social development. However, the NSP outlines some strategies to help build the country's resilience. There are six goals, which are closely aligned with the Millennium Development Goals:</p> <p>National Strategic Plan Goal 1: Unleashing the Spirit of the Nation</p> <ul style="list-style-type: none"> <li>• National Strategic Plan Goal 2: New Governance for New Times</li> <li>• National Strategic Plan Goal 3: Building Social Capital</li> <li>• National Strategic Plan Goal 4: Strengthening the Physical Infrastructure and Preserving the Environment</li> <li>• National Strategic Plan Goal 5: Enhancing Barbados' Prosperity and Competitiveness</li> <li>• National Strategic Plan Goal 6: Branding</li> </ul>	Very Well

Country	Name of Plan	Planning period	Remarks	Rate Success of integration of NSDS
			Barbados globally	
<b>Belize</b>	Vision Document  Horizon 2030	2010 to 2030	Arising out of this Vision document, the relevant development plans (long term and medium term) are expected to be developed	N/A
<b>Dominica</b>	Growth and Social protection Strategy	2006 to 2010	In April 2006, the Prime Minister of Dominica announced a Five-Year Medium-Term Growth and Social Protection Strategy (GSPS) which defined the country's economic goals for the period. Priorities set in this document make poverty reduction the direct focus of the Government's economic and social policy. GOCD regards the pursuit of sustained strong economic growth to be the main strategy to alleviate poverty. The GSPS provides the framework for Dominica's economic and social policies over the next five years and sets out the macroeconomic framework; the growth strategy including the enabling environment for private enterprise and sectoral strategies; and poverty reduction and social protection programmes. It also provides for the monitoring and evaluation of the progress in implementing the strategy on an annual basis.	Fairly well
<b>Grenada</b>	National Sustainable Energy Plan;  National Strategic Development Plan ;  National Physical Development Plan	2002  2007 to 2011  2003	Articulated a National Sustainable Energy Plan in 2002, as well as a National Strategic Development Plan over the duration 2007-2011. The latter was engaged as part of the Public Service Management Improvement Project.	Fairly Well
<b>Guyana</b>	Guyana National Development Strategy    Guyana Low	2001 to 2010	The National Development Strategy (NDS) sets out priorities for our nation's economic and social development for the next decade. The draft document - which is made up six volumes - contains careful technical analysis of problems and future prospects in all sectors of the economy and in areas of social concern. It presents an opportunity to work together to prepare Guyana for the challenges of the next century.  The overall objectives of the National Development Strategy are as follows: to attain the highest possible economic growth rates, to eliminate poverty, to attain	Very Well

Country	Name of Plan	Planning period	Remarks	Rate Success of integration of NSDS
	Carbon Development Strategy	2010	equitable geographical distribution of economic activity and to diversify the economy.	
<b>Jamaica</b>	Jamaica Vision 2030: National Development Plan	2005 to 2030	<p>The development plan consists of four goals which will be mapped to fifteen national outcomes.</p> <p>The goals are: a society empowered to achieve its fullest potential, a secure, cohesive, orderly and just society, development in harmony with the natural environment and a prosperous economy. The outcomes will include a healthy population, world class education &amp; training, effective social protection, authentic &amp; innovative culture, security &amp; safety, effective governance, a stable macro economy, an enabling business environment, strong economic infrastructure, energy security &amp; efficiency, a technology driven society, internationally competitive industry structures, sustainable use and management of natural resources, adapting to climate change &amp; hazard risk reduction and sustainable urban &amp; rural development.</p>	Very well
<b>Saint Kitts and Nevis</b>	Medium term Economic Strategies	3 years	<p>The country does not have a National Sustainable Development Strategy. Medium Economic Strategies are, however, prepared once every three years. The Prime Minister's Annual Budget Addresses also provide the necessary policy indicators to guide the country's development.</p> <p>The country has developed an Adaptation Strategy The specific objectives include support for macro-economic reform, modernization of public institutions to improve service delivery, public finance management, private sector development through diversification of the production base and supporting social transformation through improved poverty reduction planning and policies. The Government of St. Kitts and Nevis' main purpose for the adaptation strategy is a shift from sugar production towards economic diversification and ensuring that the ensuing social transformation was not traumatic.</p> <p>The pillars on which the Adaptation Strategy is built on are tourism, agriculture, information technology and financial services.</p>	With minimum success
<b>Saint Lucia</b>			There is no single overarching document to guide national development in Saint Lucia, although elements of a national development plan were formulated and debated at a development conference held in July 2007. Despite the absence of a fully articulated Integrated Development Plan (IDP) and NSDS, Saint Lucia's development agenda is guided	Very well

Country	Name of Plan	Planning period	Remarks	Rate Success of integration of NSDS
			by various instruments, the Medium Term Economic Strategy paper (MTESP); annual Budget Speeches; and Corporate Plans of individual ministries.	
<b>Saint Vincent and the Grenadines</b>	National Economic and Social Development Plan	2010 to 2020	The elements of the Plan as articulated in the Prime Minister's Budget Address in 2010 include a series of elements directed towards sustainable and balanced economic development, job creation, poverty reduction, human resource development, physical infrastructure development, social transformation, deepening regional integration, and fiscal consolidation.	Fairly well
<b>Suriname</b>	Multi-Annual Development Plan	2006 to 2011	Suriname embarks on 5 year Multi-Annual Development Plans. The current multi-annual development plan 2006-2011, integrates the Millennium Development Goals (Millennium Development Goals) and focuses on growth and poverty reduction, emphasizing a rights-based approach to development. It identifies four pillars of national development: governance/democracy, the rule of law and security; economic development; social and human development; and equitable distribution of wealth.	With minimum success
<b>Trinidad and Tobago</b>	Vision 2020	2005 to 2020	The Vision 2020 plan is its national development strategy and will focus on five pillars: Developing Innovative People, Nurturing a Caring Society, Enabling Competitive Business, Investing in Sound Infrastructure & Environment and Promoting Effective Government. The stated aims of the plan are to improve the quality of life of all citizens and the positioning of the economy to compete effectively in the global marketplace. The duration of the plan runs from 2005-2020	Very well

**Source:** ECLAC data collected from rapid assessment of the further implementation of the MSI; Barbados, ECOSOC 2008; Dominica, Academy of Arts & Sciences, 2002; Grenada, docstoc.com, Grenada NSHP 2006 ; Jamaica, PIOJ; Suriname, UNDP; St. Lucia, MSI+5 Review Report; Trinidad and Tobago, Vision2020 operational plan 2007-2010

## **B. REGIONAL POLICY FRAMEWORKS**

### **1. Caribbean Community (CARICOM) Secretariat**

The Revised Treaty of Chaguaramas Establishing the Caribbean Community was signed in Georgetown in 2001, including provisions for the subsequent establishment of the CSME. Article 65 of the Treaty addresses environmental protection and states that, among other things, the policies of the Community “shall be implemented in a manner that ensures the prudent and rational management of the resources of the member States.” It further states, “in particular, the Community shall promote measures to ensure the preservation, protection, and improvement of the quality of the environment, taking into account available and accessible scientific and technical data.” The vision of the Secretariat on the environment is made operational through the Sustainable Development Division of its Directorate of Human and Social Development and substantive Agencies of the Division. These have been established in order to support the Community’s work in the area of sustainable development and to implement the agreements of the SIDS BPoA and the MSI.

#### **(a) Caribbean Community Climate Change Centre (CCCCC)**

The CCCCC was officially established in August 2005 and is the key node for information on climate change issues and on the CARICOM response in adapting to climate change. It is the official repository and clearing house for Caribbean climate data, providing climate change -related policy advice and guidelines to CARICOM member States through the CARICOM Secretariat. In this role, the Centre is recognized by the United Nations Framework Convention on Climate Change (UNFCCC), UNEP, and other international agencies as the focal point for climate change issues in the Caribbean.

#### **The mission statement of the CCCCC**

“... the Centre will support the people of the Caribbean as they address the impact of climate variability and change on all aspects of economic development through the provision of timely forecasts and analyses of potentially hazardous impacts of both natural and man-induced climatic changes on the environment, and the development of special programmes which create opportunities for sustainable development.”

#### **(b) Caribbean Disaster Emergency Management Agency (CDEMA)**

CDEMA (formerly CDERA, Caribbean Disaster Emergency Response Agency), seeks to meet CARICOM goals in the area of disaster management. CDEMA was established in September 1991 by an Agreement of the Conference of Heads of Government of CARICOM and now functions with an increased membership of 18 Participating States, which includes Haiti and Suriname who have recently signed on to the Agreement. The main function of CDEMA is to make an immediate and coordinated response to any disastrous event affecting any Participating State, once the State requests such assistance.

On 1 September 2009, CDERA formally changed its name to CDEMA, signalling an organizational transition and strategic shift in focus from disaster preparedness and response to comprehensive disaster management. The organization’s mandate has been widened to include the adoption of disaster loss reduction and mitigation policies and practices, and cooperative arrangements

and mechanisms to facilitate the development of a culture of disaster loss reduction. The establishment of CDEMA is a clear indication that participating States are ready to embrace policies, systems, and programmes appropriate to their vulnerability to the increasing magnitude, frequency and costs of hazard impacts, the onset of climate change and other transboundary threats and pandemics.

### **(c) The Organisation of Eastern Caribbean States (OECS)**

At the subregional level the St. George's Declaration of Principles for Environmental Sustainability is the OECS Charter for Environmental Management. This Declaration, which was signed by OECS Ministers of the Environment in Grenada in April 2001, was revised in June 2006.

OECS member States in 2002 adopted the OECS Development Charter, which provides a broad framework for their sustainable development. The Charter articulates a common vision for the development of member States and sets out the agendas for human development and economic growth. In addressing issues relating to environmental sustainability, the Charter commits OECS member States to implement the St. George's Declaration of Principles for Environmental Sustainability, and also specifically commits member States to the implementation of strategies to "integrate environmental considerations into social and economic development policies, plans and programmes at the national level."

Further, arising out of the adoption of this Declaration, an OECS Environmental Management Strategy (EMS) was developed, focused on outlining the mechanism and actions that should be taken to give effect to the Declaration. By signing the St. George's Declaration, OECS member States made commitments to "develop a national environmental management strategy within 2 years of the date this Declaration comes into force" (Principle 19 (g) of the St. George's Declaration).

These National EMS serve to define the mechanisms by which the regional policy and implementation framework that has been developed at the OECS subregional level will be given effect. Pursuant to the St. George's Declaration, all member States have indeed formulated national environmental management strategies and are mandated to report on the status of the environment to the OECS Policy Committee. The status of the reporting process on the NEMs and other initiatives of OECS is contained in a separate OECS institutional report.

Some 28 years after the leaders signed the original treaty establishing OECS, they initialled the New Treaty, in December 2009, establishing the OECS Economic Union. Inter alia, the new Treaty has as its vision, the creation of a single economic space, which is an "area of peace, tranquillity ... where things work ....in a clean pristine environment."

## **C. REGIONAL MECHANISMS**

### **1. Association of Caribbean States (ACS)**

The ACS provides support to the Caribbean subregion in the areas of sustainable tourism, strengthening of disaster agencies, updating building codes and in pursuing the goal of having the Caribbean Sea declared to be a special area within the context of sustainable development.

### **2. Caribbean Catastrophe Risk Insurance Facility (CCRIF)**

One of the key recent developments has been the formation of CCRIF in May 2007. CCRIF<sup>142</sup> is the World Bank insurance solution, designed to be able to pay quickly and to try to cover this current account shortfall at premium rates that governments could afford within already very tight budgetary constraints. CCRIF is the first multi-country risk pool in the world, and is also the first insurance instrument to successfully develop a parametric policy backed by both traditional and capital markets. It is a regional insurance fund for Caribbean Governments designed to limit the financial impact of catastrophic hurricanes and earthquakes by quickly providing financial liquidity when a policy is triggered.

CCRIF is one of the ways in which the Caribbean has implemented best practice in sovereign risk management to continue in the proactive management of natural hazards risks. In the aftermath of the 7.0 magnitude earthquake which struck Haiti on 12 January 2010, CCRIF paid the Government of Haiti US\$ 7,753,579 representing the full amount due to the country based on its catastrophe insurance policy for earthquakes for the 2009/2010 policy year, and which forms part of the country's disaster risk management strategy. CCRIF indicated that this value represents approximately 20 times the premium of US\$ 385,500.

### **3. The Caribbean Regional Fisheries Mechanism (CRFM)**

The CRFM was established in 2002 with headquarters in Belize City but did not become functional until 27 March 2003. As an intergovernmental organization, its mission is "to promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region." The member countries include: Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago and the Turks and Caicos Islands. CRFM has three arms: the Ministerial Council, the Caribbean Fisheries Forum, and the Technical Unit.

The CRFM is focused on the efficient management and sustainable development of marine and other aquatic resources within the jurisdiction of member States, the promotion and establishment of cooperative arrangements among interested States for the efficient management of shared, straddling or highly migratory marine and other aquatic resources, and the provision of technical advisory and consultative services of fisheries divisions of member States, to the development, management and conservation of their marine and other aquatic resources.

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#### 4. Regional Coordinating Mechanism for the MSI

Since the adoption of the Barbados Programme of Action in 1993, Caribbean SIDS have emphasized the importance of subregional cooperation to support its implementation. At many follow-up conferences and meetings, Governments have highlighted the urgency to achieve sustainable development through the BPoA and Mauritius Strategy. However, the many challenges faced by SIDS required a subregional mechanism to enable effective action, while taking into account the existing constraints in terms of financial, human and institutional resources.

It was as early as 1995, at a Caribbean Experts Meeting shortly after the adoption of the Barbados Programme of Action for Small Island Developing States, that the absence of a coordinating mechanism at the Caribbean subregional level was highlighted as impeding the BPoA implementation process. A first attempt at creating such a mechanism was made in 1999, at the initiative of the ECLAC Subregional Headquarters for the Caribbean, but did not materialize. However, precisely because both the BPoA and the Mauritius Strategy contain provisions requiring that subregional institutions and agencies play a significant role in the coordinated implementation of both, this issue had to be addressed. Immediately following the Mauritius Meeting in 2005, it was agreed that, based on the overlapping nature of the mandates of regional and subregional institutions, duplication of efforts and expenditures should be avoided. It was agreed then that the coordinating mechanism should be aimed at finding a way to pool and combine the limited resources of Caribbean SIDS.

Eventually, at the twenty-first session of CDCC in January 2006, member Governments agreed to set up a RCM for the implementation of the Mauritius Strategy for the further implementation of the BPoA.

The stated objectives and functions of the RCM, requires that more and better support should be provided to Caribbean SIDS to ensure the implementation of the MSI. The RCM is to promote awareness at all levels of issues and activities related to sustainable development, and assist in the mobilization of new and additional resources for the achievement of sustainable development in Caribbean SIDS. It must also optimize the benefits of these resources, through effective coordination of initiatives and activities and assist in the development, monitoring and coordination of a subregional work programme, facilitate the exchange of best practices and transfer of knowledge, liaise with SIDS in other regions for the promotion of joint positions at international forums, strengthen institutional arrangements, and ensure effective participation of civil society organizations.

The RCM is currently engaged in the establishment of a subregional database on sustainable development activities, and of cooperative agreements and partnerships among agencies. The governance structure of the RCM requires Ministerial approval to ensure that it obtains the highest level of recognition among stakeholders. The establishment of the RCM was followed by the creation of the Technical Advisory Committee (TAC) in 2007. Key objectives for the establishment of the RCM included information sharing, coordination, strengthening of institutional arrangements and effective participation of civil society organizations. Indeed, one of the main purposes of the RCM is to allow countries to achieve effective coordination of the various sustainable development initiatives. The RCM is also designed to assist in the mobilization of additional resources. One of its main functions is also to provide assistance and support to countries at the national level, and to consider national priorities with regard to the implementation of the MSI.

In order to demonstrate its commitment to providing support to the SIDS in implementation of the MSI, ECLAC has established a post of Regional Adviser to act as the Regional Coordinator of the RCM, based at ECLAC Subregional Headquarters in Port of Spain, to be supported by a Secretariat.

However, funding for the Secretariat has not yet been realized. The Regional Adviser provides leadership and direction in the administration and execution of RCM activities and primarily coordinates Caribbean disaster risk reduction initiatives.

ECLAC Subregional Headquarters for the Caribbean, through its work programme, seeks to provide support to the diverse obligations in the MSI despite its relatively small staff complement and financial constraints. Despite these constraints, an electronic platform has been established on the ECLAC website for the sharing of information of relevance to the implementation of the MSI. Details of the support which the ECLAC Subregional Headquarters provides to Caribbean SIDS are presented in the Institutional Report that forms part of the MSI Review.

Non-State actors have a consultative status with Caribbean Governments through the Regional Coordinating Mechanism. To date, through participation on the TAC, representation has come from the University of the West Indies (UWI), the University of the Virgin Islands (UVI), UNEP, Caribbean Policy Development Centre (CPDC), Caribbean Network for Integrated Rural Development (CNIRD) and the Cropper Foundation.

#### **D. THE ROLE OF INTERNATIONAL PARTNERS**

The ODA for implementing the MSI in the Caribbean is both bilateral and regional, although the tendencies seem to point more favourably towards regional initiatives. The choice for the latter is simply to benefit from the economies of scale.

*“In order to promote sustainable development, countries of the Caribbean need increased levels of funding for core initiatives ahead. There will be an increased need for both internal and external sources of funding. Unfortunately, this intensified need coincides with a period of declining sources of revenue. As a result of their classification as middle income states, many CARICOM countries do not now qualify for debt relief assistance and are increasingly being considered as ineligible for development aid.”*  
*President Bharrat Jagdeo of The Republic Of Guyana, 2007*

A number of friendly governments and International Financial Institutions (IFIs) continue to assist the region with financial and technical assistance, some of them as grants while the others remain as loans. The United States Agency for International Development has assisted the OECS Secretariat for interventions in disaster risk management, biodiversity management, and to facilitate the transition of selected Member States to open trade, and to enable the countries to compete more successfully and be more sustainable in the global economy. Similarly, the Canadian International Development Agency has, among other things, provided assistance for capacity development for environmental management in the OECS subregion. The CARICOM Secretariat continues to receive assistance from the EC and

a number of friendly governments to undertake a number of regional sustainable development initiatives. These countries include, Spain, France, Brazil and Mexico, to mention a few.

#### **World Bank offers CARICOM debt assistance**

**ROSEAU, Dominica, March 12, 2010** – The World Bank has offered to help ease the heavy debt burden of Caribbean Community (CARICOM) countries. After meeting with Heads of Government yesterday – the first day of the 21st CARICOM Inter-Sessional Meeting being held in Dominica's capital – World Bank President Robert Zoellick said the financial institution is currently studying the debt profiles of the region's countries in order to construct appropriate plans to ease the load.

Source: Caribbean 360

The United Nations also provides much assistance to the region on a bilateral or multilateral basis. The United Nations Development Programme (UNDP) offices in the region continue to assist the region in poverty assessments and in capacity-building for data collection. They also provide assistance on a wide variety of other thematic areas. Much of this information is readily available in public documents and reports.

For purposes of this report, a review has been undertaken of some of the GEF financed projects that have benefitted the region. The list below is in no way an exhaustive list; it merely provides a sample of the areas in which the region has been able to benefit from Global Environment Facility (GEF) funds. Mention is also made of an energy project being financed by the German Agency for Technical Cooperation (GTZ).

## **1. The Global Environment Facility (GEF)**

GEF has financed and continues to finance a number of interventions in the Caribbean. A sample of these projects is described below.

- Twelve Caribbean Community countries have come together to build capacity in the Caribbean region for the adaptation to climate change impacts, particularly sea level rise. The GEF supported their first project, CPACC, which produced vulnerability assessments, adaptation plans, and enhanced capacity building activities. That project was followed with the Mainstreaming Adaptation to Climate Change (MACC) project, which adopted a learning-by-doing approach to capacity building, consolidating the achievements of previous projects.
- The OECS Solid and Ship Generated Waste Management Project. Co-financing was provided by governments of the six OECS participating countries, the World Bank, the European Investment Bank, and the Caribbean Development Bank. The objective of this operation was to reduce public health risks and protect the environmental integrity of the islands and their coastal and marine systems, by improving domestic solid waste management facilities and facilitating compliance with the "Special Area" designation of the Caribbean Sea. The project was closed in 2003 with a "satisfactory" rating.
- The Project Integrating Watershed and Coastal Area Management (IWCAM) in the SIDS of the Caribbean, with a value of US\$ 22 million was approved by the GEF in May 2004. Implementing agencies are UNEP and UNDP. Executing agencies are the Secretariat of the Cartagena Convention (UNEP-CAR/RCU) and CEHI. The overall objective of this Project is to strengthen the commitment and capacity of the participating countries to implement an integrated approach to the management of watersheds and coastal areas. The long-term goal is to enhance the capacity of the countries to plan and manage their aquatic resources and ecosystems on a sustainable basis. In particular, project activities have been focusing on improvements in integrated freshwater basin-coastal area management on each island of the regional groupings of Caribbean SIDS.
- The OECS Protected Areas and Alternative Livelihoods Project (OPAAL). The Project is co-financed by the Fonds Français pour l'Environnement Mondial (FFEM), and the OAS. The OPAAL project is a developmental plan that seeks to conserve the biodiversity of global importance in the participating countries of the OECS by removing barriers to the effective management of protected areas (PAs) and through increased involvement of civil society and the private sector in the planning, management and sustainable use of these areas. This project represents the first phase of a proposed 15 year programme. The end-goal of the programme is to create an integrated system of protected areas among the OECS Member States, which will protect and conserve ecologically-sustainable, representative samples of the region's rich

biodiversity endowment, while creating sustainable livelihoods for communities in and around the protected areas.

- The Implementation of Adaptation Measures in Coastal Zones (GEF) Project aims to support efforts by Dominica, Saint Lucia, and Saint Vincent and the Grenadines to implement specific (integrated) pilot adaptation measures addressing primarily, the impacts of climate change on their natural resource base, focused on biodiversity and land degradation along coastal and near-coastal areas. The project also seeks to produce knowledge of global value on how to implement adaptation measures in small island states that can be applied in other countries in the region, not participating in the project and even for islands in other regions of the world.
- The Agricultural Biodiversity Conservation and Man and Biosphere Reserves in Cuba: Bridging managed and natural landscapes. The Executing Partners for this Project are the Instituto de Investigaciones Fundamentales en Agricultura Tropical (INIFAT), Cuba; Centro Nacional de Areas Protegidas (CNAP), Cuba; and Bioversity International. The Project Objective is to mainstream agricultural biodiversity into the management of Cuban Man and Biosphere (MAB) Reserve system while the development goal is to conserve the diversity within and around protect areas in ways that improve the livelihoods of rural communities and sustain ecosystem functions in and around the MAB reserves.
- An example of GEF partnership with Caribbean Governments is the \$3 million effort, co-financed with matching grants from the Inter-American Development Bank and the World Bank Group, which will use energy from the sun to produce clean electricity for medical centres, vaccine refrigeration, and other critical relief efforts in Haiti. Hand-cranked lanterns will also be distributed in refugee camps and residential areas a week after a 7.0 magnitude earthquake destroyed most of the electricity grid and local power plants. As part of the rebuilding process, two GEF implementing agencies, the Inter-American Development Bank (IDB) and World Bank Group (WBG), have established an energy team to coordinate emergency response activities in Haiti's energy sector. This project is part of both institutions' initial response for assessing the energy sector's reconstruction and recovery needs in the earthquake area, particularly for power generation and lighting. Results of this project will, in the short and medium term, help multilateral institutions organize follow-up investment actions.
- The Caribbean Large Marine Ecosystem (CLME) initiative is a regional programme designed to remove barriers to effective governance of transboundary shared resources.
- There is also a portfolio of UNDEP-GEF Projects in the Caribbean totalling US\$25.30mil. Information on these projects is available at: <http://www.un.org/esa/sustdev/natlinfo/indicators/idsd/table.htm>.

## **2. The German Agency for Technical Cooperation (GTZ)**

GTZ is actively involved in supporting the subregion in the employment of renewable energy technologies through the Caribbean Renewable Energy Development Programme. The Programme focuses on policy formulation, capacity-building, increasing public awareness of energy efficiency, and increasing employment of sources of renewable energy.

## IV. PROGRESS IN IMPLEMENTATION OF THE MSI

### A. INTRODUCTION

The high-level review of the MSI of the Barbados Programme of Action (BPOA) for the Sustainable Development of SIDS, pursuant to resolution A/RES/62/191 will “review progress made in addressing the vulnerabilities of small island developing States through the implementation of the Mauritius Strategy for Implementation at the sixty-fifth session of the General Assembly”. General Assembly resolution 64/199 provided guidance for the review process and stressed “that the review should provide the international community with an opportunity to conduct a thorough assessment of the progress made, lessons learned and constraints encountered in the implementation of the Mauritius Strategy for Implementation and agree on what needs to be done to further address the vulnerabilities of SIDS.”

The starting point of the review process in the Caribbean was at the national level with National Assessment Reports (NAR) that individual countries were required to prepare<sup>143</sup>. Non-SIDS donor countries, intergovernmental regional organizations, major groups, and United Nations funds, programmes, and specialized agencies were also asked to submit inputs to inform the review process.

In an attempt to obtain the relevant information that would inform the progress report, a questionnaire survey was conducted. The questionnaire was served to relevant technical experts in government ministries in Caribbean SIDS. Where, necessary, other relevant country sources would have provided information. The questionnaire was arranged in two parts. Part A sought to obtain information on the establishment of National Sustainable Development Strategies and, where present, to determine the extent of integration of such strategies into national development plans. This section was also designed to obtain further information on the challenges that SIDS encounter in implementing the MSI, as well as the availability of support by the international community for implementation. Part B of the questionnaire sought to determine the progress made by Caribbean SIDS in implementing the MSI. The questions were presented thematically (and are reported as such) as expressed in the MSI. In general, respondents were prompted with possible suggestions where one or more responses could have been selected, but were also allowed to freely express concerns not represented in the questionnaire in several open-ended questions. Additionally, respondents were invited to prioritize progress achieved.

Unfortunately, responses were obtained from only seven countries<sup>144</sup> (47%). The national assessment reports for Saint Lucia, Grenada, and Barbados also provided relevant information.<sup>145</sup>

The Caribbean regional meeting was held in March 2010. The purpose of the meeting was to:

- Provide a forum for the SIDS of the Caribbean region to evaluate continuing national and regional challenges in implementing the Mauritius Strategy as outlined in the respective national assessment reports,
- To assess ongoing monitoring and evaluation activities,
- To discuss common priorities for action, and

<sup>143</sup> At the time of writing this report, NARS have been prepared by Barbados, Cuba, Grenada and Saint Lucia. The UNDP Office in the Dominican Republic has also submitted a Country Report for the Dominican Republic. Additional Agency Reports, covering the Caribbean region, have been submitted by the CBD; UNEP and UNESCO.

<sup>144</sup> Antigua and Barbuda, Dominica, Grenada, Guyana, Saint Kitts and Nevis, Saint Vincent and the Grenadines, and Trinidad and Tobago.

<sup>145</sup> The responses were coded and entered in the Statistical Package for Social Scientists (SPSS) Version 17. Data were analysed in SPSS, and all tables and graphics were also generated in SPSS. Responses to open-ended questions were coded and entered in Microsoft Excel, Version 3. The results are presented thematically for a sample size of 8 in Section C of this chapter.

- To finalise a regional synthesis report for consideration by CSD-18 acting as the preparatory committee for the high-level review of the Mauritius Strategy in September 2010.

## B. RESULTS

In juxtapositioning vulnerability and resilience, vulnerability is defined as the exposure of a country to external shocks arising from intrinsic features of the economy. These shocks are not subject to policy or governance but are a result of the size of the majority of Caribbean SIDS, vulnerability to natural disasters; the fragility of their ecosystems; limited internal markets; migration (particularly of highly skilled citizens); limited commodities and consequent dependence on imports; and its limited ability to reap the benefits of economies of scale. Their resilience, on the other hand, is their coping ability to withstand or bounce back from external shocks. The Caribbean's coping mechanisms for resilience are nurtured, in the main, through good governance, sound macroeconomic management, market efficiency and social cohesion<sup>146</sup>.

Based on the foregoing definitions and based on the guidelines provided for the preparation of this regional reports, this section of the report will review each of the sectoral/thematic areas identified in the BPOA and MSI, paying attention to:

- Concrete actions taken and specific progress made in implementation;
- Special constraints and challenges, and lessons learned;
- Effectiveness of implementation support and mechanisms, including monitoring and evaluation; and
- Recent trends and emerging issues.

The NARs, information from the questionnaire survey, and other assessment reports were consolidated and synthesized at the regional level to highlight common constraints and lessons learned, and analyzed progress in addressing vulnerabilities of SIDS within each region. In general this Regional report reviews a catalogue of considerable activity and of sustained regional engagement. It paints a mixed picture of gains at many levels, sound gains and achievements, of needed improvements and, characteristically, of continued vulnerabilities.

### 1. Part A. National Sustainable Development Strategies

In general, countries have not produced National Sustainable Development Plans/Strategies (question 1) but member countries of the OECS have developed National Environmental Management Strategies; Cuba has a national environmental Strategy; The Netherlands Antilles have a Nature and Environment Policy Plan; Dominica has a growth and poverty strategy; Guyana

#### TRINIDAD AND TOBAGO'S VISION 2020 AND THE MDGs

The MDGs have been mainstreamed into Trinidad and Tobago's long-term development plan, Vision 2020. Objectives of Vision 2020 include costing the implementation of MDGs and training an inter-ministerial team to undertake periodic MDG reporting.

Source: UNDP Trinidad and Tobago

<sup>146</sup> Adapted from, "Building the Economic Resilience of Small States" by Lino Briguglio at the 2007 Small States Forum, The World Bank, 21 October 2007.

has a Low Carbon Development Strategy; Jamaica has developed a national development plan (Vision 2030 – Jamaica);<sup>147</sup> and Saint Kitts and Nevis has formulated an Adaptation Strategy to guide the development of the country with the closure of the sugar industry. Trinidad and Tobago stated that the essential elements of a National Sustainable Development Plan/Strategy are contained the National Strategic Development Plan (Vision 2020) and therefore a “stand alone” National Sustainable Development Plan and National Strategic Development Plan are not necessary. Barbados has moved to further consolidate its Green Economic priorities within National Strategic Plan 2006-2025.

**The National Strategic Plan (NSP) for Barbados  
2006-2025**

The National Strategic Plan provides the blueprint for the realisation of Barbados' vision of becoming a fully developed society that is prosperous, socially just and globally competitive by the end of the first quarter of the century. The NSP advances six strategic goals in pursuit of the national vision for 2025. Goal four of the NSP speaks specifically to “Building a Green Economy: Strengthening the Physical Infrastructure and Preserving the Environment.

Source:

[http://www.un.org/esa/dsd/dsd\\_aofw/ni/ni\\_pdfs/National\\_Reports/barbados/SCP.pdf](http://www.un.org/esa/dsd/dsd_aofw/ni/ni_pdfs/National_Reports/barbados/SCP.pdf)

**THE DOMINICAN REPUBLIC**

“I think that the people of the Dominican Republic are tired of political discourse, the promises, and the lack of results. They want a government and a society that is accountable and responsible to the people, which provides better opportunities for human development and ensures that globalization, is a positive force for all. They want a development strategy that addresses the needs of women, children, and those who suffer from poverty as well as one that is sustainable for future generations. For these reasons, we have streamlined the Millennium Development Goals (MDGs) throughout Dominican society and created a Presidential Commission on the Millennium Development Goals and Sustainable Development (COPDES), which harnesses our full commitment to achieving the MDGs by the year 2015.” *H.E. Dr. Leonel Fernandez, President of the Dominican Republic*

When questioned about the extent to which MSI issues and thematic areas are included in National Development Plans, of those countries that have developed plans, 25% indicated that the MSI issues are equally “very well” and “fairly well” reflected in these plans, with 13% indicating that they have achieved minimum success in so achieving this goal. (question 4). In general, the thematic areas of the MSI are well addressed in the strategies or plans (Table 13 below; question 5). A review of other reports and documents from each of the countries covered in this report indicates that climate change and sea level rise, together with natural and environmental disasters, are addressed in all national development plans and programmes. Energy sources, especially the need for renewable energy sources are also receiving urgent attention by all Caribbean SIDS in their future development plans and programmes. All countries also mentioned the management of wastes as being important to national development efforts.

**Suriname Green** - economic development that leverages natural assets, while maintaining Suriname's status as the greenest nation on earth. The Green Development Plan will create an organizing framework for policy reform, government capacity investment, and economic plans on a sector-by-sector basis that will aim to achieve environmental sustainability and create a low-carbon, nature based economy.

Source: [http://wild9.org/ADMIN/archivos/SurinameGV\\_Brochure\\_C1\\_R3.pdf](http://wild9.org/ADMIN/archivos/SurinameGV_Brochure_C1_R3.pdf)

<sup>147</sup> This supports comprehensive, integrated planning to enable the consideration of a broad range of interconnected factors along economic, social and environmental considerations and to project future consequences of different strategies across a whole range of indicators. In addition, it will enable planners to trace causes of changes in any variable or indicator back to the assumptions.

**Table 13: Survey Responses to inclusion of thematic areas of the MSI in national development plans**  
(Percentage); N = 8

Thematic	Yes	No	No response
Climate change and sea level rise	62.5	25.0	12.5
Natural and environmental disasters	75.0	12.5	12.5
Management of wastes	75.0	12.5	12.5
Coastal and marine resources	62.5	25.0	12.5
Freshwater resources	62.5	25.0	12.5
Land resources	75.0	12.5	12.5
Energy resources	62.5	25.0	12.5
Tourism resources	75.0	12.5	12.5
Biodiversity resources	62.5	25.0	12.5
Transport and communication	62.5	25.0	12.5

With respect to their capacity to meet the human resource requirements to implement the MSI, 50% of the countries that responded indicated they are fairly well poised to do so and approximately 37% stated that they could do this with minimum success (question 6). However, approximately 63% of countries mentioned that the financial resources at their disposal would only allow them to achieve minimum success in implementing the MSI, while 25% opined that they could do this fairly well (question 7). Technical expertise to implement the MSI seemed to be minimally available (50% while approximately 38% stated that were in a fairly good position to address the targets of the MSI (question 8). Given existing trends, it is fair to say that all countries in the Caribbean region are facing difficulties in sourcing the necessary financial and technical resources to implement the MSI or their national sustainable development strategies. Indeed, Barbados' constraints in implementing its Sustainable Development Policy provides some good lessons for the region in terms of implementation of national sustainable development strategies.

**CHALLENGES FACING CARIBBEAN SMALL CHALLENGES OF SIDS AND LOWLYING COUNTRIES  
IN THE CARIBBEAN**

As you are aware, the special challenges facing small states as a group have been recognized and are advanced internationally primarily through the SIDS Process embodied in the Barbados Programme of Action in 1994. Small Island Developing States (SIDS) also include low-lying coastal countries such as Belize, Guyana and Suriname that share similar sustainable development challenges, such as small population, lack of resources, remoteness and insularity, susceptibility to natural disasters, excessive dependence on international trade and vulnerability to global developments. In addition, these States often suffer from a lack of economies of scale, high transportation and communication costs, and efficient public administration and infrastructure.

Address By His Excellency Bharrat Jagdeo, President Of The Republic Of Guyana At United Nations University In Japan On June 25, 2007

The constraints can be listed as follows:

- Capacity - inadequate human, financial, and technical resources dedicated to sustained implementation and evaluation activities. Particular attention is required in areas such as research, public education, further policy development, lobbying and advocacy and demonstration projects.
- Lack of information for decision-making - Where data is available it exists in differing formats and in different locations, which makes it problematic for decision-makers to get information on a sustained basis and at opportune moments. This scenario also has an added impact on the effectiveness of regulation and enforcement practices.
- A lack of legal authority and institutional capacity needed for implementation and enforcement.
- Communicating sustainable development to the general population is a challenge.

Despite these constraints faced by Barbados, the development of National Indicators of Sustainable Development, which accompanied the Policy Development, has had the added benefit of building both national and governmental awareness of Sustainable Development issues and the importance of tracking policies and goals in Barbados. The formation of Indicators networks has helped to integrate all relevant institution and ministries in the process and provided an excellent platform for both administrative and substantive discussions. This platform is currently being utilised to articulate Indicators of the Green Economy for Barbados which will be used to monitor Goal 4 of the National Strategic Plan: “These Fields and Hills’: Building a Green Economy- Strengthening the Physical Infrastructure and Preserving the Environment<sup>148</sup>.

In addressing challenges that are being encountered in implementing the MSI, countries identified unemployment (Antigua and Barbuda), poverty (Dominica, Saint Kitts and Nevis, and Saint Vincent and the Grenadines) and crime (Trinidad and Tobago) as the main social challenges, with crime (Antigua and Barbuda, Saint Kitts and Nevis, and Saint Vincent and the Grenadines), youth unemployment (Dominica), education for employment (Grenada) and high food prices (Trinidad and Tobago), as being the secondary causes of concern. Countries ranked health, education and inadequate social safety programmes as also being important (question 9).

Further to the challenges addressed by the countries which responded to the ECLAC Survey and further to a review of the MSI+5 National Reports prepared by some Caribbean countries, it is clear that the constraints to implementing the MSI are:

**Financial** – There is urgent need for commitments made in Barbados and in Mauritius to be honoured by the international community. Many of the activities and interventions in the Caribbean are being undertaken through allocations from the national budgets. The global financial, food and energy crises have however, constricted the amount of funding available. It is indeed disconcerting that a number of gains achieved in the implementation of the BPoA and the subsequent MSI are being eroded.

**Human and Institutional Capacities** – This spans elements in institutional capacity; human resource development; integrated planning modalities and mechanisms for the management of sustainable development in its: economic, social, and environmental dimensions.

The need for a permanent and adequately resourced **Regional Coordinating Mechanism** to promote the more effective implementation of the SIDS Programme of Action and for the general

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<sup>148</sup> Barbados National Assessment Report of Progress made in addressing Vulnerabilities of SIDS through Implementation of the Mauritius Strategy for Further Implementation(MSI) of the Barbados Programme of Action.

promotion of sustainable development across the subregion. This is an area of priority interest as a way of coping with the limited human, financial and institutional constraints. The Coordinating Mechanism will also help to reduce the unnecessary duplication of effort by various regional agencies.

Question 10 in the survey addressed the most critical economic challenges that Caribbean SIDS are currently facing. These were cited as tourism development (Antigua and Barbuda), high public debt (Dominica and Saint Kitts and Nevis), fiscal imbalance (Grenada) and inflation (Trinidad and Tobago). Of secondary concern to these countries was high debt (Antigua and Barbuda, Grenada, and Saint Kitts and Nevis), efficiency in the public utilities<sup>149</sup> (Dominica) and challenges in diversifying the economy and infrastructure (Trinidad and Tobago).

In addition to the specific challenges identified by the countries that participated in the ECLAC survey, the Caribbean is far from immune from the global economic crisis. Although many governments initially thought themselves safe from its effects, it has become apparent that every nation will see<sup>150</sup>:

- Falling remittances from nationals overseas;
- A significant decline in tourism/visitor arrivals (forecast by some governments to be down by between 30 and 40 per cent for the year);
- Volatile exchange rates and in particular the a fall in income and reserves as a result of the decline in the value of sterling;
- A fall off in overseas investment;
- Increasing levels of unemployment in key sectors including construction and tourism;
- Falling tax revenues;
- Difficulties in raising money on international markets to cover the day to day operations of Government; and
- Budgetary pressure related to the cost of delivering policies intended to mitigate the worst effects of the recession and/or stimulate future economic growth.

As a consequence, Jamaica, the Bahamas, Trinidad and Tobago, Saint Lucia, Belize, Cuba, and other Caribbean governments have introduced special budgetary measures. Many governments have also approached international financial institutions for support. Addressing these pressing problems is made more difficult by:

- The continuing longer term challenges being experienced in almost every single sector of the Caribbean economy ;
- Slow progress towards the creation of a viable Caribbean Single Market and Economy ;
- A decline in international interest in the region by its traditional partners in development; and
- An alarming growth across the region in crime, violence and narcotics trafficking

Rarely have any fragmented grouping of small and vulnerable developing nations faced so many economic challenges at the same time or with so little external awareness of the difficulties about to be faced.

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<sup>149</sup> Upgrading regulation and oversight of providers of energy, water, transportation (seaport and airport) and telecommunications services, to support more effectively improvements in quality (reliability and timeliness) of services and reduction of costs to the rest of the economy.

<sup>150</sup> <http://74.125.93.132/search?q=cache:20UfYGct5-oJ:www.caribbean-council.org/events/documents/DJpaper-EconomicChallengesfacingtheCaribbean.doc+economic+challenges+facing+the+caribbean&cd=1&hl=en&ct=clnk>  
 Accessed on April 20 1020.

**ENVIRONMENTAL ISSUES IMPACT BAHAMAS COMMERCE**

Climate change and environmental degradation have consequences outside the environment, according to Prime Minister Hubert Ingraham. The Prime Minister said the potential impacts of further rises in temperature not only include environmental degradation of marine and terrestrial ecosystems - loss of biodiversity, compromised ground water tables, agricultural lands and fishery resources - but also the social and economic losses which might be expected from dislocation of labour.

With reference to the key environmental challenges identified by respondents to the ECLAC Survey (question 11), these are presented in table 14. This table, however, also includes information from countries that did not respond to the ECLAC questionnaire. It has to be pointed out that the information was obtained from an internet search and has not been verified by the countries. Nevertheless, the issues identified in the table by each country give a glimpse of the range of environmental issues that plague the Caribbean SIDS.

**Table 14: Environmental challenges identified by Caribbean SIDS in order of priority**

Country	Primary	Secondary	Tertiary
Antigua and Barbuda	Lack of legislation and policy	Poorly - controlled development practices	Absence of a physical development plan
Aruba			
Bahamans, The	Impact of tourism on the environment; coral reef decay	Waste disposal	Water pollution
Cuba	Deforestation	Biodiversity loss	Air and water pollution
Dominica	Pollution from chemicals used in farming and from untreated sewage; pollution of coastal waters	Land degradation	Extremely damaging natural disasters, such as hurricanes, storm surges, landslides, droughts and floods, earthquakes and volcanoes
Dominican Republic	Water shortages and water pollution	Coral reef damage through heavy sedimentation	Deforestation
Guyana	Deforestation	Water pollution	Solid waste management
Grenada	Degradation of Environmental Capital due to inappropriate developmental practices	Lack of coordination in legislative/institutional framework	Lack of coordination for obligations to multilateral agreements
Guyana	Solid waste management	Land degradation and water pollution, particularly from mining	Industrial effluent and waste water management
Netherland Antilles	Inadequate waste disposal	Impact of oil refinery and oil transshipment on the environment	Impact of tourism on the environment
Saint Kitts and Nevis	No documented environmental policy	Deforestation and soil erosion	Water pollution
Saint Lucia	Deforestation, Unplanned development and squatting	Solid and liquid waste management	Natural Disasters
Saint Vincent and the Grenadines	Climate change	Land degradation	Biodiversity conservation
Suriname	Deforestation	Impact of mining on the environment	Pollution of inland waterways
Trinidad and Tobago	Climate change	Biodiversity management	Waste management
US Virgin Islands	Lack of nature freshwater resources		

Countries indicated that limited support was obtained from the international community in implementing the MSI (57%), while approximately 38% were of the opinion that, although not optimal, the support was satisfactory (question 12a). However, 50% of countries rated the regional support received as fairly well with 25% stating that this was received with minimum success (question 12b). Although only 8 countries responded to the ECLAC Survey, it can be safely assumed that the results can be extrapolated to the entire region. There is general consensus that the international community has not met its commitments and that the need to use local resources means that only small areas of the MSI will be implemented. There is also some level of consensus, especially among the CARICOM countries, that regional responses have helped to supplement and complement the national responses to the MSI.

## 2. Part B. Thematic Areas in the MSI

### (a) Climate change and sea level rise

#### CLIMATE CHANGE TO AFFECT DRINKING WATER, CROP YIELD, INSECT POPULATIONS

Planning Minister, Dr. Emily Gaynor Dick-Forde yesterday warned climatic change would significantly affect agricultural production as well as cause a reduction in potable water, an increase in the spread of vector population and a rise in the incidence of water borne diseases in flooded areas.

*Source: Trinidad and Tobago Express, February 24 2010*

Although the islands of the Caribbean covered in this report are marked by nuanced differences which define the social, economic and political fabric of each individual country, there are broad similarities which make the islands, as a collective, all vulnerable to the risks and impacts of climate change. The fact that they all share similar economic and sustainable development challenges (consisting of low availability of resources, high debt, a small but rapidly growing population, remoteness, susceptibility to natural disasters, excessive dependence on imports and vulnerability to global developments) enhances their vulnerabilities and reduces their resilience to climate change, particularly via the associated sea-level rise and enhanced climate variability and occurrence of extreme natural events. The implication and impact of climate change on these predominantly island nations are therefore not simply physical but inherently tied to their economic and social viability. The deterioration in coastal environments, for example through beach erosion and coral bleaching, will significantly affect local resources such as the fishing industry as well as directly impacting on the value of the tourism industry. Sea-level rise will result in an increase in storm surge inundation area, flood water height and wave damage, in turn resulting in enhanced levels of erosion and specific event impacts which threaten vital infrastructure, settlements and facilities that support the livelihood of most Caribbean communities. The increasing devastation and losses caused by natural disasters in the Caribbean is similarly reflected on a global scale, therefore highlight the increasing risk being created by climate change.

### LILIENDAAL DECLARATION ON CLIMATE CHANGE AND DEVELOPMENT

The Conference of Heads of the Caribbean Community, issued the LILIENDAAL DECLARATION ON CLIMATE CHANGE AND DEVELOPMENT at the conclusion of their 30<sup>th</sup> Meeting. The Declaration recognises the value and potential of standing forest, including pristine rainforest, and affirm the potential contribution to Reduced Emissions from Deforestation and Degradation (REDD). Forest conservation or avoided deforestation and sustainable management of forests are important mitigation tools against climate change in a post 2012 Agreement. The Conference of Heads also support the approach to harmonizing climate change mitigation and economic development as proposed by Guyana in its Low Carbon Development Strategy;

Source: CARICOM Secretariat

The concern about the future of Caribbean economies within the context of these risks posed by climate change is therefore a legitimate one. It is not simply based on unfounded fears but born from experience with current patterns and consequences of climate variability, as well as from observational records and indeed also climate model projections. This is supported by the 4th Assessment Report of the Inter Governmental Panel on Climate Change (IPCC) which concludes that small islands, including those in the Caribbean, face some of the highest levels of threats and risks from climate change and hence should focus on enhancing their resilience and implementing appropriate adaptation measures as a matter of urgency<sup>151</sup>.

Each of the islands of the Caribbean is simultaneously confronted with other social, political, economic and physical stresses which make adaptation an intrinsically challenging and complex task. This is because investment in essential adaptation and mitigatory measures will involve the reallocation of already scarce resources away from economic development and poverty alleviation, and will also add to already stifling debt burdens. Although these constraints can limit the choices of adaptation options and their implementation (such as inadequate data and technical capacity, weak human and institutional capacity and limited financial resources), it becomes especially important that the harnessing of these mechanisms and the associated adaptation investments made must themselves be properly conceived and legitimately implemented. Mal-adaptation, caused by an underestimation, overestimation or mis-estimation of the impact of climate change, can also be regarded as an added risk with far reaching consequences for the people of the Caribbean.

Against the backdrop describe above, each of the countries covered in the report are involved in a suite of activities aimed at adapting to climate change. In general, countries have ratified the Kyoto Protocol and have responded positively with respect to progress in adapting to climate change. A number of regional initiatives complement these national actions. Examples of these national and regional interventions are described below.

#### MY ISLAND MY COMMUNITY

**My Community** will build a sustainable coalition of local, regional and international organizations using public awareness and communications tools to respond to the challenges of climate change across the 9 islands of the Eastern Caribbean. **My Island – My Community** will promote: ecosystem-based adaptation to climate change; multiple-use marine zoning; sustainable finance mechanisms; and community well-being and livelihood opportunities.

[www.cbd.int/database/attachment/?id=538](http://www.cbd.int/database/attachment/?id=538)

<sup>151</sup> United Nations Intergovernmental Panel on Climate Change (IPCC), 2007. *Climate Change 2007*, the Fourth Assessment Report (AR4). Chapter 4.

At the regional level, the Caribbean Community Climate Change Centre (CCCCC) coordinates the Caribbean region's response to climate change. Officially opened in August 2005, the Centre is the key node for information on climate change issues and on the region's response to managing and adapting to climate change in the Caribbean. It is the official repository and clearing house for regional climate change data, providing climate change-related policy advice and guidelines to CARICOM Member States through the CARICOM Secretariat. In this role, the Centre is recognised by UNFCCC, UNEP, and other international agencies as the focal point for climate change issues in the Caribbean. It has also been recognised by the United Nations Institute for Training and Research (UNITAR) as a Centre of Excellence.

The OECS Member States are proposing to establish an OECS Climate Change Centre in Montserrat. The 3.5 million dollar centre will focus on education and research of the impact of climate change on the smaller Caribbean islands and is expected to raise awareness and motivate Caribbean nationals to develop and assist with the implementation of climate change and energy efficiency initiatives. The centre will feature systems for weather monitoring, sea level monitoring and tsunami warning, atmospheric gas and particulate matter monitoring and seismology. The climate change centre will operate in collaboration with the Caribbean Community Climate Change Centre<sup>152</sup>.

Caribsave is a partnership between CCCCC and the University of Oxford, which addresses the impacts and challenges surrounding climate change, tourism, the environment, economic development and the community livelihoods across the Caribbean. The Caribsave Partnership focuses on sectoral, destination, and national vulnerability and adaptive capacity assessments and strategy development. In addition, the initiative focuses on socio-economic and environmental policies and implementation, the impacts of climate change on key sectors and their integral relationship to tourism in the Caribbean, the development of carbon offset projects and carbon neutral destination status and capacity building and skills transfer across the Caribbean<sup>153</sup>.

**EC TO PUMP \$370 MILLION INTO CLIMATE CHANGE ADAPTATION EFFORTS FOR JAMAICA**

The European Commission is, over the next four years, to pump just over \$370 million (euro4 million) into a programme designed to shore up Jamaica's ability to adapt to a changing climate.

The programme objectives are:

- \* The rehabilitation and improvement of selected watersheds to reduce downstream run-off and associated pollution and health risks;
- \* The restoration and protection of coastal ecosystems to enhance natural buffers and increase resilience; and
- \* To integrate awareness building amongst Jamaica's population to better adapt to climate change.

Source: Jamaica Observer. April 21 2010

The ACS<sup>154</sup> coordinates various projects on disaster preparedness and relief with own and donor funding e.g. a Database of Financial Mechanisms for Disasters (a list of all organizations that provide reimbursable and non-reimbursable post-disaster funding), a Radio Soap Opera on Natural Disasters in the Caribbean, and assistance to member states in creating National Post-Disaster Funds<sup>155</sup>.

Red Cross-Caribbean<sup>156</sup> prepares training materials and coordinates training campaigns for disaster preparedness and resilience to other climate-change induced risks, including through Community Based

<sup>152</sup> Caribbean NetNews. Available at [http://www.caribbeanetnews.com/oecs/oecs.php?news\\_id=6453&start=0&category\\_id=23](http://www.caribbeanetnews.com/oecs/oecs.php?news_id=6453&start=0&category_id=23) Accessed on April 21 2010.

<sup>153</sup> <http://repeatingislands.com/2009/09/24/bahamas-participates-in-caribsave-climate-change-symposium/> Accessed on April 21 2010

<sup>154</sup> <http://www.acs-aec.org/> Accessed on April 21 2010

<sup>155</sup> <http://www.acs-aec.org/projects/projects.htm>. Accessed on April 21 2010

<sup>156</sup> <http://www.caribbeanredcross.org/what/dm/climatechange/index.htm> Accessed on April 21 2010

#### THE JAGDEO INITIATIVE FOR CLIMATE CHANGE

President Jagdeo's initiative calls for developed countries to give market-based incentives to developing countries, who can offer their rainforest in service of the world's fight against climate change. As part of the initiative, The World Bank's Forest Carbon Partnership Facility (FCPF) has approved REDD readiness plans (R-Plans) for Guyana. Readiness plans are the first step toward a country qualifying for payments under the proposed Reducing Emissions from Deforestation and forest Degradation (REDD) mechanism, a climate change mitigation scheme that would pay tropical countries for conserving their forests.

Source: Mongabay.com, July 2 2009 and GuyanaForestryBlog December 9 2007

IndEco<sup>158</sup>, in partnership with the University of Toronto's Institute for Environmental Studies and the Cuban Instituto de Meteorologia, is undertaking a project to facilitate the Cuban government's efforts to integrate climate change into its broader institutional, policy and national goals and programmes. The project focuses specifically on the development of sector specific actions, awareness, and adaptation strategies through strategic planning and training. Cuba's adaptation strategies include: protecting and better managing water resources; reducing the vulnerability of beaches and mangroves; conserving and protecting forestry resources and increasing forest cover; and improving its agricultural system. Cuba highlights its lessons learned as the need for: institutional capacity and additional funds to improve observation systems; more research, technical capacity and funding to enable a better understanding of actual climate variability; and capacity building for assessment of adaptation and mitigation costs<sup>159</sup>.

Adaptation has been taking place in the Caribbean region on a local scale through ad hoc individual action. For example, since Hurricane Ivan struck Jamaica it has become a common practice to place concrete blocks on top of zinc roofs to prevent them from being blown away during hurricanes.

Practices for coping with coastal erosion can be useful in adapting to rising sea levels; an example can be seen in Playa Rosario in Havana Province, Cuba, where the community has been relocated five kilometres inland because of coastal erosion<sup>160</sup>. Many of the adaptation options available to Caribbean

#### CARIBBEAN YOUTH RALLY IN DOMINICAN REPUBLIC FOR CLIMATE CHANGE

Thirty young environment advocates from 12 Caribbean islands met in the Dominican Republic recently to discuss climate change issues in the region and to gain insights into effective ways to get the public and their respective governments to engage with climate change in meaningful ways. From the workshop the youth representatives created the Santo Domingo Caribbean Youth Declaration on Climate Change and affirmed their support for the Lilliendaal Declaration on Climate Change. The declaration calls for governmental and private sector commitment and action to positively respond to the issue of climate change. It also asks government to encourage dialogue with youth in the Caribbean and to consider including youth on their respective national delegations to the United Nations Conference on Climate Change scheduled for December this year in Copenhagen.

Source: Caribbean NetNews, September 2 2009.

<sup>157</sup> <http://www.caribbeanredcross.org/what/dm/ccws-ppt/cbdrm.pdf> Accessed on April 21 2010

<sup>158</sup> IndEco Strategic Consulting Inc

<sup>159</sup> <http://www.iisd.ca/climate/cop6bis/enbots/> Accessed on April 21 2010.

<sup>160</sup> UNFCCC, 2007a. "Vulnerability and adaptation to climate change in small Island Developing State". Background paper for the UNFCCC Expert Meeting on Adaptation for Small Island Developing States (SIDS) Part I -Caribbean and Atlantic Ocean SIDS, Jamaica, February 2007

countries – e.g. land use planning, Integrated Watershed Management – are also a part of their sustainable development agenda.

The Special Pilot on Adaptation to Climate Change, supported by the GEF (2007-2011), is being undertaken in Dominica, Saint Lucia and Saint Vincent and the Grenadines. The project objective is to support these countries to implement integrated pilot adaptation measures that will have a direct influence on adopting policies to promote climate resilient development. It is addressing the climate change impacts on the natural resource base of the region, while focusing especially on biodiversity and land degradation along coastal and near coastal areas. The project aims is to make efficient and integrated use of the capacity built in past operations, and of limited human and financial resources, to advance by taking practical steps to implement adaptation measures<sup>161</sup>.

Given the importance of downscaled, high-resolution climate change data to planning for climate change adaptation, the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) has been involved in the downscaling of global climate model data at the level of the Dominican Republic<sup>162</sup>, and in the interpretation of such downscaled data for the assessment of vulnerability of ecosystems and their constituent species to climate change<sup>163</sup>.

In as much as there is a catalogue of regional and national initiatives in climate change and sea level rise, and in as much as there have been improvements in the knowledge base, all countries in the region suffer from a lack of access to improved technologies. The need for technology transfer and environmentally sound technologies has been recognized as critical in averting the threat of climate change throughout the UNFCCC process. Article 4.5 of the Convention notes confirms this. A review of the Technology Assessment Reports, that were prepared for a number of the Caribbean countries, indicates that the transfer and development of technologies for mitigation must be integrated with a country's energy policy and must reflect its development goals. The review also points to capital costs being the main barrier to technology transfer. Attitudes, perceptions and lack of information were also highlighted as a key barrier to the transfer of technology.

## **(b) Natural and environmental disasters**

Natural disasters are hardly a novelty in the region. Like the Circum-Pacific region, the Circum-Caribbean region is one of the most natural hazard-prone regions in the world. This is because of a combination of multiple geophysical and geological processes and inherent physical conditions that characterize the Caribbean region. Included among these are shallow, intermediate and deep focus earthquakes, volcanism, geological history and rock types, active tectonics and geological faults, mountainous terrain, volcanic soils, and long duration and high intensity rainfall associated with hurricanes and other tropical storms<sup>164</sup>.

In the last five years, the Caribbean region suffered from several large natural disasters whose magnitude, in terms of fatalities and damages, has renewed national governments' and international donors' interest in better managing risk. They have had a considerable importance in its history and its

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<sup>161</sup> World Bank Group, 2008a. The World Bank and GEF sign US\$2.1 million grant to protect coastal areas in the Caribbean, News Release No. /GEF/October 03, 2006, Washington, D.C. <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/LACEXT/OECSEXTN/0,,contentMDK:21079676~pagePK:1497618~piPK:217854~theSitePK:339287,00.html> Accessed on April 21 2010

<sup>162</sup> And Mesoamerica

<sup>163</sup> [http://www.pnuma.org/raiz/Climate\\_Change\\_in\\_the\\_Caribbean\\_Final\\_LOW20oct.pdf](http://www.pnuma.org/raiz/Climate_Change_in_the_Caribbean_Final_LOW20oct.pdf). Accessed on April 21 2010.

<sup>164</sup> Ahmad, Rafi, 2007. Risk Management, Vulnerability And Natural Disasters In The Caribbean Report Prepared For The International Federation Of Red Cross.

economic development. In addition to causing fatalities, homelessness and injuries, natural disasters have represented an enormous cost for the countries affected and the international community. In this paper, we estimate that the annual average cost between 1970 and 1999 ranges between \$700 million and \$3.3 billion. Due to the disruption of economic activity and the loss of capital assets they provoke, natural disasters have had negative short-term effects on GDP growth. In many instances, disasters have also resulted in longer-term economic consequences, such as slower growth, higher indebtedness and higher regional and income inequality. Environmental and social costs, though more difficult to assess in monetary terms, have also been substantial.

It is estimated that almost four million Caribbean citizens were affected by natural disasters<sup>4</sup> during the period 1990 to 2006. As table 16 shows, the majority of those affected came from Haiti and Jamaica.

Despite renewed preventative efforts at regional and international levels, the risk associated with natural events has not decreased. Economic costs can be expected to increase, as economic assets accumulate and economic interdependence reaches new levels. While the human toll taken by disasters has remained more or less stable, with the exception of the death toll from the Haitian earthquake in 2010, it is unlikely to decrease because of the persistence of widespread poverty, continuing demographic growth and migration towards coasts and cities. Finally, preliminary evidence regarding climate change seems to indicate that the probability of occurrence of severe weather events will rise in the region.

**Table 15: Socioeconomic Impact of Natural Disasters on 15 Selected Caribbean Countries**

Country	Total no. of disasters	Total no. of people affected	Total damage (US\$ '000)
Anguilla	1	150	50
Antigua and Barbuda	5	93,261	360,000
Bahamas	7	13,700	500,000
Barbados	3	3,000	0
Belize	7	145,170	330,240
Dominica	4	3,991	3,428
Grenada	4	62,045	894,500
Guyana	3	347,774	630,100
Haiti	28	2,221,815	101,000
Jamaica	13	943,734	1,808,787
St Kitts and Nevis	4	12,980	238,400
St Lucia	3	950	0
St Vincent and the Grenadines	5	1,834	0
Suriname	1	25,000	0
Trinidad and Tobago	7	1,787	25,127
<b>TOTAL</b>	<b>95</b>	<b>3,877,191</b>	<b>4,891,632</b>

Source: EM-DAT: The OFDA/CRED International Disaster Database

Environmental vulnerability is also a fundamental variable when planning the sustainable development of the subregion: It is an issue of social relevance. Unplanned human settlements; high rates of poverty; rapid urbanisation; and poor land use planning, to mention a few, are factors that reflect the subregion's environmental vulnerability to natural disasters.

Despite the numerous and on-going challenges faced by the subregion, there are, nevertheless, a number of regional and national efforts worthy of mention. Jamaica's Office of Disaster Preparedness

and Emergency Management's (ODPEM) is working at building disaster resilient communities. Its efforts will be supported with a \$31.3 million provision in the 2010/11 Estimates of Expenditure<sup>165</sup>. The three-year project, which commenced in July 2008, is intended to improve disaster management communication and planning systems at the national, parish and community levels. It will also: develop emergency response and disaster management plans for selected communities; strengthen national, parish and community disaster response capacity; enhance increased stakeholder ownership through active participation in the process, from hazard identification to the development of mitigation plans; and develop a culture of disaster preparedness and increased civic action in disaster mitigation.

Cuba's achievements in risk reduction come from an impressive multi-dimensional process. Its foundation is a socio-economic model that reduces vulnerability and invests in social capital through universal access to government services and promotion of social equity. The resulting high levels of literacy, developed infrastructure in rural areas and access to reliable health care and other created capital function as "multiplier effects" for national efforts in disaster mitigation, preparation and response.

At the national level, Cuba's disaster legislation, public education on disasters, meteorological research, early warning system, effective communication system for emergencies, comprehensive emergency plan, and civil defense structure are important resources in avoiding disaster. The Civil Defense structure depends on community mobilization at the grassroots level under the leadership of local authorities, widespread participation of the population in disaster preparedness and response mechanisms, and accumulated social capital. The increasingly popular Community Based Disaster Management (CBDM) approach focuses on strengthening capacity and building skills for risk reduction at the community level. Examining Cuba's experience, Oxfam America argues that strengthening community capacity, strong coordination of local actors and investing in social capital are determinate factors for successful risk reduction<sup>166</sup>.

#### **THE MULTI-DIMENSIONAL NATURE OF RISK REDUCTION IN CUBA**

Cuba's risk reduction model is multidimensional in nature, with a wide scope and multiplicity of complementary elements. These range from disaster mitigation legislation to the development of a culture of safety to community mobilization. All these components work extremely well together to reduce risk. The Cuba risk reduction model incorporates all of the areas of the risk reduction cluster

- Social and Economic Development
- Climate Change Adaptation
- Disaster Mitigation
- Disaster Preparedness
- Disaster Response
- Disaster Recovery

The Cubans have consistently built up their social capital to strengthen risk reduction, and have done this in times of rigorous economic scarcity. Their example raises the distinct possibility that life-line structures (concrete, practical measures to save lives) might ultimately depend more on the intangibles of relationship, training, and education than on high cost procedures and resources, a possibility that holds great hope for other poor countries facing high risks of disaster.

Source: Cuba Weathering the Storm, An Oxfam America Report

Disaster Risk Reduction is matter of national priority for Government of the Commonwealth of The Bahamas. A Natural Risk Preventative Management Programme has been designed and launched to contribute to sound disaster risk management. The Disaster Preparedness and Response Act that came

<sup>165</sup> Jamaica Information Service

<sup>166</sup> Oxfam America, 2004. C U BA Weathering the Storm: Lessons in Risk Reduction from Cuba

into force in 2006 provides for the implementation of activities/ actions that prevent, mitigate against, plan and prepare for, respond to and recover from emergencies and disasters. To facilitate a reduction in underlying risk factors, The Bahamas is also engaged in A Land Use Policy Project and Administration and in the formulation of a Master Plan for Integrated Coastal Zone Management (ICZM)<sup>167</sup>.

The structure of national disaster management mechanism in Barbados has facilitated the stimulation of interdisciplinary and inter-sectoral partnerships and supported the mainstreaming of risk management into the national planning process. This mechanism includes the Emergency Management Advisory Council, which has responsibility for recommending policies, programmes and activities to enhance the emergency management programme, 15 standing committees, which are responsible for advancing detailed sectoral disaster management planning, and 30 voluntary district emergency organizations through which the community disaster management programme is facilitated.

With respect to the enhancement of national disaster preparedness and early warning, the Government of Barbados and the United States Geological Survey signed a memorandum of understanding concerning scientific and technical cooperation in the earth sciences which provided seismology training for members of staff, the establishment of an Earthquake and Tsunami Early Warning Station at Gun Hill, St. George and the placement of dart buoys in the Caribbean Sea to provide real time data on seismic activity in the region.

The OCTs Regional Risk Reduction Initiative (R3I) covers the English and Dutch overseas countries and territories in the region, including Aruba, and the Netherlands Antilles, which are covered in this report. This project seeks to address the risk and exposure of these small islands by providing a network of regional infrastructure, programmes, policies, and protocols to strengthen their capacity to predict and prepare for natural hazards, thus improve resilience and reduce risk and subsequent loss.

The OECS Secretariat and the United States Agency for International Development (USAID) have developed a Disaster Risk Management Benchmarking Tool (B-Tool). The B-tool is a self-administered instrument which helps governments and national agencies to evaluate the adequacy of current disaster risk management tools, list best practice recommendations and assess their country's overall readiness and capability to deal with the risk of disaster.

The Alliance for Disaster Management promotes the integration of the private sector into community disaster response, preparedness, and mitigation. It is a partnership between the Pan American Development Foundation (PADF), the Association of American Chambers of Commerce in Latin America (AACCLA), individual members of American Chambers of Commerce (AMCHAMs), the Mid-Atlantic Chapter of the Association of Contingency Planners (ACP) and targeted local communities. The Alliance currently works, among other Latin American countries, in the Dominican Republic, Haiti, and Trinidad and Tobago with funding from the USAID Office of Foreign Disaster Assistance and resources from the private sector.

CDEMA, with the support of IDB and in collaboration with CTO; CARICOM Regional Organization for Standards and Quality (CROSQ); and UWI is implementing the Regional Disaster Risk Management for Sustainable Tourism in the Caribbean Project. The project is a 42-month initiative designed to contribute to the reduction of the vulnerability of the Tourism sector in the Caribbean to natural hazards through the development of the Regional Disaster Risk Management (DRM) Framework for Tourism in the Caribbean. The initiative also encompasses the development of a Strategy and Plan of Action for Standards for Conducting Hazard Mapping, Vulnerability Assessment, and Economic

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<sup>167</sup> <http://www.acs-aec.org/Disasters/CANREDES/English/An.%20XXII%20en.pdf>. Accessed on April 21 2010.

Valuation for Risk Assessment for the Tourism Sector in the Caribbean, as well as the institutional strengthening of the CTO, CDEMA, and their stakeholders in DRM for sustainable tourism.

CRMI, as an umbrella programme designed to build capacity across the Caribbean region for the management of climate-related risk, is led by Cuba and Barbados and the OECS UNDP Country Offices, in close collaboration with partners and other UNDP Country Offices in the region. Specifically, the CRMI aims to respond to the increase in disaster impact in the region through the integration of climate change adaptation in risk management. It facilitates knowledge networking and south-south cooperation in the wider Caribbean region and is implemented in the English, French and Spanish-speaking Caribbean.

Question 16 In the ECLAC Survey sought to assess the progress made in strengthening disaster risk reduction (DRR) strategies. One half of response countries indicated that their strong commitment in this regard has been demonstrated through requests for the conduct of post-disaster assessments, the results of which have been used as planning tools, while 25% stated that there has been some improvement, and approximately 13% indicated that little commitment has been exhibited. There was less progress made by approximately 13% countries in mainstreaming DRR into development planning, while an equal number (about 38%) mentioned that much and little progress respectively had been achieved. Countries (50%) stated that much progress has been made in improving awareness of the benefits of DRR while approximately 38% had made significant progress.

Jamaica has begun to address the special needs of children in disaster situations, with a focus on what has been done in meeting these needs. To this end, ODPEM has integrated children's needs into the Comprehensive Disaster Management Framework. Included in the Framework are two distinct priorities: introducing disaster risk education in school curricula; and school safety<sup>168</sup>.

#### **CANADIAN CARIBBEAN DISASTER RISK MANAGEMENT FUND**

The CCDRM Fund is designed to support national and regional organizations and community groups as well as governmental agencies which, using their own initiative and resources, undertake small-scale projects at the community level to enhance disaster risk management and reduce risks. It is expected that a major beneficiary of the CCDRM Fund will be the poor who are the most vulnerable, living in communities prone to disasters. The Fund will support projects in communities that identify and reduce disaster risks and strengthen critical areas of preparedness and safety. The Fund will target activities that: involve women and men in their planning and implementation, protect or improve the environment, reduce vulnerability to hazards in low-income and rural communities, and make maximum use of locally available resources.

Source: Barbados Youth Business Trust

In 2008 Trinidad and Tobago initiated a disaster risk reduction project, the objective of which is to engage civil actors and the population at large in the country in a process of evaluating the factors that cause disasters in the country and identifying actions to reduce and/or transfer risks of disaster-related losses<sup>169</sup>.

<sup>168</sup>. Morris, Kerry-Ann N and Michelle T. Edwards, 2008. Disaster Risk Reduction and Vulnerable Populations in Jamaica: Protecting Children within the Comprehensive Disaster Management Framework. *Children, Youth and Environments* 18(1), 2008.

<sup>169</sup> Prevention Web. Available at <http://www.preventionweb.net/english/>. Accessed on April 22 2010.

In the area of risk transfer, there are a growing number of products for weather related insurance for the region. Most of the Caribbean subscribes to the Caribbean Catastrophic Risk Insurance Facility which is a sovereign insurance established by the World Bank in collaboration with participating Caribbean Countries. In addition, as of 2008, weather index based insurance schemes have been on the increase in the Caribbean<sup>170</sup>.

The Windward Islands of the Eastern Caribbean also have a Crop Insurance that was established in 1988. The Windward Is. Crop Insurance (1988) Ltd. (WINCROP) is vested in the industry itself, through Banana Growers' Associations in the three participating islands. The company structure means that it has underwriting freedom and responsibility. WINCROP enjoys a good international reputation, and is able to negotiate re-insurance (to cover the risk of major hurricanes) on the international market<sup>171</sup>. By statute, WINCROP is required to settle claims within 38 days of the storm date. For this purpose, governments of the countries involved have created a standby facility to be used as bridge financing until reinsurance proceeds become available. Although the payout is limited, the quick access to cash is reported to have helped farmers get back on their feet relatively quickly. However, there are important challenges to the viability of the scheme. Despite its rapid disbursement, growers consider benefits to be relatively low and premiums high, and some growers have argued against compulsory membership of WINCROP. Raising premiums and thus cover is not seen as a viable option, as exports and profitability of banana crops have been declining. Widening the pool, for example to include other crops, has been discouraged by legislative constraints and the high reinsurance rates quoted for such a multicrop pool. Government subsidies have been demanded but not implemented. In the absence of subsidies, clients have been procrastinating premium payments and premium arrears have built up. There are also growers who have opted out of the scheme, and are currently without insurance by WINCROP<sup>172</sup>.

The situation with respect to their response to emergencies has significantly improved in the Caribbean. The Caribbean Disaster Emergency Response Agency (CDERA) formally became CDEMA on September 1, 2009. This change brings to fruition months of planning and represents the concretization of an organizational transition and strategic shift in focus from disaster preparedness and response to comprehensive disaster management. The primary evidence of the transition is reflected in the organization's structure and mandate which has been widened to include the adoption of disaster loss reduction and mitigation policies and practices, at the national and regional level and cooperative arrangements and mechanisms to facilitate the development of a culture of disaster loss reduction

ODPEM in Jamaica, through the Building Disaster Resilient Community (BDRC) project, has partnered with the Caribbean Institute of Media And Communication (CARIMAC) at UWI in an effort to promote disaster resilience in Jamaica. The BDRC is funded by CIDA with the goal of ensuring long-term hazard prevention by strengthening communities' ability to respond proactively to natural and manmade disasters. The three-year BDRC project was launched in 2008 and is being implemented in 29 communities, which were selected based on their susceptibility to certain natural disasters<sup>173</sup>.

The role of the National Emergency Management Organisation (NEMO) is to develop, test and implement adequate measures to protect the population of Saint Lucia from the physical, social, environmental and economic effects of both natural and man-made disasters. Its responsibility is to ensure

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<sup>170</sup> Risk management approaches to address adverse effects of climate change – Insurance. Available at [http://unfccc.int/adaptation/adverse\\_effects\\_and\\_response\\_measures\\_art\\_48/items/4971.php](http://unfccc.int/adaptation/adverse_effects_and_response_measures_art_48/items/4971.php). Accessed on April 21 2010.

<sup>171</sup> FAO Corporate Document Repository.

<sup>172</sup> Mechler, Reinhard and Joanne Linnerooth-Bayer with David Peppiatt, 2006. A review of Microinsurance for natural disaster risks in developing countries. A *ProVention/IIASA Study*

<sup>173</sup> Office of Disaster Preparedness and emergency Management. Available at <http://www.odpem.org.jm/NewsDetails/tabid/225/Default.aspx?news=885>. Accessed on April 22 2010

the efficient functioning of preparedness, prevention, mitigation and response actions. To date, NEMO has completed a suite of Policies and Guidelines; Hazard Specific Plans and Emergency Plans.

In Cuba, The Institute of Meteorology tracks storms and informs the government of impending danger. The government has good communication and evacuation plans implemented by the Civil Defence and Red Cross. Disaster management is facilitated by legislation and strong national leadership, and government institutions aid recovery and reconstruction<sup>174</sup>.

### **(c) Management of wastes**

The lack of land areas and resources available for the safe disposal of wastes, population growth, the growing tourism industry, and the increase in imports of polluting and hazardous substances combine to make pollution prevention and waste management a critical issue in most Caribbean States. Having said that, since 2005, a number of Caribbean countries have sought to address the problem, very often with loan funds. Below is a catalogue of some of the interventions at waste management by selected countries covered in this report.

Management of solid waste disposal in Grenada is centralized under Grenada Solid Waste Management Authority (GSWMA). The establishment of GSWMA was a direct result of the World Bank/Caribbean Development Bank (CDB) solid waste initiatives of 1995. These initiatives in Grenada have led to much improved collection coverage, improved landfills, a firm legislative system for solid waste management and an excellent cost recovery system. Solid waste collection in Grenada has been fully privatized, eliminating considerable load at the GSWMA administrative level as well as all potential equipment maintenance problems associated with the collection equipment. GSWMA does maintain three compactors of its own for emergency use by the collection contractors. The main strengths of the system are the highly effective cost recovery system and the privatization of the collection services and the much improved disposal facilities. The weaknesses of the system include the lack of full definition of responsibility and authority for the monitoring services assigned to the Public Health Department in the controlling legislation. The absence of any regulations supporting the solid waste legislation is also a major weakness.

Saint Lucia has made tremendous progress in ensuring that solid waste generated on the island is managed in an environmentally sound manner. The closure of the Ciceron Waste Disposal Site situated in the North of the island, the opening of its replacement, the Deglos Sanitary Landfill, and the upgrade to the Vieux-Fort Solid Waste Management Facility has ensured the environmentally sound management of waste. These sites which receive non-hazardous solid waste operate in accordance with internationally recognized standards with little impact on the environment. The island has 100% coverage for waste collection, through a privatized waste collection service. The service standard continues to be improved with experience and technical know-how. With the introduction of the biomedical waste management program in 2005, all biomedical waste generated on the island is collected, transported, treated and disposed of in a manner which is consistent with internationally recognized standards. In addition, training of health care personnel in the management of biomedical waste in undertaken annually geared at protecting persons at risk. The management of ship-generated waste has been accorded high priority by Saint Lucia. In this regard, the provisions of the International Convention for the Prevention of Pollution

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<sup>174</sup> Sims, Holly And Kevin Vogelmann ,2002. Popular Mobilization And Disaster Management In Cuba. Public Admin. Dev. 22, 389-400 (2002) Published Online In Wiley Interscience (Www.Interscience.Wiley.Com) DOI: 10.1002/Pad.236

### Island of Aruba Chooses WastAway Technology to Solve Trash Problem

Bouldin and Lawson, a subsidiary of Bouldin Corporation, recently secured a \$15.5 million project to build their first international WastAway system in Aruba. The project will be used to recycle 50% of that island's municipal solid waste. In just twenty minutes, the WastAway patented hydrothermal process converts a ton of unsorted household waste into a pathogen-free, environmentally safe medium called Fluff, which can then be used for a variety of other applications. Aruba will initially process Fluff for use as a growing medium to supplement topsoil, which is a valuable commodity on the island. However, Fluff can also be used as a renewable energy to generate steam and electricity, or can be converted to synthetic ethanol or diesel.

Source: The Free Library,

<http://www.thefreelibrary.com/United+States:+Island+of+Aruba+Chooses+Wastaway+Technology+to+Solve+...-a0192332174>

from Ships (MARPOL) are enforced. Progress has also been made with respect to the management of used oil generated on the island. The used oil management program is geared at ensuring that oil generated on the island is stored in specialized storage containers, collected and utilized locally in an environmentally sound manner. This cost-effective approach has resulted in the preservation of the environment while at the same time reducing on the importation and use of virgin fuels<sup>175</sup>.

Jamaica and Trinidad and Tobago have also improved their collection of municipal solid waste and operations of disposal sites. Like the OECS Countries, they have also waste management policies, legislation and institutional arrangements.

The system for solid waste management in Suriname has not changed considerably during the past decades. Solid waste management activities are best developed only in the Greater Paramaribo area. The organization for solid waste management in the districts is strongly centralized and most activities are to a great extent arranged from Paramaribo. Although a draft law was prepared, there is presently no specific legislation concerning solid waste and there are no technical standards on solid waste management. Aspects of solid waste are covered in the Nuisance Act, the Criminal Act and the Pesticides Act. The solid waste services and solid waste linked activities in Suriname are the responsibility of several government agencies, and tasks are divided over different ministries. Planning, management and control, and financing of the services are often executed by different sections of a ministry. Much of the mechanical work of solid waste management, including special services, is contracted out. A proper waste collection and disposal organization is only available in Greater Paramaribo. In the other coastal districts the work is included in the general maintenance tasks of the District Commissioner. In the rural areas and in the interior solid waste is not collected and people bury or burn their waste, or dump it on an open lot or in nearby rivers. Compactor trucks are doing most collection in Greater Paramaribo, but often also open trucks are being used. In the districts only open trucks are used. The waste is transported to the dumpsite with the same truck. No waste separation occurs and some hazardous waste will be mixed with domestic waste. Recycling of PET is only done at a very limited scale. Deposit is paid on glass bottles with locally produced beer and soft drinks and such bottles are re-used.

Waste management in the Netherlands Antilles has improved, with waste inventories completed for Saba and St. Eustatius and corresponding action plans formulated. An implementation plan for the recycling and adequate disposal of car wrecks was drafted with support from the Dutch Ministry Of Environment. An inventory of hazardous waste was completed in Curaçao. The bilateral agreement for international transport of hazardous waste (under the Basel Convention) between the Netherlands and the

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<sup>175</sup> Saint Lucia National Report, 2009, Review Of Progress Made In Addressing Vulnerabilities Of SIDS Through Implementation Of The Mauritius Strategy For The Further Implementation (MSI Of The Barbados Programme Of Action (BPoA))

Netherlands Antilles has been renewed. As to legislation, a model island ordinance for waste management was drafted, providing a template for the island authorities to regulate the collection and the disposal of solid waste. Similarly, a model wastewater management ordinance was produced<sup>176</sup>.

Belize has received a US\$11,150,000 loan from IDB – 2008 to 2012 - to improve solid waste management practices, reduce environmental pollution and enhance the image of Belize in the eco-tourism market through better management of its municipal dump sites. The program will focus on the solid waste management needs of the Western Corridor (Belize City, San Ignacio and Santa Elena), and the islands of Ambergris and Caye Caulker, and will also strengthen the overall capacity of the central government to improve solid waste management. The infrastructure investments of the programme include the closure of the open dump site in Mile 3 and the construction of a main waste transfer facility to help waste separation and recycling, the construction of a new regional waste disposal facility at Mile 24 and the long haul of wastes volumes for final disposal at the new site. Open dumpsites in San Pedro, Caye Caulker and San Ignacio will be close down and transfer facilities in those sites or in alternative sites will be built.

Unlike solid waste management, which has received much effort and resources from Caribbean governments, liquid waste management is still in its infancy. There are no available Plans or strategies for the management of liquid waste. Many of the larger hotels in the region have their own treatment plants; household liquid waste is channelled into septic tanks. Very few countries have sewage treatments plants to service communities.

Movement of hazardous waste across jurisdictions falls under the ambit of the Basel Convention,<sup>177</sup> and 50% of countries who responded to the ECLAC Survey indicated that they are signatory to it and are indeed implementing it; three countries have not signed it. Approximately 38% of the countries that have signed the Convention have come to an agreement with other countries on a regional approach to the transboundary movement of waste, while 25% did not respond. However, with respect to consensus with the international community on movement of such waste, 50% stated that this has not materialized, one country responded positively and three countries did not respond.

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[http://74.125.93.132/search?q=cache:qUxigbMe\\_wgJ:www.eclacpos.org/profile/wasteNETHERLANDS%2520ANTILLES.doc+WASTE+MANAGEMENT+IN+THE+NETHERLAND+ANTILLES&cd=2&hl=en&ct=clnk](http://74.125.93.132/search?q=cache:qUxigbMe_wgJ:www.eclacpos.org/profile/wasteNETHERLANDS%2520ANTILLES.doc+WASTE+MANAGEMENT+IN+THE+NETHERLAND+ANTILLES&cd=2&hl=en&ct=clnk).

Accessed on April 21 2010.

<sup>177</sup> The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was signed on 22 March 1989 and entered into force in May 1992.

The Convention is the most comprehensive global environmental agreement on hazardous and other wastes. As of November 2008, it had 170 parties. It aims to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes.

Be that as it may, the Caribbean region will be the latest to join the list of countries in the world under the MARPOL 73/78 programme for the effective control of marine pollution. By adopting MARPOL 73/78's resolutions and eco-friendly guidelines for the safeguarding of its tropical waters, the Caribbean will be the sixth region of the world protected from the indiscriminate dumping of toxic waste. As of 1st May, 2010 the Caribbean will, under the programme's resolutions, be banning the pouring of oil, sewage, garbage, noxious liquid substances carried in bulk, in packages, containers, portable tanks and tank-trucks or tank-wagons into the sea<sup>178</sup>.

Question 20 in the ECLAC Survey sought to determine the extent of progress made in the formation of regional partnerships for waste management. With respect to formulation of an agreement on a regional approach to programming, an equal number (50%) equally responded positively and negatively while 25% did not respond. However, the majority of respondents (approximately 63%) stated that there is no agreement on the allocation of financial resources, or sourcing of such resources for programming (50%) for waste management activities. One-half of the countries responded that a lead agency has been named for waste management (approximately 13% responded negatively and about 38% did not respond). In like manner, the majority (50%) responded that they had made no progress in achieving the cooperation of all countries in addressing waste management (25% indicated that such progress had been made and another 25% offered no response.

#### **(d) Coastal and marine resources**

Coastal zones in the Caribbean, as they are in all SIDS, are typified by a complex and dynamic interplay of natural, demographic and economic processes linked to each other in a network of mutual reciprocal influence. These processes are essentially dynamic cycles involving the exploitation of natural resources, the transformation and use of resources for demographic growth, social organization and economic production, and the generation of by-products and their dispersion back into the natural system. Coastal zones are currently experiencing intense and sustained environmental pressures from expanding socio-economic systems and a range of other driving forces. There is also a growing awareness of these pressures and their linkage to economic development, and increasing population growth. The unsustainable management of the coastal zone is reflected in the increasing pollution in coastal areas, in the physical degradation of coastal environments, and in the deterioration of coastal habitats and resources. Uncontrolled or excessive socioeconomic growth increases the pressure on the natural subsystem and causes oppressive problems resulting in environmental degradation and eventually in the collapse of the coastal system or parts thereof. Protecting the coastal environment, while accommodating growth pressures, represent a particular major challenge to the Caribbean.

Despite the significant value of coastal and marine resources to the current and future wellbeing of the Caribbean SIDS, the ecosystem goods and services provided by the Caribbean Sea - the benefits which are enjoyed by Caribbean peoples and a large number of visitors - are under threat from many sources. International marine shipping (including nuclear waste trans-shipment), wastes from yachts and

#### **CARICOM calls for halt to hazardous waste transiting Caribbean Sea**

CARICOM has reiterated the call for a halt to the shipment of hazardous waste through the Caribbean and expressed "gravest concern" at the likelihood that a new shipment of Vitrified High Level Waste will transit the Caribbean Sea.

In a news release, CARICOM said it will intensify its opposition to the passage of shipments of high-level waste through the Caribbean Sea which "constitutes not only a part of the way of life of the Caribbean people but also a principal source of livelihood and socio-economic activity."

Source: Stabroek News. February 2 2010

<sup>178</sup> Cuba News Headlines, April 14 2010

cruise liners and large commercial fishing vessels from nations not indigenous to the sub-region are among some of the major hazards to the coastal and marine environments in the area. Over-harvesting of fisheries and land-based sources of pollution have a direct impact on sustainable livelihoods. The resources of the coastal zone are also under threat from several sources such as removal and filling in of mangrove swamps for hotel and resort construction, beach sand mining and blasting channels through coral reefs to facilitate marina development. Deforestation and land clearing also promote soil loss and fertiliser runoff, which may cause algal blooms and increased turbidity in the coastal zone. Many of the driving forces, however, often go unrecognised. The current patterns of degradation of the Caribbean Sea, coupled with the vulnerability of both the coastal and marine ecosystems to climate change, mean that it is imperative to grasp the relationship between ecology and economics so as to prevent the occurrences of ecological surprises with unpredicted economic consequences.

Land-use and resource allocation conflicts in the coastal zone, degradation of coastal ecosystems, fish stock reduction and declining water quality from land-based activities have been intensifying the demands on these natural resources in the Caribbean. Such demands limit the ability of coral reefs and aquifers, e.g., to adequately adapt to climatic changes. In addition, due to the Caribbean Sea's unique circulation patterns, human impacts such as pollution and runoff are concentrated in nearby coastal areas and can have a severe and cumulative effect on the entire region.

The increasing demand for coastal tourism in the region has changed the demand for land use and increased the price of coastal lands. Trends in coastal lands have been skewed towards high-density, mass market tourism sites close to the water's edge, which have increased the competitiveness of tourism with other activities for coastal land. The result has been a ribbon growth pattern of development along the coast, mostly due to space limitations for coastal tourism and the associated infrastructure requirements such as transport links. Additionally, the growing concentration of tourist activities has increased the dependency of the Caribbean islands on tourism earnings, giving this activity priority in the use of coastal and marine resources and public infrastructure.

Coastal urbanization and land-use controls have never been viewed as critical issues in the Caribbean, so lands have been inefficiently utilized under the freehold and leasehold land-use allocation system. This has led to many sensitive areas being developed, particularly those lands with high environmental values such as offering watershed protection or possessing high biodiversity. Most of the coastal open space that could easily be developed has long since been built upon, and the continued growth of the population has contributed to encroachment on to hazard-prone areas such as coastal flood plains or steep slopes for settlements.

Rising sea levels, in particular, pose threats of severe ecological disruption, which will likely impact Caribbean social structures and economies in the highly concentrated coastal zone (i.e., within 2 km from the coast). Most island economies have become largely dependent on the tourism industry, which features pristine beaches, coral reef ecosystems, and other coastal amenities; to continue to attract international travelers and to remain competitive with other tourist destinations, many island states have compromised their natural assets. In the process, other economic activities such as agriculture and manufacturing industries have been jeopardized because of the strain on resources such as potable water, coral reef habitats, and fisheries.

All countries covered in this report are cognizant of the degradation of their coastal and marine resources and marine resources and are keenly aware of the impact of climate change and sea level rise on these resources. To this end, each country is undertaking a number of activities to mitigate further degradation of the coastal and marine resources. Countries have also joined forces to craft regional and collective responses to this burgeoning problem.

Belize has a Coastal Zone Management Authority and Institute to support the allocation, sustainable use and planned development of Belize's coastal resources through increased knowledge and the building of alliances for the benefit of all Belizeans and the global community. The Coastal Zone Management Plan, as prescribed in the Coastal Zone Management Act 1998, defines the policies, strategies and guidelines for the management and conservation of Belize's coastal resources.

In 2008, Cuba<sup>179</sup> banned the harvesting of all marine turtle species and products from its beaches and seas for an indefinite period. Conservationists have applauded the decision as a lifeline for the Caribbean's endangered marine turtles and the communities that co-exist with them. It benefits all turtle species hatching on beaches throughout the Caribbean and coming regularly to feed in Cuban waters, including the critically endangered hawksbill turtle. The two remaining fishing communities that were harvesting marine turtles in Cuba will be helped with funds and technical assistance to find sustainable economic alternatives, modernize their fishing fleets, re-train their inhabitants, and engage them in hawksbill turtle protection activities<sup>180</sup>.

The Dominican Republic is implementing a project to mitigate the impacts of Industrial Wastes on the Lower Haina River Basin and its Coast. This project is being financed by the GEF IWCAM Project. The project aims to obtain tangible results in the reduction of pollutants in the hydrographic basin of Haina river, located in the south coast of the country. The principal intervention will be in the industrial sector with the implementation of programmes aimed to reduce contamination by developing recycling and reutilisation mechanisms; a heavy metal contamination survey to provide information to guide policy and strategic planning; and overall integrated management programmes.<sup>181</sup>

Suriname is receiving technical assistance from IDB for establishing the foundation for ICZM as a coordinated approach to managing economic activities occurring and planned for the coastal zone and promote sustainable use and conservation of the coastal zone's natural resources. Specific objectives are to: (i) formulate an ICZM Plan; (ii) propose legal and institutional reforms for ICZM; and (iii) raise awareness<sup>182</sup>.

### **The Nature Conservancy joins Caribbean leaders to launch “Caribbean Challenge” at United Nations COP-9 conference**

BONN, GERMANY — The Nature Conservancy and Caribbean leaders announced the launch of the Caribbean Challenge, an effort by regional governments to build political support and generate long-term funding to protect at least 20 percent of participating countries' marine and coastal habitats by 2020.

<http://www.nature.org/pressroom/press/press3540.html>

The Government of Barbados continues to place high priority on the protection of its vulnerable coastal resources. To this effect the development of a Barbados Beach Management Plan was completed during 2008, funded by the National Conservation Committee (NCC) and OAS, creating clear guidelines for the sustainable management of beach resources to the benefit of stakeholders. The work of the

<sup>179</sup>

<sup>180</sup> Market Wire Available at <http://www.marketwire.com/press-release/Cuba-Ends-Turtle-Hunt-WWF-813507.htm>. Accessed on April 22 2010

<sup>181</sup> <http://cep.unep.org/iwcam/participating-countries/dominican-republic/demonstration-project/dominican-republic-demonstration-project-document/view> Accessed on April 22 2010.

<sup>182</sup> IDB. Available at <http://www.iadb.org/projects/project.cfm?id=SU-T1035&lang=en>. Accessed on April 22 2010.

### Caribbean Marine Atlas (CMA)

A number of Caribbean countries are embarking on an initiative to develop a Caribbean Marine Atlas (CMA). The purpose of the CMA is to identify, collect and organize available geo-spatial datasets into an atlas of environmental themes for the Caribbean region, under the sponsorship of the Intergovernmental Oceanographic Commission's (IOC) International Oceanographic Data and Information Exchange (IODE) and Integrated Coastal Area Management (ICAM) Programmes. The CMA will include geo-spatial data from national and regional projects and programmes, related to the sustainable development and integrated management of marine and coastal areas in the region. (Barbados, Cuba, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Trinidad & Tobago and Turks & Caicos). The Project was to have been completed by December 2008. It has however been difficult to ascertain the status.

Source: CMA Caribbean Marine Atlas,  
<http://www.caribbeanmarineatlas.net/>

Coastal Zone Management Unit continues to be a best practice in the region employing cutting edge engineering solutions to safeguard against coastal erosion, ensure continuous data collection as it relates to the health of coral reef systems, and ensure sustainable development practices on the coastline through the work of its coastal planning department.

Saint Lucia has formulated a Coastal Zone Management Policy (CZM)<sup>183</sup> which is guided by a number of strategies including: equity, stewardship, collaboration and participation, multiple use,

enforcement, capacity-building, coordination and integration and public awareness. The CZM Policy is supported by an institutional framework that comprises a Coastal Zone Management Unit in the Sustainable Development and Environment Section and a Coastal Zone Management Advisory Committee. The policy embraces an 'island systems approach' to management, recognizing that many of the problems being experienced in the coastal area are the result of land-based activities, which will have to be tackled at the broader level if they are to be addressed effectively.

In 2007/08, with financing provided under the Special Framework for Assistance, 2003, the Sustainable Development and Environment Section in collaboration with the Banana Industry Trust undertook a Coastal Habitat Mapping Project. The goal of the Project was to collect a variety of spatial datasets of coastal habitats and resources in country in order to produce a digital database of coastal habitats and resources. It is envisaged that such information will help to establish the basis for better informed planning, development and management decision making in respect of Saint Lucia's coastline<sup>184</sup>.

The start-up of the GEF-funded CLME and Adjacent regions Project on 1 May 2009 represents the culmination of over a decade of reparatory work involving experts from over the region. The Project was created in response to the serious challenges facing the marine ecosystems of the Caribbean. Most fish stocks are over-exploited while levels of pollution have reached dangerously high levels threatening entire marine habitats and the livelihoods of coastal communities. Climate change has added to these. There is therefore urgency for the countries of the Caribbean to work together to address these challenges and to develop a common position on the protection and sustainable use of marine resources. The CLME Project aims to do exactly that - bring countries and communities together to jointly identify and prioritize key regional actions that will result in tangible improvements.

The Caribbean is more advanced than many other LME regions. Regional fisheries institutions, together with national governments, civil society and other regional bodies, already have significant fisheries data, knowledge, and experience. In partnership with the existing regional network, the CLME

<sup>183</sup> Government of Saint Lucia, 2004. Coastal Zone Management in Saint Lucia: Policy, Guidelines and Selected Projects

<sup>184</sup> Saint Lucia National Assessment Report, 2009

Project will concentrate on a new, comprehensive governance framework for Caribbean marine resources focused on the most important fish stocks<sup>185</sup>.

Many people in the Caribbean depend on good governance of marine resources for their livelihoods and for development to be sustainable. However, there is an urgent need to build capacity, and network connections for adaptation and resilience, into present and planned marine resource governance in the eastern Caribbean. To assist in addressing this need, The Centre for Resource Management and Environmental Studies (CERMES), UWI, is undertaking applied research on marine resource governance in the eastern Caribbean through the MarGov project. Using a conceptual framework derived from complex adaptive system (CAS) and social-ecological system (SES) perspectives, the research focuses on understanding governance related to small-scale fisheries and coastal management in the eastern Caribbean mainly through network analysis. It applies the results to the examination of how present and planned marine resource governance initiatives can become more adaptive and resilient at various scales to benefit a diverse array of stakeholders in the eastern Caribbean<sup>186</sup>.

All the SIDS covered in this report have established Marine Reserves and Parks. The Commonwealth of Dominica, for instance has established three marine reserves. The reserves are all fisheries driven, protecting valuable nursery grounds, in conjunction with the growing dive tourism. User fees are employed as a levy to ensure maintenance of the systems<sup>187</sup>.

Of the six Biosphere Reserves declared in Cuba, five include marine or coastal areas. Three of these include marine-coastal ecosystems of very high importance<sup>188</sup>. In the case of the Dominican Republic, there are two Marine Mammals sanctuary and six Marine National Parks. The Marine Protected Areas also include two Submarine National Parks, two Natural Monuments, and three wildlife Refuges. These Marine Parks and Protected Areas include terrestrial, and historical and cultural resources<sup>189</sup>. In 2009, a Presidential decree added 31 new protected areas into its national protected areas system. The new protected areas encompass 1,321,024 hectares, of which 1,103,569 hectares span the marine environment<sup>190</sup>.

There are in excess of 20 marine reserves and parks in The Bahamas. Most of the marine parks are designated as National Parks and all parks are managed and administered by the Bahamas National Trust under the Bahamas National Trust Act of 1959. Thus far, the literature suggests that the Bahamas Islands are adequately following the World Commission on Protected Areas (WCPA) guidelines for Marine Protected Areas. All of the marine parks and reserves have boundaries which include both land and marine habitats, acknowledging the connection between the seemingly distinct ecosystems. With The Bahamas already taking steps in the right direction, expanding the current parks, creating new reserves, and zoning ecologically sensitive the country will be able to retain its unique and revered habitats and species as well as ensure the sustainability of its varied marine resources. Collaborative management and

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<sup>185</sup> IW: Learn. Available at [http://www.iwlearn.net/iw-projects/Fsp\\_11279947037](http://www.iwlearn.net/iw-projects/Fsp_11279947037). Accessed on April 23 2010.

<sup>186</sup> MarGov Project Profile. Available at [http://www.cavehill.uwi.edu/cermes/margov\\_profile.html](http://www.cavehill.uwi.edu/cermes/margov_profile.html). Accessed on April 23 2010.

<sup>187</sup> Dominica Marine Reserve. Available at <http://www.dominicamarinereserves.com/>. Accessed on April 23 2010.

<sup>188</sup> The Nation System of Marine Protected Areas in Cuba. Available at [http://www.edf.org/documents/3692\\_mpasCubaIngles.pdf](http://www.edf.org/documents/3692_mpasCubaIngles.pdf). Accessed on April 23 2010.

<sup>189</sup> Ing. Héctor Iván González Brioso. Marine Protected Areas of the Dominican Republic. Paper presented to the IABIN Marine Protected Areas Workshop March 11th-13th of 2008, Ocho Rios Jamaica

<sup>190</sup> The Nature Conservancy. Available at <http://www.nature.org/wherewework/caribbean/press/press4298.html>. Accessed on April 22 2010.

engaged discussions between the public and private sectors will most likely guarantee the improved quality and health of terrestrial and marine areas, regardless of their designation or level of protection<sup>191</sup>.

In as much as Caribbean SIDS have all established marine parks and protected areas, only a very small percentage of these declared protected areas exist in actual fact. Most are paper parks in which no management occurs. The motivation to establish protected areas is often based on the perception that such areas enhance a country's competitiveness in the tourism sector. However, while the political will to establish protected areas may be strong, the will to budget for their management has shown itself to be very weak, in the face of urgent national priorities and continuous fiscal crisis. This is borne out by the findings of the ECLAC survey: all respondents claimed that self sustainability of the marine parks and protected areas was a major challenge.

In recent years there have been increasing calls to transform paper parks into managed protected areas, and to establish new protected areas to tap the ecotourism market and to provide a measure of protection against development pressures, particularly in the coastal zone. Given the limited ability of most governments in the region to meet the costs of management, alternative sources of revenue are being explored.

Pressure to establish self-financing protected areas is also coming from international development and lending agencies, which often bear the capital start-up costs of protected areas and want to assure that their investments are secure. The implementation of mechanisms for financial sustainability has become a routine conditionality of loans and grants for protected areas.

The major obstacle faced by government departments in implementing revenue generating mechanisms such as user fees, public donations, or gift shop sales, is that it is generally difficult to segregate such revenue for management of the protected area, since all government income is expected to be paid into the consolidated fund and allocated according to national priorities. On the other hand, non-governmental organizations may not have adequate systems for financial accountability, and their authority as management agents and revenue collectors may be questioned by users and management partners and collaborators.

All Caribbean SIDS are signatories to the United Nations Convention on the Law of the Sea (UNCLOS). As of March 1

#### **Guyana wants to extend continental shelf beyond 200 nautical miles**

Guyana has provided information to the United Nations aimed at securing Guyana's entitlement to extend its continental shelf beyond 200 nautical miles, pursuant to Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS). According to the Ministry of Foreign Affairs, the provision of the information to the UN was made without prejudice to future maritime delimitation with neighbouring states. A government news service release stated that, under the provisions of Article 76 of UNCLOS, coastal states, after meeting strictly specified and scientific criteria may, with the recommendation of the UNCLCS, exercise jurisdiction over a maximum of 150 nautical miles beyond the 200 nautical mile exclusive zone.

Source Caribbean NetNews, May 15, 2009

2010, the Dominican Republic, Suriname, Haiti, Barbados, Guyana, Saint Vincent and the Grenadines, Saint Kitts and Nevis, Dominica, Grenada, Antigua and Barbuda, Trinidad and Tobago, Saint Lucia,

<sup>191</sup> Marine Protected Areas of the Bahamas. Available at <http://jrscience.wcp.muohio.edu/fieldcourses08/PapersMarineEcologyArticles/MarineProtectedAreasofthe.html>. Accessed on April 22 2010.

Cuba, Belize, and The Bahamas<sup>192</sup> have ratified the Convention. However, only a few have completed delimitation of maritime boundaries. Negotiations to settle maritime boundaries commenced in a number of cases, but have to date have not achieved a successful conclusion. Among such cases are Grenada and Venezuela, Grenada and Trinidad and Tobago, Antigua and Barbuda and France, Jamaica and United Kingdom (Cayman Islands); Barbados and Trinidad and Tobago have settled the boundaries through arbitration. Preparations for negotiation of maritime boundaries between Dominica and Venezuela, and between Antigua and Barbuda and Saint Kitts and Nevis have been in the making for sometime<sup>193</sup>.

An equally small number of countries have made progress in the preparation and submission of claims to the Continental Shelf Commission according to UNCLOS requirements. The Bahamas, Barbados, Guyana, Suriname and Trinidad and Tobago, have potential claim to extended continental shelf<sup>194</sup>.

**Table 16: Caribbean Coastal States with Potential for Continental Shelf Extension (as at October 2009)**

UN-OHRLLL List	EEZ <i>Million km<sup>2</sup></i>	ECS <i>km<sup>2</sup></i>	Test of Appurtenance A (passes) B (physically meets criteria)	Marine research and other submission preparations Indicative only	Resources Hydrocarbons (oil/gas) [H] Seabed minerals [M]	Neighbours Indicative only	Remarks and Commission on Limits of Continental Shelf (CLCS) Submission information
Barbados	0.187		A	EEZ Boundary within defined	Not listed Hydrocarbons	T&T, Guyana, Suriname, France	Submitted May 08
Bahamas, The	0.655				Not listed Hydrocarbons	USA, Cuba	Ratified 29 Jul 83 Delineation dispute with USA
Cuba	0.351				Not listed Hydrocarbons	Jamaica, USA, The Bahamas	June 09
Guyana	0.13		A	Proven Oil Reserves DTS Completed Boundary with 5 defined	H,M	Suriname, T&T, Venezuela	Intending to submit by 09 Boundary dispute with Venezuela
Suriname			A	Proven Oil Reserves Boundary with 4 defined	H,M	Guyana, Cayenne, Barbados	December 08
Trinidad and Tobago			B	Proven Oil reserves EEZ boundary with 1 defined	Not listed	Barbados, Grenada, Guyana, Venezuela	May 09

Source: Russel and McNab<sup>195</sup>

<sup>192</sup> Oceans and Law of the Sea. Chronological lists of ratifications of, accessions and successions to the Convention and the related Agreements as at 01 March 2010

<sup>193</sup> Delimitation Of Maritime Boundaries Within CARICOM. Available at [http://www.caricom-fisheries.com/website\\_content/publications/documents/Delimitation\\_of\\_Maritime\\_Boundaries\\_within\\_CARICOM.pdf](http://www.caricom-fisheries.com/website_content/publications/documents/Delimitation_of_Maritime_Boundaries_within_CARICOM.pdf).

Accesses on April 23 2010.

<sup>194</sup> *ibid.*

<sup>195</sup> Russel, Ian and Ron McNab, ND. UNCLOS Article 76 - Implementation by Smaller Developing States Entitlement, Evidence, Expertise and Expense

In terms of assessment of non-living and living seabed resources within national jurisdictions, only 25 respondents of the respondents to the ECLAC Survey have made progress, while 50% have reported making no progress. Progress in establishment of effective monitoring, reporting and enforcement measures to address unreported and unregulated fishing and in the implementation of surveillance and monitoring systems has been achieved by about 38% of countries, and an equal number has not realized any progress in all aspects. One half of the countries have made progress in the analysis and assessment of the status of fish stocks while 25% have reported no such progress.

Only six of the Caribbean SIDS<sup>196</sup> covered in this report are signatories to the Agreement on Conservation and Management of Straddling and Highly Migratory Fish Stocks as of 1 March 2010. This information matches with the results of the ECLAC Survey. Only 38% of the respondent claimed that they are signatories while another 38% claimed that they were making progress in meeting commitments under the FAO Agreement on Compliance; about 63% have made no progress.

Seventeen of the countries covered in this report subscribe to the Carib Ship Database<sup>197</sup> which is maintained to provide the Members of the Caribbean Memorandum of Understanding on Port State Control access to information on small ships registered or licensed within each Member State. Of these countries, 10 are members of the Caribbean Port State Control Committee. The Caribbean Memorandum of Understanding on Port State Control (CMOU) was established in 1996 by 11 Caribbean SIDS<sup>198</sup> in order to create a harmonized system of ship inspection aimed at eliminating the operation of sub-standard foreign flag merchant ships visiting the Caribbean region, ensuring that these ships meet international safety, security and environmental standards, and that crewmembers have adequate living and working conditions. Additionally, the establishment of the CMOU has been one of the driving forces relative to the development of maritime administrations in the region, since essentially the membership is tied to the establishment of and the proper functioning of a maritime administration, the accession to key international maritime conventions, codes and customary practices<sup>199</sup>.

The Caribbean region possesses a diverse and irregular coastline that gives rise to a unique ecosystem formed by the integration of coastal features including harbours, bays, beaches, rocky shores, estuaries, mangrove swamps, cays, and coral reefs. The rivers of the region have very short courses with limited flow rates, and there are relatively few lakes, which are of limited size. The marine-coastal interface is characterised by a high biodiversity, with a multiplicity of tropical ecosystems and landscapes, and a varied autochthonous flora and fauna. There is a complex interaction of three distinct ecosystems: coral reefs, mangroves, and seagrass beds.

The Global International Waters Assessment (GIWA) for the Caribbean Islands in Region 4<sup>200</sup> and the GIWA Assessment for Region 3, Caribbean Sea<sup>201</sup> ranked pollution as the priority concern due to

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<sup>196</sup> Refer to Oceans and Law of the Sea. Chronological lists of ratifications of, accessions and successions to the Convention and the related Agreements as at 01 March 2010

<sup>197</sup> Available at <http://www.caribshipmou.com/help.aspx?Control=help>. Accessed on April 23 2010.

<sup>198</sup> Available at <http://www.nihamarine.com/INFORMATION%20ABOUT%20CARIBBEAN%20MOU.pdf>. Accessed on April 23 2010.

<sup>199</sup> The Commonwealth of The Bahamas, Available at <http://www.bahamas.gov.bs/bahamasweb2/home.nsf/a2adf3d1baf5cc6e06256f03005ed59c/fcfa5b9d81b7388852571850055ad08!OpenDocument>. Accessed on April 23 2010.

<sup>200</sup> The region comprises the seas and islands of the Greater Antilles group, including the largest Caribbean islands of Cuba, Hispaniola (divided between Haiti in the west and the Dominican Republic in the east), Jamaica, Puerto Rico and the Archipelago of The Bahamas.

its prevalence in many locations in the region and the magnitude of its impacts. Suspended solids were considered to be the most severe pollution issue. The predominant sources of nutrient contamination in the region include poorly or untreated sewage, agriculture and industrial activities. Eutrophication has been severe in the bays of the region, particularly Havana Bay and Kingston Harbour. Oil spills pose a significant threat, originating from the petrochemical industry, the transport of oil in tankers and from the extraction and refinement of petroleum. Although most countries of the region have improved on their solid waste collection systems, citizens are still prone to dispose of their waste in mangrove swamps, drainage channels and along riverbanks. This consequently pollutes rivers, streams, and eventually the coastal waters into which they drain. Furthermore, due to the expansion of industrial and mining activities and the increased application of agro-chemicals there has been greater contamination of surface water and aquifers by chemical toxins and heavy metals.

The impact of wastewater on ecosystem services, particularly in the coastal zone, is addressed through the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA-Marine). The Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol) to the Cartagena Convention includes regional effluent limitations for domestic wastewater (sewage) as well as specific schedules for implementation. A number of activities are underway in relation to wastewater management including the Caribbean Regional Fund for Wastewater Management and the GEF-funded Integrated Watershed and Coastal Area Management Project in thirteen Small Island Development States.

UNEP GPA in collaboration with UNEP ROLAC and UNEP CAR/RCU have identified National Programmes of Action for the Prevention of Marine Pollution from Land Based Sources and Activities (NPAs) as possible frameworks through which pollution prevention could be addressed in a comprehensive and integrated manner in individual countries. To this end, four pilot countries – Barbados, Saint Lucia, Jamaica, and Trinidad and Tobago – agreed to develop NPAs. In Saint Lucia, Focus of NPA was on community pilot projects examining the theme of public awareness. Communities were chosen to reflect geographical differences and pollutant sources.

Barbados is presently identifying priority areas and appropriate institutional arrangements within its Coastal Zone Management Plan. Trinidad and Tobago, on the other hand, is in the process of compiling its NPA which will be integrated into its State of the Environment Report. The draft NPA analyses existing national policies and institutional mechanisms for pollution prevention. Jamaica has completed the NPA for the period 2005 to 2010 and is now in the implementation phase.

In the main, Caribbean countries are still facing challenges in the development of NPAs. Technical and financial limitation are among the major hurdles which also include difficulties encountered in intersectoral/inter-agency coordination; finance; repositioning NPA and the LBS within the National Priorities of Action is a challenge for some countries. There is no question then that, overall, progress seemed to be slow, with only 25% of countries that responded to the ECLAC Survey reporting that they received very much support in improvement in the living standards of coastal communities. With respect to progress made in the application of preventative, precautionary and anticipatory approaches to avoid degradation of the marine environment, progress reported ranged from 25% (much) to approximately 38% (little), and about 13% (none). In terms of progress made in ensuring prior assessment of activities that might have significant adverse impacts on the marine environment, responses to the ECLAC Survey ranged from 38% who claimed that they had made progress while another 38%

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<sup>201</sup> Sub-system 3a, comprises of Antigua and Barbuda, Anguilla, Aruba, United States Virgin Islands, Barbados, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guadeloupe, Martinique, Montserrat, Netherlands Antilles, Saint Vincent & the Grenadines, St. Kitts & Nevis, St. Lucia, Turks & Caicos and Trinidad & Tobago.

claimed that they had made little progress. In integration of protection of the marine environment into development policies and development, about 38% reported making much progress and 50%, stated that little progress had been achieved. Development of economic incentives for the application of clean technologies such as the “polluter pays” principle realized 25% of countries reporting that much progress was made; about 38% stated that little was achieved and 25% reported no progress. With respect to improvement in applying the techniques outlined in the global programme in improving the lives of coastal communities, 25% reported very much progress; 50% stated that they had made much progress; and approximately 13% indicated that none has been achieved.

### **(e) Freshwater resources**

The Caribbean islands are highly dependent on rainfall to feed surface intakes and replenish groundwater. In general the water supply is primarily via surface sources (rivers, springs, ponds) as well as groundwater sources. There are, however, variations from island to island regarding groundwater and surface water abstraction and utilisation. In addition, rain water harvesting is practiced in some of the smaller islands and in islands where topographic constraints limit access to the public distribution system in some locations. Desalination technologies are seeing increased application in the more water-stressed Caribbean countries where the demand for fresh water substantially surpasses the supply from natural sources.

The use of water and the manner in which it is used varies by country and by water subsector. The principal water resources subsectors (i.e., those areas of the water resources sector that relate individually to specific economic, social or environmental activities that depend in whole or in part on water to fulfill their aims and goals) in the region as a whole are irrigation and drainage, water supply and sanitation including water transport of wastes, and hydropower.

The primary demand for water in most of the countries in the Caribbean SIDS is for domestic use. Be that as it may, the strong contribution of tourism and agriculture to some economies has resulted in significant competition for allocation of scarce water supplies.

About 91% of Cubans have access to an improved source of water (95% of the urban population, but only 78% of the rural population)<sup>202</sup>. Unusually, access to adequate sanitation is higher than access to an improved source of water at a rate of 98% (99% of the urban population and 95% of the rural population). There is however, no systematic information on the quality of water services in Cuba. In some parts of the country, such as in Santiago de Cuba, residents at times go without water for as much as 20 days. Water is not reliably chlorinated, partly due to the unavailability of chlorine. As a result, residents receive water that is not safe to drink; some households have resorted to sand filters to treat water in their homes<sup>203</sup>.

In the Dominican Republic, 92% of urban households have connections while in the rural areas only 62% have connections<sup>204</sup>. However, only 10.5% of the population connected to water systems receives water on a continuous basis. Furthermore, only 87.3% of the urban population and 57.4% of the rural population has access to treated water. In addition, according to 2002 figures only 73.6% of

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<sup>202</sup> WHO/UNICEF,

<sup>203</sup> The International Development Research Centre. ND. Coping with Water Crisis in Cuba.

<sup>204</sup> WHO/UNICEF Monitoring Programme, 2006. Water and Sanitation based on Dominican Republic Demographic and health Survey(2002)

drinking water quality samples were satisfactory (as measured by the absence of total coliforms), while the international norm is 95%<sup>205</sup>.

Various factors affect the water quality in the Dominican Republic, including: poor condition of purification systems, minimal operational controls, low level of maintenance of treatment plants, and mostly intermittent systems. It is estimated that about 40% of water systems have no chlorination system installed. These are mostly smaller systems in rural areas.

In Jamaica, 98% of the urban and 88% of the rural population have access to water supply. Unfortunately, many homes receive water only at low pressure. In addition, a number of rural communities receive water that is not or only irregularly chlorinated<sup>206</sup>. In addition, most of the country's over 595 unplanned squatter settlements containing approximately 10% of the population are located within unhealthy and unsanitary environments without piped water or sanitation facilities where there is a high risk of waterborne disease incidence. The country's vulnerability to natural disasters is an ever present threat to the fragile and sometimes over-burdened water distribution and sanitation systems. Following hurricanes, there is often a heightened risk of contamination of these systems due to service interruption, with the increased probability of water-borne disease outbreak<sup>207</sup>.

To date, Jamaica has experienced disease outbreaks which have been related to unsanitary conditions resulting from inadequate water supply for hygiene purposes. The link has been based on the timing of outbreaks i.e. occurrences of illness usually coincide with periods of low rainfall/dry season. The most vulnerable group to these illnesses are generally population groups with weaker immune systems such as young children (five years and under) and the elderly. These outbreaks are often localized and brought under control with the help of specifically designed public education programmes of the Ministry of Health and trucking of potable water to the areas most affected<sup>208</sup>.

Coverage figures in Haiti do not give an indication of service quality, which is generally quite poor. In rural areas, systems have often fallen into disrepair. They either do not provide any water service at all or provide service only to those close to the source, with those at the end of the system ("tail-enders") remaining without water. In almost all urban areas water supply is intermittent<sup>209</sup>.

The lack of access to a safe water supply contributes to poor health and hygiene in Haiti. In the arid northwest, the lack of safe water causes people to consume brackish water, often resulting in dire health effects. Infectious and parasitic diseases, often spread through unsafe water, are the leading causes of morbidity and mortality. Of the three agencies responsible for water supply only one has a laboratory and routinely monitors water quality.

Surface water contamination from domestic and industrial sources occurs throughout the country, especially near heavily populated areas. Specific information on water quality is not available, but many sources indicate that surface water contamination has increased significantly in recent years. Domestic wastewater and agricultural runoff cause biological contamination of the surface water near and downriver of populated places. Biological contamination from untreated domestic wastewater is a serious problem. Chemical contamination may be a problem near major cities and industrial sites<sup>210</sup>.

<sup>205</sup> [http://en.wikipedia.org/wiki/Water\\_supply\\_and\\_sanitation\\_in\\_the\\_Dominican\\_Republic](http://en.wikipedia.org/wiki/Water_supply_and_sanitation_in_the_Dominican_Republic)

<sup>206</sup> WHO/UNICEF. 2006 Joint Monitoring Programme for Water Supply and Sanitation.

<sup>207</sup> Smith, Ianthe. 2005. National Sanitation Policy for Jamaica (draft).

<sup>208</sup> Jamaica National Report; Water Resources Assessment

<sup>209</sup> [http://en.wikipedia.org/wiki/Water\\_supply\\_and\\_sanitation\\_in\\_Haiti](http://en.wikipedia.org/wiki/Water_supply_and_sanitation_in_Haiti)

<sup>210</sup> Us Army Corps of Engineers, 1999. Water Resources Assessment of Haiti

In the smaller islands in the Eastern Caribbean, more than 90% of the urban population and 60 to 85% of the rural population have access to pipe borne water. Similarly, access to sanitation facilities is fairly universal except in poverty stricken areas which also tend to be areas of unregulated settlements. In these settlements, sanitation facilities tend to be communal or to be pit latrine systems.

Frequent problems associated with the water supply in the smaller islands in the Eastern Caribbean are water shortages and low pressure, even in the rainy season. Water supply to rural areas tends to undergo only primary treatment and turbidity is a water quality problem particularly in areas where water is sourced from areas that are also under cultivation. This gives rise to concerns about possible contamination of the water sources, through chemical wash or percolation. In Antigua and Barbuda, for instance, there has been at least one incidence of a fish kill at Potworks Reservoir, the cause of which was not confirmed, but agro-chemical poisoning was strongly suspected<sup>211</sup>.

The recent drought has brought home the impact of climate variability on fresh water resources. In addition, based on climate modelling efforts it is predicted that the Caribbean region will experience changes in patterns of rainfall accumulation and distribution with an overall trend to less rainfall. Such changes will have serious implications for water security as a result of reduced aquifer recharge and surface and ground and surface water supply<sup>212</sup>. The impacts of climate change on water resources may make it more difficult to universalize access to potable water and sanitation<sup>213</sup>.

The situation will be critical in the low-lying limestone islands of where seasonality of rainfall (a marked dry and wet season regime) is pronounced. On islands such as, Antigua and Barbuda, Grenada, and Barbados, more than 65% of total annual rainfall may be recorded in the wet season, which spans the 6-month period of June to December. Moreover, most of the rainfall is strongly associated with the genesis and passage of easterly waves, tropical depressions, and storms<sup>214,215</sup>. Thus, changes in the occurrence of these heavy rainfall events will certainly impact the water supply of many Caribbean islands. Recent research in Barbados, for instance, has shown that groundwater recharge is restricted to the three wettest months of the year, and only 15-30% of annual rainfall reaches the aquifer<sup>216</sup>.

Reduced availability of adequate water supply in a changing climate also poses a potential threat. Within the past few decades in Dominica, for instance, an apparent tendency toward more extended periods of drought is well correlated with reduced flows in the Castle Comfort, Roseau, Layou, and Geneva Rivers<sup>217</sup>. Because rivers are the main source of potable and irrigation water on the island and are also harnessed for power generation, declining flows have become a matter of serious national concern.

Climate change can present additional water management challenges. Such challenges may arise from a variety of factors, including increased flood risks and impeded drainage and the presence of

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<sup>211</sup> Antigua and Barbuda National Report, Water Resources Assessment

<sup>212</sup> Chase, Vasantha, 2008. Water Forum of the Americas: Report of the Caribbean Sub-Region. Prepared for the IADB.

<sup>213</sup> ECLAC, 2010. Millennium Development Goals. Advances in Environmentally Sustainable Development in Latin America and the Caribbean.

<sup>214</sup> Gray, C.R., 1993: Regional meteorology and hurricanes. In: Climatic Change in the Intra-Americas Sea [Maul, G.A. (ed.)]. Edward Arnold, London, United Kingdom, pp. 87-99.

<sup>215</sup> Nurse, L.A., R.F. McLean, and A.G. Suarez, 1998: Small island states. In: The Regional Impacts of Climate Change: An Assessment of Vulnerability. A Special Report of IPCC Working Group II [Watson, R.T., M.C. Zinyowera, and R.H. Moss (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 331-354.

<sup>216</sup> Jones, I.C., J.L. Banner, and B.J. Mwansa, 1998: Geochemical constraints on recharge and groundwater evolution: the Pleistocene Aquifer of Barbados. In: Proceedings of the Third Annual Symposium, American Water Resources Association, and Fifth Caribbean Islands Water Resources Congress, San Juan, Puerto Rico, July 12-16, 1998. 6 pp.

<sup>217</sup> Government of Commonwealth of Dominica, 2000: The Commonwealth of Dominica's First National Report on the Implementation of the United Nations Convention to Combat Desertification (UNCCD). Environmental Coordinating Unit, Ministry of Agriculture, Planning and Environment, Roseau, Commonwealth of Dominica, 20 pp.

elevated water tables which may pose special engineering problems. It is projected that on Andros island, in The Bahamas, where the water table presently is only 30 cm below the surface, high evaporation rates and increasing brackishness will eventuate with continued sea-level rise<sup>218</sup>. Similar projections have also been made for Cuba where underground water supplies already are stressed<sup>219</sup>.

For many small island States in the Caribbean that are reliant on ground water, the prospect of saline intrusion into the freshwater lens is of great concern. In many of these islands where salinisation from overpumping of aquifers is already occurring (e.g., The Bahamas and Barbados), sea-level rise would compound the risk. Singh<sup>220,221</sup> has reported a recent increase in salinity levels for several coastal aquifers in Trinidad and Tobago in the southern Caribbean, attributable mainly to rapid drawdown exacerbated by sea-level rise.

Natural hazards are a major issue for the Caribbean region. There is a long and well-documented history of episodes involving hurricanes and other tropical weather systems. These weather events also cause damage to the water distribution infrastructure. Earthquakes and volcanic eruptions, though not as frequent, also have the potential to disrupt water distribution systems and contaminate water sources. Landslides often cause interruptions to the water supply as they damage pipelines mainly in the steeper areas. For example, in 2007 the Yallahs pipeline which carries water to the city of Kingston, Jamaica was damaged by a landslide with the result that the city water supply was rationed over a period of even though resources were in abundance.

**Secretary-General of CARICOM, Edwin Carrington highlighted several challenges the Region faced as a result of the land degradation, which was heightened by improper land management practices including slash and burn agriculture; uncontrolled livestock grazing on fragile lands; poor road construction; and unplanned or poorly planned settlements in landslide-prone areas. Carrington pointed out that problems associated with land degradation were particularly troubling to the agricultural sector and food security, as it had caused the erosion of valuable topsoil which was washed into canals, rivers and out to sea during heavy rains, resulting in loss of productivity in the sector. Source: Caribbean NetNews March 31 2010**

Considerable progress has been made towards meeting the water and sanitation targets of Millennium Development Goal 7 the Caribbean SIDS. While disaggregated figures for the Caribbean are unavailable, information for the Latin America and Caribbean region show that in 2008, 84% of the population had access to piped water on premises while 9% had access to public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs or rainwater collection; only 7% had access to unimproved drinking water sources<sup>222</sup>. Unfortunately, the series of global crises, first the energy and food crisis and more recently, the financial and economic crises will undoubtedly present threats to development and to the achievement of the Millennium Development Goals.

<sup>218</sup> Martin, H. and J.P. Bruce, 1999: Effects of Climate Change: Hydrometeorological and Land-Based Effects in The Bahamas. Global Change Strategies International Inc., Ottawa, ON, Canada, 34 pp

<sup>219</sup> Planos, E.O. and O. Barros, 1999: Impacto del cambio climatico y medidas de adaptacion en Cuba: sector recursos hidricos. In: Impactos del Cambio Climatico y Medidas de Adaptacion en Cuba [Gutierrez, T., A. Centella, M. Limia, and M. Lopez (eds.)]. Proyecto No. FP/CP/2200-97-12, United Nations Environment Programme/Institute of Meteorology, La Habana, Cuba, pp. 28-54.

<sup>220</sup> Singh, B., 1997a: Climate-related global changes in the southern Caribbean: Trinidad and Tobago. *Global and Planetary Change*, 15, 93-111.

<sup>221</sup> Singh, B., 1997b: Climate changes in the greater and southern Caribbean. *International Journal of Climatology*, 17, 1093-1114.

<sup>222</sup> WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 2010. Progress on Sanitation and Drinking-water: 2010 Update.

### **CLAWRENET (Caribbean Land and Water Resources Network)**

CLAWRENET helps generate, validate and transfer environmentally sound technologies in land and water resources for use by agricultural producers. So far, CLAWRENET has established national work programmes with national network committees, developed a regional GIS database of national land and water resources, and disseminated information on national and regional priorities and activities in natural resource management with respect to agricultural development.

Source: PROCICARIBE. Available at <http://knowledge.cta.int/en/Dossiers/Demanding-Innovati on/Management-of-Water-Resources/Links/ACP/CLAWRENET-Caribbean-Land-and-Water-Resources-Network>

## **(f) Land resources**

Land degradation, in the Caribbean, caused by poor land management practices such as slash and burn agriculture, uncontrolled livestock grazing on fragile lands, poor road construction and unplanned or poorly planned settlements in landslide-prone areas is of great concern. Every year untold amounts of valuable top-soil is eroded away and washed into rivers and out to sea during heavy rains. Over time, the productivity of land for agriculture is lost, as is the productivity of coral reefs as they become blanketed by silt. In both cases this presents challenges in maintaining food security. Siltation of rivers (caused by build-up of eroded soil in the river channels) increases the flood-risk in low-lying areas with potential for loss to life and property. There are arid zones in Dominican Republic, Cuba, Haiti, and Jamaica; while erosion and water shortages are noticeably intensifying in the Eastern Caribbean.

The valuable tourism industry is also negatively impacted by the outcomes of unsustainable land management. Land degradation causes pollution of rivers and near-shore coastal waters, affecting the very beaches and reefs that are centrepieces of the vacation attractions. Land degradation also affects terrestrial and coastal ecosystems that on small islands are particularly vulnerable.

Economic development, has led to an increase in the demand for land. Large tracts of land have been cleared for tourism and urban development projects. Moreover, the requirement to provide the infrastructure, such as potable water supply and sewerage management, transportation and communication systems to service these new developments adds to the pressure on the relatively scarce land resources. Other economic sectors, such as agriculture and construction have also increased the pressures on land, resulting in abuse and degradation that is often compounded by natural disasters, such as hurricanes<sup>223</sup>.

Managing land resources in the Caribbean must therefore be given paramount importance as it underpins long-term social and economic development. The challenge however has been the fact that planning for sustainable management of land resources has not featured prominently in national development policies. Local stakeholders tend not to be sufficiently empowered to engage in processes that would alleviate land degradation, and financial resources required to effectively address the problem are often very limited.

Twelve of countries covered in this report<sup>224</sup> are signatories to the United Nations Convention to Combat Desertification (UNCCD). Annex III is the Regional Implementation Annex for Latin America

<sup>223</sup> Ministry of Energy and Environment, The Bahamas Environment, Science and Technology (BEST) Commission, 2006. The National Action Programme to Combat Land Degradation.

<sup>224</sup> Information available at <http://www.unccd.int/convention/text/convention.php?annexNo=3>. Accessed on April 23 2010

and the Caribbean. The purpose of this Annex is to provide general guidelines for the implementation of the Convention in the Latin American and Caribbean region, in light of its particular conditions.

Recognizing the possible threat that land degradation and drought poses to Barbados' social and economic development, the government continues to strengthen some of its key agencies. Over the years the Barbados government has also embarked upon a number of sustainable land management initiatives that have impacted significantly on the quality of life in several rural communities. Examples of such initiatives include: Leasing of arable agricultural lands to landless rural farmers for the purpose of promoting sustainable agriculture; offering rebates on fruit and forest trees being used in various reforestation programmes; and offering tax benefits to land owners who are involved in sustainable land management programmes.

Countries are also seeking loans to undertake intervention in land management. In 2009, IDB approved a \$2.5 million loan to Belize to assist the government establish a more dynamic and efficient land market by improving country-wide access to land management services, their quality and efficiency. The resources will finance the expansion of a parcel-based land information system and the improvement of urban land information as well as support the provision of modern land management services<sup>225</sup>.

As of April 2010, 10 countries, covered in this report had submitted their NAPs<sup>226</sup>. Among the problems identified for the slow progress is the lack of dedicated financial and technical resources; multiple responsibilities of the national technical focal points, dispersed information; and lack of specialised equipment for data handling. Countries have also expressed concern about the NAP being a central and integral part of a broader process of formulating national policies. Caribbean SIDS consider that the development and implementation of an Integrated Financial Strategy must necessarily be part of the alignment process. Caribbean SIDS also believe that a comprehensive synergistic approach should result in the aligned NAP articulating the real direct links between land degradation, climate change and biodiversity. Particular attention should be paid to the issues of the link between climate change, food security, water scarcity and the protection of forest<sup>227</sup>.

Nevertheless, 13 Caribbean SIDS will be able to access an expedited Medium-Sized Project (MSP) for mainstreaming sustainable land management. The project is intended to develop individual, institutional and systemic capacities to mainstream sustainable land management (SLM) into national policies and development planning. The project will also assist national governments in identifying appropriate mechanisms for financing SLM. The MSPs prepared by the participating countries will contribute to implementation of the NAPs. Additionally, the MSPs will be designed and implemented in concordance with regional and sub-regional frameworks (such as the Barbados Plan of Action, the St. Georges' Declaration of Principles for Environmental Sustainability in the OECS and Regional Action Plans under the UNCCD).

The Partnership Initiative on Land Degradation and Sustainable Land Management, led by the GM/UNCCD, has a number of partners including UNEP, FAO, CARICOM Secretariat, and UWI, civil society, GTZ and Caribbean SIDS. The partnership consists of a series of commitments and action-oriented coalitions focused on deliverables, intended to translate political commitment into action.

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<sup>225</sup> Available at <http://www.iadb.org/news/detail.cfm?lang=en&artid=5804&id=5804>. accessed on April 21 2010.

<sup>226</sup> Listed on the UNCCD website

<sup>227</sup> Draft Final Report On the Launching of UNCCD alignment of Action Programmes to Combat Desertification process Caribbean Sub-regional Meeting Kingston Jamaica June 17 & 18 2009. Available at <http://www.unccd.int/regional/rcm/docs/naps/Kingston.pdf>. Accessed on April 23 2010.

The promotion of the establishment of an environmental rehabilitation program with the participation of youth in the Caribbean States (Y&E Caribbean) is a subregional initiative within the framework of the UNCCD, designed to promote youth involvement in environmental issues while contributing to the formulation of a Sub-regional Action Programme for UNCCD implementation in the Caribbean. It focuses on sustainable agro forestry and land management issues to address land degradation, drought and poverty with a view to foster youth employment while addressing these pressing environmental issues. The project proposal allows for systematic linkages between public and private institutions, academic and scientific centres, non-governmental and community based organisations, cooperation partners and international agencies, which through use of their respective capacities and comparative advantages can facilitate its implementation<sup>228</sup>.

As a signatory to the convention and host country of the UNCCD Secretariat, Germany supported the Dominican Republic, and Haiti in their implementation of the UNCCD through the GTZ project Combating Desertification in the Caribbean/Central America.

The GEF Country Partnership Programme for Sustainable Land Management is piloting a project in Cuba. The programme comprises a package of interventions to address land degradation, including policy, regulatory and institutional reforms, capacity building, and investments. Its priorities are consistent with national action programs on desertification, production sector programs, and poverty reduction strategies<sup>229</sup>.

The GEF Small Grants Programme also provides funding for sustainable land management initiatives. As of March 2006, 7 of the countries covered in this report were eligible for such funds<sup>230</sup>.

Despite the availability of funds to undertake sustainable land management initiatives, Caribbean SIDS have still not achieved progress in the creation of the necessary enabling environment for increased agricultural productivity and for promoting food security. On the other hand, the issue of food security and increased agricultural production also has a trade dimension. The supporters of trade liberalization suggest that lowering tariffs will result in food becoming more readily available and accessible to consumers. The opposing view is more concerned with the adjustment impacts on small producers who might lose their livelihoods without being able to adjust to alternative income-earning opportunities. They see the majority of consumers and the poor living in rural areas and having livelihoods dependent on growing and selling agricultural products. Thus, the debate about what trade policy is most appropriate under specific circumstances is very alive and is central to the discussion on food security.

The forestry sector in Caribbean SIDS is small, a reflection of the relatively small forest coverage, and most islands are heavily dependent on imports to meet their paper, sawn wood and wood-based panel requirements. The proportion of forest land on the larger islands ranges from 3.8% on Haiti to 1.5% in the Netherlands Antilles to around 61.3% in Dominica in the eastern Caribbean. Overall, 25.7% of the land area of the Caribbean islands is classified as forest lands<sup>231</sup>. Cuba and Saint Vincent and the

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<sup>228</sup> Secretariat Of The Convention To Combat Desertification .Iydd And The Caribbean , Meeting for the Promotion of an environmental rehabilitation program with the participation of youth in the Caribbean States (Y&E Caribbean) under the framework of the Caribbean SRAP . Available at <http://www.unccd.int/IYDD/documents/lahavanaenmay.pdf>. Accessed on April 23 2010.

<sup>229</sup> GEF Global Action on Sustainable Land Management. GEF's Country Partnership Program For Sustainable and Management

<sup>230</sup> Information is available at <http://sgp.undp.org/downloads/ACF36B6.pdf>. Accessed on April 20 2010.

<sup>231</sup> FAO (2006a). *Global Forest Resources Assessment 2005 - Progress Towards Sustainable Forest Management*, FAO Forestry Paper 147 (FRA 2005), Food and Agriculture Organization Of The United Nations, Rome, 2006

Grenadines are the only two countries in the region that have managed to significantly increase their forest cover between 1990-2000 and 2000-2005 (by 1.7% and 2.2% in Cuba and 0.8% and 0.8% in St. Vincent and the Grenadines respectively)<sup>232</sup>.

With reference to sustainable forest management in the Caribbean, one success story is the Guianas Sustainable Forest Resources Management Project<sup>233</sup> covering Suriname and Guyana. This Project seeks to ensure that the forest ecosystems of the Guianas maintain their capacity to sustain their socio-economic services and benefits, their ability to provide and support their ecological functions and processes, and their possibility to adapt to changes.

Mention must also be made of the Guyana Reducing Emissions from Deforestation and forest Degradation (REDD) Programme. Although the platform for this programme is climate change, Guyana lies at the heart of the Guiana Shield, one of the world's last four intact rainforests. Forests make up over 85% of the country's land area. It also has one of the highest levels of biodiversity of any country in the world, with approximately 8,000 plant species, half of which are endemic. In addition, Guyana also recently signed an agreement with Norway worth up to US\$ 250 million over the next five years. Norway will provide financial support to Guyana in proportion to the country's success in limiting emissions. Guyana has however taken the position that that REDD cannot focus only on reducing emissions from deforestation and forest degradation and it cannot be based on its low historical emission rates; Guyana must consider, as well, avoided deforestation, enhancement of carbon stocks and sustainable forest management.

Four other countries covered in this report – Trinidad and Tobago, Jamaica, Commonwealth of Dominica and Haiti – have been identified as having some potential market value for REDD.

In 2008, with financing provided by the EU, through the SFA 2003, Saint Lucia formulated a National Forestry Plan, the goal of which is to conserve and manage the forest resources of Saint Lucia for protection of water, wildlife and soil resources and to sustain the forests' contribution to the country's socio-economic development and the livelihood of rural stakeholders.

The ECLAC Survey asked a series of questions pertaining to the promotion of sustainable forest management. Overall, respondents reported that progress was low although a number of them identified participatory forestry management as a popular too. It is quite coincidental that in a study undertaken in 2009<sup>234</sup>, the researchers concluded that participatory forestry management was being practised in all the 8 study countries. All the countries, however, identified the need for an improved policy environment and framework that would be characterised by:

- An explicit statement of forest policy (vision, objectives, programmes and actions);
- Strong and functional linkages between forest policy and the other components of the national
- Development policy framework, especially in relation to social development, poverty reduction, water management, rural development, and tourism;

<sup>232</sup> FAO (2009). State of the World's Forests 2009. Food and Agriculture Organization Of The United Nations, Rome.

<sup>233</sup> Available at [http://www.wfuguianas.org/our\\_work/forest\\_management/](http://www.wfuguianas.org/our_work/forest_management/). Accessed on April 21 2010.

<sup>234</sup> Leotaud, Nicoleand, Sarah McIntosh, 2009. Moving from rhetoric to reality: how can participatory forest management contribute to improving the livelihoods of the rural poor in Caribbean small island states? XIII World Forestry Congress Buenos Aires, Argentina, 18 – 23 October 2009

- The translation of forest policy statements into effective and efficient policy instruments (laws, regulations, guidelines, codes of conduct, standards, etc.);
- An explicit inclusion of the principles, goals and tools of participation and devolution within policy statements and instruments.

### **(g) Energy resources**

For centuries, Caribbean economies and households relied on renewable energy sources available from the natural environment, including wood (often transformed into charcoal), wind and water, which fuelled agricultural production during the plantation era. The remnants of wind and water mills still can be found on many Caribbean islands. While these sources were both free and renewable, the lack of other energy options sometimes resulted in overexploitation, with Haiti's denuded hillsides being the most dramatic example.

#### **JAMAICA'S ENERGY POLICY (2009 TO 2030)**

The National Energy Policy sets the framework for addressing a wide range of issues including energy conservation and efficiency, fuel source diversification, renewable energy development and other issues that are geared towards achieving Jamaica's energy sector strategies in support of Vision 2030.

The ultimate goal of the Policy will be the provision of more affordable energy supplies to Jamaican consumers, an improved competitive base for the country, as well as sustainable growth and development of the nation.

Source: Ministry of Energy and Mining, [www.men.gov.jm](http://www.men.gov.jm)

Over the last few decades, as Caribbean economies have grown and become more diversified, these traditional energy sources have become less significant. Most Caribbean countries now generate nearly all their energy through fossil fuels. Sustainable energy sources such as sun and the once-important wind and hydro power play only a small role in national energy strategies. There are few incentives for public or private investment in these sustainable options, while oil production in Trinidad and nearby Venezuela, combined with regional trade agreements, encourages continued reliance on petroleum-based fuels.

The islands of the Caribbean basin are predominantly net energy importers, with the exception of Trinidad and Tobago. Only three countries in the Caribbean region have significant oil and gas reserves: Trinidad and Tobago, Cuba, and Suriname. Trinidad and Tobago contains the large bulk of these resources, and is the only significant hydrocarbon exporter. Despite the lack of sizable oil reserves, the Caribbean countries are heavily dependent upon petroleum as their primary energy source.

Many of the Caribbean countries import oil from Mexico and Venezuela under favourable terms. Under the San Jose Pact, Barbados, the Dominican Republic, Haiti, and Jamaica receive oil and refined products from those two countries. Cuba also receives crude oil and petroleum products from Venezuela at a discounted rate. In 2005, nearly all Caribbean countries (except

Barbados, Haiti, and Trinidad and Tobago) signed the Venezuela-backed Petrocaribe initiative. Under the program, Venezuela will sell crude oil and refined products to these countries under favourable financing terms. The agreement also stipulates that Venezuela's state-owned oil company, PdVSA, will enter into partnerships to improve oil infrastructure in the region<sup>235</sup>.

An assessment of the evolving energy context in the Caribbean identifies the following key issues affecting the region's ability to move to a more sustainable energy future<sup>236</sup>:

- Concern about overdependence on fossil fuels, the countries of the region are paying growing attention to renewable alternatives. As a result, policy reform processes are underway in a number of countries, but the structure of the energy sector in most countries, including regulatory frameworks based on monopoly providers, complex cross subsidies and a lack of incentives for major energy producing and using sectors to diversify, makes implementation problematic.
- There is very limited capacity within governments, the private sector or civil society to assess fully the economic, environmental and social costs and benefits of different energy policies, options and mixes.
- Nonetheless, proposals for the adoption of a range of new energy options, such as biofuel production, geothermal plants, and wind farms, are proliferating and several ambitious projects are already on-stream.
- Particularly at the regional level, there are a growing number of programmes and institutions working on energy policy reform and exploring new energy strategies and options.

The challenge of making the transition to sustainable energy pathways is starting to be taken up by Caribbean countries and their regional institutions. At the regional level, the main actors in the sustainable energy landscape include the following:

### Countries with RE Targets

Country	RE Target and Year	Lead Organisation
BARBADOS	40% 2010	Barbados Light and Power Company
JAMAICA	15% 2020	Power Corporation of Jamaica
GRENADA	10% 2013 & 20% 2017	Grenada Electricity Company
GUYANA	70-80% 2012	Government

Source: Caribbean Energy Information System

<sup>235</sup> Energy Profile of the Caribbean. Available at [http://www.eoearth.org/article/Energy\\_profile\\_of\\_Caribbean](http://www.eoearth.org/article/Energy_profile_of_Caribbean). Accessed on April 23 2010.

<sup>236</sup> IUCN, 2009. A sustainable energy future for the Caribbean Optimising the linkages between energy, livelihoods and nature Concept note for a programme of activities to be implemented as part of the IUCN Caribbean Initiative.

- The Caribbean Energy Desk, recently established within the CARICOM Secretariat, is charged with supporting national energy policy reviews in all Member States and developing a regional sustainable

energy policy and regulatory framework. The establishment of the Energy Desk institutionalizes CARICOM involvement in sustainable energy and succeeds the Caribbean Renewable Energy

#### Guyana Starts Wind Data Collection in Hinterland

The Project Implementation Unit of the Office of the Prime Minister has installed anemometers and associated dataloggers in four hinterland locations to collect wind data over a 2-year period. Data collection, and subsequent data analyses, will determine the hinterland locations where wind is a viable energy source. As such, at the end of a data collection period, the anemometers will be moved to other locations which show some wind energy potential. The data collection exercise is implemented under the Unserved Areas Electrification Programme (UAEP) which is financed with a loan from the Inter-American Development Bank. In part, the UAEP aims at examining and developing ways to provide and expand electricity access to hinterland locations in the most cost effective and sustainable manner.

Source: CIPORE, <http://cipore.org/guyana-starts-wind-data-collection-in-hinterland>

Programme (CREDP)<sup>2</sup>, which ran from 1998 until 2008 and focused on building awareness and supporting policy development. In addition to the policy and regulatory work the Energy Desk has carried over from this earlier programme, it intends to move into new areas that it is now in the process of defining.

- At a broader level, the Latin American Energy Organization (OLADE), of which several Caribbean countries are members, also contributes to building capacity and encouraging regional policy coherence.
- The regional body of electric utilities, CARILEC, and many of its members have shown a willingness and interest in exploring renewable and sustainable energy alternatives.
- CREDP-GTZ, a programme of the German technical assistance agency, is supporting both policy development in partnership with CARICOM and renewable energy initiatives on the ground.
- The multi-institutional Global Sustainable Energy Islands Initiative (GSEII) has contributed to increased awareness and interest in sustainable energy options in several countries of the region.

At the national level, several countries are developing new policies and strategies that reflect a desire to take more sustainable energy pathways. Cuba is basing a national initiative to increase energy output on sustainable sources including wind, solar, and biogas. Jamaica's energy policy for 2006-2020 gives prominence to renewable energy sources to complement increasingly costly fossil fuels. The Government of St. Kitts and Nevis has recently announced the development of an energy strategy based to a large degree on development of renewable sources, including bioenergy from sugarcane production, wind generation and tapping of geothermal energy (in Nevis only). Current biofuel production is not significant in the Caribbean, but there are several ongoing efforts in the development, or conversion, of sugarcane lands for ethanol production. Previous experience has revealed the need to implement sustainable biofuels production systems in such a manner as to avoid a food versus fuel dilemma. This entails the need to develop modern biofuels systems based on cellulosic ethanol.

The Caribbean Energy Information System (CEIS), headquartered at the Scientific Research Council in Jamaica, is a cooperative initiative of 18 Caribbean governments and regional organisations providing information and undertaking research in the field of energy. While its expertise in renewable

energy is currently limited, CEIS has the potential to become an important source of information and advice.

In addition to these regional and national developments, there are a growing number of donor funded initiatives, reflecting the global policy and media focus on climate change impacts and energy security. Many of these seek to generate private sector investment in renewable energy. These include:

- An ACP Energy Facility, financed by the European Union for Caribbean countries that are parties to the Cotonou Agreement.

***SAINT LUCIA'S SUSTAINABLE ENERGY POLICY - DRAFT***

In 2001, the Cabinet of Ministers approved a Sustainable Energy Plan (Cabinet Conclusion No. 695). One of the goals identified by the Plan was to enhance the security of energy supply and use for all sectors of the economy. However, successful implementation of the Plan has been impeded by the absence of an appropriate regulatory and policy framework. A key objective of the proposed National Energy Policy is therefore to create an enabling environment (both regulatory and institutional) for the introduction of indigenous renewable energy to the national energy mix and thus to achieve greater energy security and independence

Source: <http://cipore.org/saint-lucias-sustainable-energy-policy/>

- Biofuels Agreement executed by Governments of Brazil and the United States, IDB, OAS for biofuel production in Dominican Republic, Haiti, Saint Kitts and Nevis.
- Caribbean Renewable Energy, Energy Efficiency and Bioenergy Action Program (CREBAP) executed by IDB, OAS, Inter- American Institute for Cooperation on Agriculture (IICA) for CARICOM countries.
- Caribbean renewable energy, energy efficiency and carbon finance facility funded by CIDA and administered by IDB for CARICOM countries.
- Eastern Caribbean Geothermal Development Project (Geo-Caraibes) financed by the Fonds Francais pour l'Environnement Mondial, OAS, UNEP/GEF on behalf of Dominica, Saint Lucia and Saint Kitts and Nevis.
- Sustainable Energy and Climate Change Initiative financed by IDB for CARICOM countries

Despite this broad-based interest and involvement the major needs of the region to move towards a more sustainable energy future are:

- Policy reform and capacity strengthening: Policy reform is occurring in several countries and is being supported by CARICOM for its Member States. However, policy implementation remains a challenge, as many countries of the region have difficulty effectively regulating the existing energy sector, and lack policies and regulations that address the new energy options that are being considered or developed.

- Assessment of options: There is now considerable interest in various countries, in the potential of five types of renewable energy. Most countries have very little recent experience in these areas. The global enthusiasm for biofuels is being translated into a number of proposals, several of which

**The use of Renewable Energy like solar, photovoltaic, wind, mini-hydropower, biomass for electricity generation are particularly relevant to Jamaica where climatic conditions favour their expanded use. Dr. Ruth Potopsingh - Group Managing Director, Petroleum Corporation of Jamaica**

are based on transformation of the sugarcane industries in Cuba, the Dominican Republic, Haiti and Saint Kitts and Nevis. The potential for geothermal energy exists on several islands, has already been tapped in Guadeloupe, and is now being explored in Dominica, Saint Kitts and Nevis and Saint Lucia. Wind energy is the third area of interest, with ambitious projects now being implemented in Cuba, Jamaica and a few eastern Caribbean countries. The region has more experience in solar energy, but its widespread use is still largely limited to powering water heaters and small facilities such as photovoltaic powered traffic signals. Because of its suitability to the conditions in the region, solar energy expansion would also be a likely part of any national or regional efforts to reduce dependence on fossil fuels, and pilot projects are emerging in several countries. Finally, hydropower has long been a part of the energy mix of several countries, but the potential of mini-hydro remains to be explored. All countries of the region, as well as potential investors, need help in assessing the viability, and social, economic and environmental costs and benefits of these options.

- Facilitating sharing among countries: In developing energy policies for the future, Caribbean countries can be greatly helped by learning from one another; they can also learn from experience in other SIDS such as Oceania and the Indian Ocean.
- 
- Supporting renewable energy transformations and energy conservation in key sectors: A considerable portion of the fossil fuels consumed in the region provides energy for the tourism and hospitality sector. As fuel costs rise, the sector's economic viability will be reduced. Diminishing economic returns from the agriculture sector, resulting in large part from the loss of preferential markets in recent years, means that it is also highly vulnerable to increased energy costs. Helping these key economic sectors assess and take advantage of alternative sources of energy, as well as opportunities for energy saving, is another important regional priority.

## **(h) Tourism resources**

The Caribbean is one of the premier tourist destinations in the world. Changes in the travel patterns, markets, and traveller motivations have brought considerable growth and dramatic change to the region's tourism sector. Persistent turbulence in other economic sectors in the region has served to enhance the relative importance of tourism as an economic development strategy. Tourism uses resources, which the

### **TOURISM IN THE DOMINICAN REPUBLIC**

The Dominican Republic has kept its position with the largest market share within the Caribbean with successful positioning as a low-income tourism destination. The only competitor that comes close is Puerto Rico with Cuba trailing for third place. The tourism cluster in the Dominican Republic is rich with many extensions into other areas of the economy, from transportation and communications to agricultural production, construction, and water and energy consumption. Most of the tourism is driven by the hotels, with the large all-inclusives accounting for the majority of spending. Activities and attractions beyond the all-inclusives are numerous, though as we show later not necessarily utilized. Most prominent are the casinos, with 31 major casinos in all, concentrated in the Santo Domingo area. In addition, there is a theme park, a marine park, and an ecological park, as well as numerous historical sites and small operators of restaurants, bars, merengue and bachata clubs, and adventure sports. The sector has, however, reached a saturation of its assets largely because of an all-inclusive enclave model and a focus on volume over productivity.

region has both in abundance and a comparative advantage in production. The varied natural and man-made attractions, flora and fauna of each country allows the Region to market a diversified product range that appeals to ever increasing number of niche markets. These attributes together with the proximity of the islands has resulted in the Caribbean remaining a desired vacation and preferred cruise destination, even with the entry of newly competitive regions and destinations in the tourism market. Tourism is therefore increasingly becoming crucial for the economic survival of local economies.

Caribbean countries have a natural comparative advantage for the development of the tourism industry and are long-established tourist destinations. In addition, some of its member states are amongst the most important tourist destination in the region. A number of CARICOM economies have lost market share relative to other Caribbean destinations, due to relative cost disadvantage and in some cases these economies have also witnessed a decline in tourist expenditure and receipts and in the growth of visitors.

#### **TOURISM AND THE ENVIRONMENT IN CUBA**

The Cuban government has established safeguards designed to ensure that tourism and other development do not result in significant environmental impacts. The development of new tourist facilities and related infrastructure in Cuba must, among other things, proceed in accordance with Cuban environmental laws and policies. In 1994 the Cuban government established the Ministry of Science, Technology, and Environment (CITMA) and in 1997 the National Assembly has enacted Law 81 of the Environment, one of the most comprehensive "framework" environmental laws in the region. Pursuant to that Law, the government adopted a number of decree laws and resolutions aimed at ensuring that future development (including tourism development) is sustainable. Of particular importance to tourism development is Decree Law 212, Coastal Zone Management, which establishes setbacks and other siting requirements for new facilities in coastal areas. CITMA Resolution 77/99 requires a thorough environmental assessment of major new construction projects and requires that project developers obtain an environmental license from CITMA.

Source: Daniel J. Whittle, et al., International Tourism and the Protection of Cuba's Coastal and Marine Environments, in Tulane Environmental Law Journal, Volume 16, Summer 2003

This shift is also explained in part by the shift away by European Tourists from the English speaking Caribbean tourist destinations to the Spanish speaking ones.

Cost considerations and the constraints imposed by size as well as limited resources have prompted the Caribbean countries to increasingly focus on a niche market approach to tourism. A niche market approach can seek to diversify the product to spread and reduce the risks of over-dependence on one segment of the market. Indeed, in recent times, regional policy and strategy have focussed increasingly on embedding tourism in the indigenous culture through community tourism, heritage and eco-tourism. Hoteliers are also striving to attract a greater share of the conference and business tourism market. Nevertheless, although there are nodes of success in these areas in some countries, the region for the most part has not made significant advance in these newer aspects of tourism.

A critical component of product development in all the countries is a strategy for enhancing the variety and quality of tourist sites. Site development is an essential part of the policy to better meet the demands of more mature tourists with preferences for a variety of sites and activities and a desire to incorporate learning about the indigenous culture in their travel experience. Caribbean countries are therefore paying greater attention to community based tourism that focuses on sustainable livelihoods for residents of the community and an enriching experience for the tourist. This symbiotic relationship is promoted within the context of an environmentally sustainable framework. A number of countries, including Saint Lucia, Barbados and Jamaica, have developed environmental management systems to continuously monitor and upgrade tourism sites to ensure that they conform to global environmental standards. Importantly, in this regard, countries are seeking to qualify for Green Globe certification of their sites and product to market themselves as certified “environmentally friendly” destinations.

Over the last decade, cruise ship tourism has shown high and steady rates of growth although growth rates in cruise ship visitor arrivals in individual ports can and have been much more erratic. Other observable trends include the increase in the size of ships, the increase in the number of available berths and a shift from the Eastern and Southern Caribbean to the Western Caribbean including Mexico.

The cruise ship industry is highly concentrated and dominated by three companies. These few companies have established several interest associations to promote the interests of the cruise ship companies. In contrast, neither Caribbean governments nor Caribbean port authorities have established a regional cruise port association. Therefore the situation is one where a highly concentrated industry negotiates (and, some times, dictates) cruise ship industry issues with a large number of individual, small entities. Hence the industry can and does threaten an individual port or country that it will reduce its cruise ship calls if certain measures are not taken. Since the Caribbean region does not have a unified position the individual ports or countries have a very weak negotiating position. Examples of this include the OECS environmental levy or the CARICOM proposal for a US\$ 20 head tax. The negotiating position is further weakened when cruise ship companies own private islands or when they own and operate cruise ship ports.

Apart from a need to invest in port infrastructure, the increased size of the cruise ships and the increase in the number of berths available to the Caribbean have resulted in congestion. The overcrowding gets worse when three to five similar sized cruise ships visit a port at a particular time, a state of affairs that is common in the more popular cruise ports. The congestion has two components that are areas of concern. The first concern is exceeding environmental thresholds. The second component of congestion is the perception of overcrowding by residents, tourists and cruise ship visitors. Few, if any, governments (or hotel and tourist associations) regularly monitor the levels of congestion, perceived overcrowding and the impact that may have on visitation and expenditure patterns. Data needs to be analysed to estimate the sensitivity of destinations and attractions to the tourist perception of overcrowding.

In 2004 the Caribbean Hotel association had recommended the formulation of a regional policy towards cruise tourism. Six years later this policy has still not materialised. At the national levels, Belize was one of the first countries to have adopted A comprehensive national Cruise Tourism Policy and to foster multi-stakeholder discussions around both cruise and stay over tourism. While some aspects of the policy

#### **COMMUNITY BASED TOURISM IN JAMAICA**

Community-based development is a strategy used by tourism planners to mobilize communities into action to participate in broadening the scope of offerings in the industry. The goal is socio-economic empowerment and a value-added experience for local and foreign visitors. This process opens new niches for destination Jamaica, most notably for the nature, culture, and adventure traveller. Community-based Development empowers people to be more aware of the value of their community assets - their culture, heritage, cuisine and lifestyle. It mobilizes them to convert these into income generating projects while offering a more diverse and worthwhile experience to visitors.

Source: Tourism Product Development Co. Ltd.

were disregarded as cruise tourism grew exponentially, some important policy objectives have been met. In the case of Cuba, the current cruise policy requires that cruise ships touch at least two Cuban ports and includes provisions for sail and stay vacations, and the employment of Cuban nationals on cruise ships.

Unlike cruise tourism, a basic lack of awareness of the yachting sector remains a major problem. While the CTO has standing committees for hotels and cruise ships, it does not have a similar committee for marine-based tourism. As a result, marine-based tourism has little impact when regional tourism agendas are set and its interests are rarely taken into consideration. Be that as it may, in 2005, with facilitation provided by ECLAC, the Caribbean Marine Association (CMA) was formed. The aims of the CMA are to enhance, develop, and promote the yachting industry and all other related activities and services within the Caribbean region.

In 2008, CTO completed a common policy framework for tourism in the Region. The “*Caribbean Sustainable Tourism Policy Framework*” was prepared through a process of wider consultations with various stakeholders across the Region. The Sustainable Tourism Policy Framework and its “Report on the International Policy and Market Response to Global Warming and the Challenges & Opportunities that Climate Change Issues Present” both highlight the contemporary issue of climate change as a major environmental issue that must be addressed in an effort to ensure the long-term sustainability of tourism. The Policy Framework therefore provides the following guidelines:

- Encourage public and private sector tourism stakeholders and civil society to apply technology and behavioural change to address the issue of climate change e.g. review government travel consumption
- Cooperate with carbon offset programmes to offer travellers to/within the region the opportunity to offset the carbon emissions from their flights to the region;
- For specific events, such as large cultural/sporting events/conferences, cooperate with carbon offset programmes to offer travellers to/within the region the opportunity to offset the carbon emissions from their flight to the region;
- Communicate at relevant forums, the steps that have been taken to reduce the “carbon footprint” of the national tourism sector, as well as the importance of tourism and air transport to the economic sustainability of the Caribbean region

In addition to the efforts of the CTO, individual Countries in the region have also been making progress in the formulation of tourism policies and plans. The Draft National Tourism Policy of Trinidad and Tobago is a case in point. This document provides the broad policy guidelines under which Trinidad and Tobago’s tourism industry will be developed to be a meaningful contributor to the country’s economy and a major source of sustainable employment by the year 2020. The broad goal of the policy is espoused in the Vision Statement for the tourism industry. By the year 2020, the Trinidad and Tobago tourism product will be a significant economic sector contributing significantly to the nation’s GDP, through job creation and increased revenues, driven by a uniquely differentiated, internationally competitive product, complemented by comprehensive, fully functional physical infrastructure, modern, competitive institutional framework and supported by the people of Trinidad and Tobago. The sector will be anchored by properly marketed flagship with brand names that are globally well known. The Sustainable Tourism Framework stresses a sustainable tourism development approach, which is based on collaboration and participation. It highlights key issues as it relates to the institutional framework, the Government’s tourism investment policy, tourism marketing, tourism standards and control, aviation policy and access, public awareness and participation, human resource planning and development, and employment.

Suriname has a Policy Statement on Sustainable Tourism, which states that, the “basic assumption is sustainable use of culture and nature.” This is based on the Government’s own recognition

that one area of significant economic growth and job creation potential is tourism, particularly adventure and ecotourism. To this end, Suriname has received funding from the EU to focus on community tourism development<sup>237</sup>.

The Belize Sustainable Tourism Program (STP) is a response to the challenges that must be faced if Belize's tourism sector is to grow in a manner that is economically, environmentally and socially sustainable. The intention is to strengthen the sector's contribution to the national economy by consolidating the overnight tourism market with investments and activities along three inter-related fronts. The project is being funded by the Government of Belize and IDB through a loan of US\$13.322 million. The Government of Belize is currently developing a National Responsible Tourism Policy which will be followed by the development of a new Tourism Master Plan which will operationalise the Sustainable Tourism Development Programme.

The tourism industry in Barbados has recognized that conservation and preservation of resources is crucial to having a sustainable tourism market. There have been several partnerships between government and the tourism sector in the area of environmental conservation. The Tourism sector has lobbied government to invest more in environmental preservation. In 2001 the Ministry of Tourism submitted a Green Paper on the "Sustainable Development of Tourism in Barbados-A Policy Framework" which was used to guide the sustainable development of the tourism industry in Barbados in the short to medium term. In 2008, the multi-sectoral Tourism Advisory Council which provides advice to the Minister of Tourism on critical issues impacting the industry reviewed the Policy Framework in light of the current international climate. One of the recommendations is to establish tourism as the "Green Leader" in Barbados championing the cause of Greening Barbados.

The Saint Lucia Heritage Tourism Programme is an initiative designed to enhance the sustainability of Saint Lucia's tourism industry. The programme, which is community based, is an initiative of the Ministry of Tourism and is described as a successor to the Community Based Nature Heritage Tourism Programme funded by the European Union. The programme encourages small-scale locally owned tourism enterprises that can generate employment and revenue at the local level, contribute to reducing fiscal leakages, and reduce the impact of large numbers of visitors on the environmental landscape. The Programme has faced some obstacles which provide lessons learned for community based tourism projects elsewhere in the Caribbean. Some of the main obstacles include:

- Vertical linkages occurring mainly between hotels, tour operators and airlines, which lead to domination by large operators and reduced opportunities for small entrepreneurs;
- Fiscal policies and incentive mechanisms favouring large-scale development;
- Inadequate marketing of cultural and heritage products using the resources of the poor;
- Lack of financial and physical assets, exacerbated by financial institutions' skepticism of financing small-scale tourism products; and
- Insufficient local capacity and understanding of the operations of the industry.

Recognizing the contribution of tourism both share of overall energy use and the largely fossil fuel dominated energy supply in the Caribbean, a number of national and international organizations are designing a program to reduce the sectors contribution to greenhouse gases (GHG).

In 2009, the Caribbean tourism sector took a major step towards energy efficiency within the hotel industry. The region's public and private sector tourism groupings, the CTO and the Caribbean Hotel and Tourism Association (CHTA) – through its environmental arm, the Caribbean Alliance for

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<sup>237</sup> SSTCB. Available at <http://www.sstcbp-suriname.org/>. Accessed on April 23 2010.

Sustainable Tourism (CAST) - have launched a 24-month project to help the Caribbean hotel sector move towards energy efficiency. The US\$2 million Caribbean Hotel Energy Efficiency Action Programme (CHENACT) is meant to drive the Caribbean hotels to implement energy efficient practices and to generate their own renewable energy. This, in turn, is expected to improve their competitiveness through improved energy use. The CHENACT project was conceptualized by IDB, which is contributing US\$1 million to the budget, with the remainder coming from a number of participating agencies and the government of Barbados. One of the main components is the design and preparation of the energy efficiency programme and institutional strengthening. Using Barbados as a case study, this component involves performing detailed energy audits and understanding energy consumption patterns among Caribbean hotels. Other key components include support for the preparation of policy in energy efficiency for the tourism sector; assessing Caribbean energy service companies and their potential to service the tourism sector; and energy consumption surveys.

In 2008, the Caribbean Hotel Association (CHA) announced<sup>238</sup> the formation of the Caribbean Tourism Investment Fund designed to help close the financing gap in the Caribbean, which has traditionally resulted in limited access to third party equity. The Fund will target owners and operators of hotels with up to 150 rooms and other entities with proven track records and robust business plans. Caribbean Financial Services Corporation (CFSC) will be the Manager of the Fund. The majority shareholding in CFSC is held by ECIC Holdings, Ltd., a holding company established by 10 indigenous commercial banks mainly from OECS countries.

The foregoing is a limited catalogue of national and regional tourism initiatives that have been undertaken in the last five years. Tourism continues to be a major economic sector in the region and will continue to take the lead in the further development of the Caribbean services sector. Since Mauritius, substantial progress has been made in the formulation of sustainable tourism strategies, in community based tourism initiatives and in building the capacity of community based organisation to participate in the tourism industry. Unfortunately, inadequate research and data collection still plague the industry. The impacts of tourism are not sufficiently monitored by national or even regional agencies. Assessments of carrying capacities are also not regularly conducted because of the limited technical and financial capacities to do so.

### **(i) Biodiversity resources**

Caribbean societies, environments and ecosystems are characterized by their youth (in geological and biological terms), distinctiveness (including high rates of species endemism and originality of Caribbean cultural traditions and expressions), small size (of islands, countries, ecosystems, domestic markets and economies) and the resulting scarcity of some resources (especially land, as well as water in the drier islands), vulnerability (to natural hazards, social and cultural change, and economic shock) and diversity (of species, ecosystems, cultures, political systems, economic performance). These characteristics are in turn responsible for three critical regional features:

- The high dependence of economies and livelihood strategies on the local natural resource base, primarily in agriculture (with a limited number of dominant export crops), mining, tourism and fisheries.
- The openness of human and biological systems (to invasive species, external cultural and political influences, trade) and the resulting dependency on external forces and factors.

<sup>238</sup> [http://www.hotelsmag.com/article/360195-Caribbean\\_Tourism\\_Investment\\_Fund\\_Being\\_Formed.php](http://www.hotelsmag.com/article/360195-Caribbean_Tourism_Investment_Fund_Being_Formed.php) Accessed on April 22 2010.

- The frequency of conflicts over natural resource use, because multiple uses must co-exist on very limited space (this is particularly true in the coastal zone, where much of the human activity has historically been concentrated, and which is the object of increasing pressure, especially as a result of urbanization and tourism development).

Caribbean SIDS supports exceptionally diverse ecosystems, ranging from montane cloud forests to cactus scrublands. The region has dozens of highly threatened species, including two species of solenodon (giant shrews) and the Cuban crocodile. Indeed the Wider Caribbean has been identified as one of the world's biodiversity "hot spots"<sup>239</sup>. The International Union for Conservation of Nature (IUCN) Red List evaluated 2074 species in the Caribbean islands alone and found that 2.2% were extinct and 38% threatened. Of the 1,920 terrestrial species, 206 marine species and 347 freshwater species evaluated<sup>240</sup>, respectively 38, 22 and 22% are threatened. Predictably, the largest numbers of threatened species are found on the larger islands, which have more species. Despite extinctions, the Caribbean is one of the most biologically diverse regions in the world, and due to its insular nature also has an unusually high proportion of endemic species. A review for IUCN's World Commission on Protected Areas (WCPA) in 2003<sup>241</sup> estimated that 54% of vertebrates and 59% of plants are endemic to the region<sup>242</sup>. In Jamaica, for example, there are 3,003 species of flowering plants, 28% of which are endemic, and more than two thirds of the 61 species of reptiles and amphibians found there are endemic.

A variety of ecosystem services have been identified for the Caribbean and have long been important to human wellbeing and livelihoods. For instance, apart from their timber value, forests (primary, secondary, upland, coastal) provide wood for fuel for large numbers of people on some islands (e.g. Dominican Republic, Haiti, Jamaica and the Windward Islands), ecotourism related employment for rural people in several countries (e.g. Dominica, Dominican Republic, Jamaica and Saint Lucia), and recreation and education opportunities throughout the region, and a wide range of non-timber forest products of social, economic and medicinal importance are also harvested in virtually every country in the Caribbean<sup>243</sup>. In addition, forests (and many key biodiversity areas) provide a critically important role in protecting against floods and storms (illustrated by the tragic loss of life from floods following major storms in deforested upland areas of Haiti, such as the Massifs de la Hotte and de la Selle key biodiversity areas), in regulating water supplies for local communities and tourism developments (e.g. Cockpit Country and North Coast Forest Corridor), and also provide a crucial climate mitigation service as absorbers of CO<sub>2</sub>. Caribbean mangrove forests (such as those in the key biodiversity areas of Jaragua National Park, Haitises, Portland Ridge and Bight, Black River Great Morass, Bluefields and Southern Great Lake), also provide multiple benefits including: nursery habitat for commercially important fish species; protection against storm and wave erosion; absorption of nutrients and trapping of sediments deposited by rivers, thereby reducing eutrophication and sedimentation in coastal waters; and restriction of the flow of seawater into the river systems and inland water sources<sup>244</sup>.

To date, there have been few economic valuations of terrestrial ecosystem services in the region

<sup>239</sup> [www.biodiversityhotspots.org](http://www.biodiversityhotspots.org). Accessed on April 20 2010.

<sup>240</sup> This amounts to more than 2,074 species as some species occupy more than one type of habitat.

<sup>241</sup> [www.unep-wcmc.org/protected\\_areas/UN\\_list](http://www.unep-wcmc.org/protected_areas/UN_list). Accessed on April 22 2010

<sup>242</sup> Heileman, S. (Ed.). 2005. Caribbean Environment Outlook. Special edition for the Mauritius International Meeting for the 10-year Review of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States. UNEP, CARICOM and University of the West Indies. Available at [www.unep.org/geo/pdfs/Caribbean\\_EO.pdf](http://www.unep.org/geo/pdfs/Caribbean_EO.pdf). Accessed on April 23 2010

<sup>243</sup> John, L. 2005. The potential of non-timber forest products to contribute to rural livelihoods in the Windward Islands of the Caribbean. CANARI Technical Report No. 334

<sup>244</sup> Critical Ecosystem Partnership Fund, 2009. Ecosystem Profile. The Caribbean Islands Biodiversity Hotspot

“Achieving balance between the environment and economic growth is no longer a choice; it is a necessity. It is an endeavour in which all must be involved: individuals of all generations; enterprises; governments; and the global community as a whole. The reconciliation of economic growth and the environment must be truly viewed as a shared responsibility”. *Professor Compton Bourne, President, Caribbean Development Bank*

(partly a reflection of the costs of such research and lack of appropriate and agreed methodology), and the human and economic costs of their loss, which represents a key area in need of further investment. Additionally, there is inadequate awareness of the critical importance of ecosystem services – the benefits from preserving them and risks and costs from their loss – and they are poorly understood and undervalued by markets. As a

result, they have not received the necessary focus, resources and investment, and the contribution of ecosystem services is not fully internalized in the price of the goods and services they provide. Consequently, areas important for these services (e.g. many protected areas, forest reserves, wetlands, low intensity agricultural areas, and indeed the highest priority key biodiversity areas are undervalued, and destroyed for “economic development” or managed in ways that undermine or degrade provision of the services

All the countries covered in the report are active participants in the MEAs. All are signatories to the three “Rio conventions”– the United Nations Convention on Biological Diversity, United Nations Convention to Combat Desertification, and the United Nations Framework Convention on Climate Change —and most are members of the other key biodiversity related agreements, such as Ramsar, World Heritage Convention and Convention on International Trade in Endangered Species, except for the Convention on Migratory Species. At the regional level, the main agreement is the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) and its three Protocols, which together constitute the only legal instrument for regional cooperation on environmental issues for the wider Caribbean.

The complexity of the international and regional policy framework and the demands it places on governments often overstretch the limited staff and technical resources of national environmental management institutions (particularly in the smaller states) and as a result, obligations under these agreements are sometimes not adequately carried out. Reporting, particularly in the absence of adequate systems for monitoring and data management, is perceived by many as a costly exercise that yields few tangible benefits, consequently reporting on many of these international environmental obligations is often inadequate. The cross-cutting nature of some MEAs is also a challenge. Countries are required to adopt sectorally integrated, socially inclusive implementation strategies and to create multi-sectoral awareness about their purpose. As a consequence, a number of countries have established national mechanisms to coordinate implementation of MEAs, such as the Cabinet-level National Coordinating Mechanism on Antigua and Barbuda, and the Environmental Coordinating Unit on Dominica.

Most countries have significantly updated, or are in the process of updating (e.g. Haiti and St. Vincent and the Grenadines), their policies and legislation on biodiversity, environmental management and sustainable development, in the last 20 years, and obligations under international agreements have helped drive this process<sup>245</sup>. However, there exists significant variation among countries with regard to their comprehensiveness and effectiveness, particularly with regard to the protection of threatened biodiversity and ecosystems<sup>246</sup>. Overall, national public policy frameworks for environmental management remain largely oriented toward control, regulation and a reactive approach to environmental issues,

<sup>245</sup> Brown, N., Geoghegan, T. and Y. Renard. (2007) A Situation Analysis for the Wider Caribbean. Gland, Switzerland: IUCN.

<sup>246</sup> BirdLife International (2008) Important Bird Areas in the Caribbean: key sites for conservation. Cambridge, U.K.: BirdLife International. (BirdLife Conservation Series No. 15).

although new approaches and instruments, including environment service markets, have begun to be promoted by some donors, governments and non-governmental organizations as means of changing destructive patterns of behavior.

Most Caribbean countries have not had a systematic approach to the establishment of protected areas, although protected area reviews and gap analyses have been undertaken recently on some islands. Jamaica, for instance, is currently completing its Protected Area System Master Plan that will provide a framework for the sustainable management of Jamaica's existing and future protected areas; Saint Lucia has already completed a second Plan. Protected area gap analyses have been produced for the Bahamas, Dominican Republic, and some OECS countries (Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines) under the OECS Protected Areas and Associated Livelihoods Project. These have shown that many national protected area networks are not comprehensive with key ecosystem types missing or under-represented, such as montane forest in the Dominican Republic, deciduous forest, dry woodlands, dry coastal scrub and mangrove forest on Grenada, and lowland and coastal ecosystems on Jamaica. Many important sites are also judged too small to be viable. For example, populations within the small protected area of forest in La Visite (Massif de la Selle Key Biodiversity Area) and Macaya (Massif de la Hotte Key Biodiversity Area) national parks on Haiti, for instance, may not be viable in the long term<sup>247</sup>.

Apart from inadequate coverage and under-representation, protected area management is weak and ineffective on many islands and only a few countries have strong centralized and well coordinated institutional arrangements for the management of protected areas. Chief amongst these are Cuba, with the Centro Nacional de Áreas Protegidas, and the Dominican Republic, with the Subsecretaría de Áreas Protegidas y Biodiversidad. National Parks and other protected areas are well established in many dependent territories, for example the Netherlands Antilles (Bonaire and Saba Marine Parks), and the U.S. Virgin Islands<sup>248</sup>.

Sustainable financing for protected areas remains one of the biggest challenges in the insular Caribbean, and probably all protected areas are under-funded, which impacts their management and hence long-term survival. Payment for the services provided by protected areas, such as tourism and recreational activities, watershed protection, and seed and seedling source banks are not fully captured and where payments are made (usually as entrance fees) these frequently have little relationship to the true cost of maintaining the protected area or the real value of the ecosystem services provided by the protected area. Many of the GEF- and other donor-funded protected area projects in the region have been focusing on trying to improve the financial sustainability of national protected area networks through the creation of protected area trust funds, debt-for-nature swaps and other approaches, but financing continues to be a challenge.

With reference to invasive species a review of the threats in the Caribbean region identified 552 alien species<sup>249, 250</sup>. Numbers on individual islands can be very high. For instance, 138 species have been reported as invasive in the Dominican Republic, including 17 of the 100 world's worst invaders<sup>251</sup>. At the national level, most countries in the region have identified invasive aliens as one of the major threats to

<sup>247</sup> Critical Ecosystem Partnership Fund, *ibid*

<sup>248</sup> *ibid*

<sup>249</sup> Kairo, M., B. Ali, O. Cheesman, K. Haysom and S. Murphy. 2003. Invasive species threats to the Caribbean region: report to The Nature Conservancy. CAB International. Available at [www.issg.org/database/species/reference\\_files/Kairo percent20et percent20al,%202003.pdf](http://www.issg.org/database/species/reference_files/Kairo%20et%20al,%202003.pdf). Accessed on April 23 2010.

<sup>250</sup> <http://i3n.iabin.net/>. Accessed on April 24 2010

<sup>251</sup> Lowe, S., M. Browne, S. Boudjelas, and M. De Poorter. 2001. 100 of the world's worst invasive alien species. A selection from the global invasive species database. Species Survival Commission of the World Conservation Union (IUCN), Auckland, New Zealand

their biodiversity and the need for control activities. However, quantitative data on Caribbean invasive species are still considered inadequate and limits the ability to design effective responses. There is also a low level of awareness from public to policymakers of the threats posed by invasive aliens and their environmental and economic impacts. A particular challenge to addressing invasive aliens arises from the fact that many of the major pathways for species introductions are critical to national economies.

The Dominican Republic has established the Biotechnology and Biodiversity Centre (Centro de Biotecnología y Biodiversidad) to serve as the national and scientific base for finding biotechnology solutions to the main problems affecting the agriculture, forestry and fisheries sectors. This Centre serves as the base for exploiting modern biotechnologies. Specialized laboratories which focus on tissue culture, molecular biology, molecular diagnostics, germplasm management, industrial biotechnology, and nutraceuticals have also been established. Emphasis is also being given to human resource development; a new Masters Degree programme has been set-up and protocols have been developed for a wide variety of biotechnology products (biopesticides, medicinal extracts, diagnostic methods, scale-up of tissue culture protocols).

Since the early 1980s and consistently over the last 20 years, Cuba has invested in red biotechnology and has become an important producer of biotechnology derived medicines, vaccines and diagnostic kits. The foreign exchange generated through sales of these products is an important contribution to the country's GDP. Since the 1990s Cuba has placed special emphasis on biotechnology applications to increase agricultural productivity and development of their aquaculture sector.

As of July 2009, 13 of the countries covered in this report have completed their National Biosafety Projects. Antigua and Barbuda, for instance, has drafted a Biosafety and Biotechnology Management Bill while the Commonwealth of the Bahamas has drafted a National Biosecurity Strategy. The Dominican Republic, Suriname, Guyana, and Saint Kitts and Nevis have all drafted National Biosafety Frameworks while Jamaica has developed a legal and policy framework<sup>252</sup>. The First Regular National Report on Implementation of the Cartagena Protocol on Biosafety was to have been submitted by 2007. The Convention Secretariat's database indicates that only four reports (Barbados, Cuba, Dominican Republic and Saint Lucia) were received from the 13 Caribbean SIDS.

Caribbean countries are active participants in global and regional environmental agreements, but their ability to meet their obligations under these agreements is hampered by the lack of coherent enabling policy frameworks and the limited human and technical capacity of executing agencies and their implementation partners. In many instances, reporting requirements place excessive burdens on small environmental management agencies at the national level. More generally, countries of the region would benefit from technical assistance and policy guidance that would help them to participate better in, and to take fuller advantage of, regional and international instruments.

## **(j) Transport and communications**

### **(i) Sea transport**

As Caribbean countries plan to deepen global links to encourage tourism, diversify exports, and take advantage of regional production and resource integration, infrastructure inefficiencies loom as one of the most significant barriers to global competitiveness. Such inefficiencies are particularly acute in the transport sector. Improvements in this sector are crucial for the region's continued regional and global

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<sup>252</sup> UNEP Biosafety. Available at <http://www.unep.org/biosafety/National%20Biosafety%20frameworks.aspx>. Accessed on April 24 2010.

integration. Minimizing friction in the movement of people, goods and services across the islands and with the rest of the world is paramount to achieving that goal.

Given the region's overwhelming dependence on trade, it is telling that the largest Caribbean countries pay up to three times more than the world average in transport and insurance costs as a percentage of their imports. In smaller Caribbean nations transport costs are even higher. Total transport costs are a function of type of cargo and distance, as well as port dues and tariffs, waiting times in ports, economies of scale, sea and air freight rates, insurance premiums, and in-land transport costs. While many of these costs can be attributed to the inescapable geographical realities of the region, some important inefficiencies in sea and air transport could be eliminated.

The weight of high transport costs falls disproportionately on the Caribbean *vis-à-vis* its extra-

#### Caribbean's new inter-island ferry service

The new ferry service, which will see inter-island passengers paying one-third of the current airfare for travel to the islands by air, will be offered to residents of Barbados, St Vincent, St Lucia, Trinidad and Grenada. Initially, the company's two vessels, which are passenger speed boats, will each have a seating capacity ranging from 260 to 300. One of the vessels will make St Vincent its home and will service the St Vincent to Barbados and St Lucia routes, while the second ferry will be based in Grenada and will service the Grenada to Trinidad and Barbados route.

Source: Carib NetNews.

regional trading partners. Although most Caribbean countries have trade deficits as far as the *value* of merchandise is concerned, the Caribbean has a "surplus" in terms of *volume* because it exports bulky commodities and imports relatively mobile higher-value consumer and capital goods. This is problematic because the volume of traded goods is more relevant than the value when considering transport cost. In addition, cost inefficiencies will primarily be borne by the price-taking Caribbean commodity exporter, and by the Caribbean importer and consumer of high-priced capital goods. Lower transport costs would unambiguously benefit overall Caribbean welfare.

Some 90% of Caribbean imports and exports now find their way on board the region's expensive and inefficient shipping network. It is therefore here that the greatest overall benefit from efficiency gains could be realized. Presently, sea freight rates between Miami and Caribbean islands are similar to those paid for the much longer distance between Miami and Buenos Aires. Port handling charges in the Caribbean vary between US\$ 200 and US\$ 400 per container, far more, for example, than the US\$ 150 charged in Argentina.

The Caribbean shipping industry faces significant obstacles: it must overcome the unfavorable economies of scale characteristic of the industry and the inherent disadvantages of operating from and between both small and isolated islands. The present volume of cargo does not, in the short term, appear to justify the large fixed capital cost needed to secure more efficient port operations. One cargo container handling crane, for example, costs US\$ 8 million. Costs of administration and support services are also greatly influenced by economies of scale. In addition, smaller island ports are generally served by smaller (or under-utilized) vessels, directly affecting per-unit shipping costs.

Caribbean ports do not lack capacity overall, nor is the number of carriers insufficient for present needs. Instead, harmonized regulatory and legal reform is needed to create incentives to improve management and administrative practices, stimulate investment for existing facility modernization and ensure efficient pooling of resources in this area. Industry reforms should emphasize greater competition, regional cooperation and modern efficiency techniques.

Port performance in the Caribbean is hampered by a lack of *competition*. Because an island port has full monopoly power over cargo movements to and from the island hinterlands, Caribbean governments have been reluctant to privatize their ports. In most cases, governments retain ownership of port infrastructure and are heavily involved in port operations. Although many of the islands of the Caribbean are too small to support multiple ports, it is nevertheless possible to achieve competition *within* a port. One example is Georgetown (Guyana), where there is now competition among different private and public operators within the port. Although 60% of the port traffic still passes through one private terminal, competition has reduced handling charges by 25-30%. It is possible even in smaller ports to separate services and spark competition. Correspondingly, reforms to strengthen independent port authority institutions and separate regulatory and operational functions are needed.

Efforts to improve *cooperation* among Caribbean port authorities and shipping companies could provide further benefits. Coordination to facilitate growth in trans-shipment, for example, where cargo is moved to and from intermediate hub ports on the way to its final destination, could benefit the entire region.

The Caribbean lies at the crossroads of several major shipping routes that, if managed properly, could greatly increase cargo flow through Caribbean ports. Developing the most efficient network would require regional agreements to share in the infrastructure investment costs so that all might benefit from increased traffic flows. A lack of cooperation among carriers, too, leads to inefficient use of cargo space. Carriers with a backlog of cargo often prefer to keep cargo idle and customers waiting than to approach a competitor sailing away half empty. In other regions maritime carriers cooperate with slot sharing arrangements and alliances to utilize shipping capacity in a more effective way. A voluntary regional system whereby ships and shippers can access information on available capacity could greatly improve use of cargo space.

Most observers also emphasize the need to modernize Caribbean maritime *labor policies and technical practices*. Some ports are still closed in the evenings and on weekends. Improved maritime training and technical help is needed to ensure that local seafarers trained locally meet international certification standards and Caribbean shipping complies with international maritime safety and environmental laws.

The overall approach towards improving Caribbean shipping should emphasize legal reforms to encourage market competition and regional cooperation, as well as technical assistance to improve labor and infrastructure efficiency. Finally, while Caribbean industrial policies have in the past focused on the direct benefits of a national maritime sector protected by preferential policies, general institutional attention must continue to shift towards the even greater indirect benefits of foreign trade enhanced by an efficient and inexpensive transport system. Regional organizations such as the private sector Caribbean Shipping Association (CSA), the CARICOM Secretariat and the ACS provide a much-needed regional perspective in the dialogue on shipping problems and should be encouraged to deliver the impetus and leadership for inciting reform. All three have addressed the shipping situation and have made in-depth recommendations, many of which echo those included here.

(ii) Air transport

Given the importance of air transportation to the Caribbean's tourism and overall economic development as well as its social and cultural advancement, the region's development prospects, and that of each country therein, depend very much on the provision of reliable, efficient and affordable air transport both within and into the area. Historically, some countries in the region have sought to achieve those desirable objectives through government ownership of airlines as well as through blanket subsidies to privately owned regional airlines and, in some cases, by payment to international carriers for seat guarantees. This

has all taken place in a fairly restrictive air services environment, which has made it difficult to achieve the desired quality and reliability of air services in the region.

Efficient, demand responsive air transport services are critical for international trade and economic development. There is a clear recognition that the issue of sustainable and reliable air transportation is extremely important to the region's economic sustainability, particularly in relation to its tourism sector, and needs to be dealt with most urgently in a manner that is implementable. The sustainability of Caribbean tourism and general business competitiveness cannot be ensured without reliable, efficient, easily accessible and affordable air transportation.

The overwhelming dependence of the region's tourism industry on air transportation and the increasing vulnerability of airlines to economic phenomena such as escalating energy costs, high wage rates, overcapacity in major markets and suicidal price wars, necessitate an urgent review of the business models and policy approaches for sustainable operation of the region's vital air transportation sector.

A more liberalised Caribbean air services regime with appropriate safeguards against abuses of dominant market positions and market failure is commended as an essential measure for ameliorating the current unstable condition of the region's air transport sector.

A liberal environment for the provision of air transport services does not obviate the need for effective policy and regulatory capacity. Regional governments must still have the capacity and know-how to effectively manage the opportunities created by competition in order to ensure that policy objectives are met and satisfactory services to the consumer are secured. A good start, for example, has been made in this direction in the Eastern Caribbean in regard to the management of air safety and security with the establishment of the Eastern Caribbean Civil Aviation Authority (ECCAA). Caribbean nations therefore would be well advised to take the opportunity to generally review and selectively strengthen public sector capacity, in order to ensure effective monitoring of air transport services, to critically assess policy options and their impact on sector performance, and to develop and sustain knowledge of best practices in air transport sector management.

### (iii) The telecommunications sector

Many Caribbean countries have developed information-based industries including data entry, data manipulation, data conversion, information processing, and information management. The Caribbean has many advantages which would support the development of such activities including a strong affinity to North America, a common language and time zones, relatively easy and quick access from the USA and Canada, a basic core of highly skilled professionals, wages which may be high with respect to other centers of outsourcing but are nevertheless lower than those in the USA and Canada, and some experience already gained in information base industries. In addition, there is an important Caribbean Diaspora, living mainly in the United States, Canada, the United Kingdom and to a smaller extent in France and the Netherlands which has the skills and the wealth, which can be tapped to support the development of dynamic ICT in the region. Many countries and territories have been seeking to use ICT to connect their citizens for education, commerce, health and cultural development.

In this respect the ICT strategy adopted by regional Ministers responsible for ICTs in October 2004 still remains relevant. The Strategy recognizes the need for "an aggressive and focussed" ICT strategy for the region and urges the CARICOM members to adopt new approaches to ICT policymaking and regulation, capacity building, and research and innovation. The strategy also encourages CARICOM member states to develop publicly-funded ICT programmes that address the need for "disenfranchised and under-served" communities to reap the benefits associated with investments in ICTs. Special mention

is made of programmes and policies linked to e-literacy, e-government, and skills training for cultural organisations/entrepreneurs to enable them to effectively market Caribbean cultural products and particular attention is paid to the need for member states to provide low-cost high-bandwidth connectivity to the region's citizens

Similarly, the focus of the CARICOM Connectivity Agenda adopted in July 2002 by the Conference of Heads of Government of CARICOM is very relevant eight years later. The Agenda seeks to increase competitiveness in services, harness the potential of electronic commerce particularly for small and medium-sized enterprises (SMEs) and develop national and/or regional/subregional information and broadcast communications and media services.

What is, of course, important is the implementation of these strategies plans and proposed actions of which there has been relatively little evidence so far in the region.

While it is clear that the region has been making some progress in seeking to address the challenges being created by digital convergence and seize the many opportunities the information revolution is making possible, it is clear that there are significant levels of fragmentation at both the regional and national levels that have inhibited the region's ability to create a true information society within the Caribbean. Countries that have taken initiatives in this direction are:

- Antigua and Barbuda which in 2003 unveiled an ICT policy to govern the introduction of digital technologies into the country's schools with a stated mission to "improve the teaching, learning and administrative processes in the education system with the use of ICT and to provide all students with the basic ICT skills that are necessary for the information age";
- The Bahamas which in released a policy statement on Electronic Commerce and the Bahamian Digital Agenda which outlined a vision of transforming the country into a centre of hemispheric excellence in e-commerce;
- Barbados whose National ICT Strategic Plan completed in 2005 seeks to bring some order to a fragmented sector as well as chart the country's path towards realization of the knowledge-based society and diffusing the new digital technologies more effectively throughout the economy and society;
- Belize where the governing People's United Party of Belize has promised the creation of "a high tech Belize" that will make the computer an integral part of the economic, social and political life of the country;
- ECTEL which recently embarked on a World Bank funded project on behalf of its five member states to design and implement a broadband deployment strategy and the development of guidelines for universal service implementation;
- Guyana which has drafted an IT policy containing national and strategic ICT objectives, strategies for the development of e-government, ICT policies linked to support for the educational sector, and approaches to facilitating growth within the nation's information technology productive sector;
- Jamaica where an IDB-funded project will contribute to Jamaica's e-readiness and support the development of the ICT sector, in order to increase competitiveness, diversify exports and expand productive employment; and
- Trinidad and Tobago, which issued its National Information and Communication Technology Plan in December, 2003 and where an IDB-funded ICT project is about to be initiated..

Noteworthy regional ICT initiatives discussed in the report include the University of the West Indies' Master's Degree in Telecommunications Regulation (MRP) to provide much needed training in telecommunications policy and regulation particularly with a Caribbean focus and the establishment of a

Caribbean Knowledge and Learning Network (CKLN) whose main objective is to enhance the competitiveness of Caribbean countries by upgrading and diversifying skills and knowledge through increased regional collaboration and use of ICT to connect citizens.

Development of an information-based industry and the realization of an ICT strategy and its incorporation into every day economic activity are, however, dependent on general factors including i) the availability of physical infrastructure which allows people, businesses and governments to communicate and ii) how easily this infrastructure is accessible to all who have or want to communicate. There is good infrastructure in the Caribbean but it is unevenly distributed and expensive to use. Fixed telephone penetration, an index often used to measure the state of development of telecommunications infrastructure, in the CARICOM Member States and the Dominican Republic varies between about 50% in Barbados, Antigua & Barbuda and St. Kitts & Nevis and 1.7% in Haiti. Similarly, there is a wide disparity in the penetration rates of cellular mobile, Internet access and Internet use.

## V. FIVE YEARS AFTER MAURITIUS

Probably no category of countries has ever been more commonly misunderstood than SIDS. When Prime Minister Eugenia Charles of Dominica, in 1988, pointed out that “the real Caribbean is not a fun place”, but rather “a place that has had its hard living...” she was illustrating what is now recognized as one of the most striking paradoxes of international cooperation. Indeed, there is a pervasive notion that small islands are privileged to be situated in a heavenly natural environment, and that this is the main determinant of the quality of life of islanders. This convenient vision has been fuelled, not only by the way international tourism has portrayed insular destinations, but also by the fact that a majority of SIDS, including those in the Caribbean, have demonstrated a relatively enviable socio-economic performance, compared with many continental or large developing countries.

The global crisis, at the heels of the energy and food crisis, compounded by the prolonged drought, is having serious implications for the region’s small and vulnerable economies. There have been declines in commodity prices, prices of other exports, remittances, tourism revenues, foreign direct investment and capital flows. This crisis has resulted in decreased income in the tourism sector, decreased ODA, a reduction in remittances and additional stress on the narrow resource base of SIDS, and has given rise to the emergence of endogenous changes. These changes have manifested themselves at the national level, with Jamaica undergoing a structural adjustment programme with the IMF,<sup>253</sup> Barbados considering a wage freeze in the public sector,<sup>254</sup> and several other countries resorting to downsizing the public service. Already, some countries are experiencing altered patterns of social and environmental behaviour that are exemplified in an increase in crime and gang-related violence, increasing unemployment, especially youth unemployment, contraction of social safety nets, and a overall reduction in the standard of living of populations.

Governments have sought to manage the impact of the crisis, but their tight policy space and liquidity constraints make it difficult to deal with shocks of this magnitude. Caribbean countries however recognize that, over the longer term, steps have to be taken to improve their development prospects by adopting resilience building strategies and diversifying into new economic activities.

A harder lesson has been that sustainable development, with its key premise of integration, information and participation, is a relatively difficult concept around which to build policy. The governance of most SIDS is organized along sectoral lines such as in energy, agriculture, and health. Consequently, although government leaders and senior policymakers increasingly mention sustainable development in speeches, a very limited number of new policies are integrated across sectors or stimulate significant public participation. In fact, economic issues are usually divorced from environmental considerations and there is very weak capacity for social planning. Another obstacle to developing policy that addresses sustainable development – outside the natural resource and environment portfolio is the lack of available quantitative tools that would allow for effective monitoring and corrective actions when needed.

Getting policies right is proving to be very difficult. Those being formulated seem to attract investment largely in one sector, tourism – rather than the economic diversification that might supplement national income or absorb exogenous shocks. As Caribbean SIDS economic futures become disproportionately more tourism focused, their vulnerabilities increase.

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<sup>253</sup>See [online]: <http://www.imf.org/external/pubs/ft/survey/so/2010/new020410a.htm>

<sup>254</sup>See [online]: <http://www.caribbean360.com/News/Caribbean/Stories/2010/02/03/NEWS0000010259.html>

Achieving sustainable development entails particular attention to an agenda with certain priorities including: increasing FDI flows, particularly to build infrastructure and expand export capacity; the removal of all existing tariff and non-tariff barriers; support to overcome supply-side constraints; expanding levels of technical expertise; and providing greater support for social sector development with special attention to health, focusing on HIV/AIDS education, population issues and women's empowerment; and cooperating to establish food security.

Inasmuch as Caribbean SIDS have accomplished remarkable success in implementing the MSI, a critical challenge to sustainable development for the Caribbean is finding adequate resources to undertake all that is required. Within the last five years, and more so over the recent past, the region's economic performance has been marked by a decline in the average GDP growth rates; continued high levels of income volatility, growing importance of the service — particularly tourism — sector; the increasingly significant role of remittances, and an increase of the debt burden.

In order to promote sustainable development, and to ensure that the gains of the last few years are not eroded, the Caribbean then needs increased levels of funding for core initiatives ahead. There will be an increased need for both internal and external sources of funding.

The region has demonstrated its commitment to sustainable development by utilizing some of its own resources in the implementation of the Mauritius Strategy, while at the same time addressing increasing obligations under international agreements. While the international community has provided some financing and technical assistance in some sectors, for the most part, efforts have been pursued within the constraints of limited financial resources. This, unfortunately, has resulted in an increase in ad hoc stand-alone projects, rather than a programmed or strategic approach to sustainable development.

Caribbean SIDS, mindful of the several vulnerabilities, challenges and opportunities to achieve the goals of sustainable development are committed to meeting the objectives of the MSI and have made progress in such fulfilment during the last five years, although many challenges remain. The presentation and discussions in Chapters 3 and 4 of the present report point to the considerable amount of work that Caribbean SIDS have already undertaken, often under difficult circumstances, and the challenges that lie ahead. Some of the more critical deterrents stem from the reduced flow of official development assistance, capacity constraints, lack of investment in research and development that results in minimal progress in innovation, slow progress in development of information and communications technologies, and inconsistent processes for monitoring their activities and evaluating progress achieved in achieving the targets set thematically in the MSI.

## **A. FINANCE**

Caribbean SIDS face the long-standing challenge of generating sufficient finance for development. Indeed, it is not only the measure, but also the quality of financing in terms of maturity structure and relevance for funding different sustainable development activities, that are challenges in the region. More than anything else, financing for development in these Caribbean SIDS must mean a channelling of funds into activities that increase capital formation, raise the quantity and quality of exports and import-competing goods and services, and enhance the learning and knowledge of the workforce. At a practical level, there are many such opportunities in high value-added segments in agriculture, culture and entertainment, and ICT, among other areas. To address these financial challenges, the MSI+5 needs to build on the regional and international effort that was launched at Monterrey.

Domestic or internally generated resources are the main source of finance in most economies. However, most Caribbean economies continue to generate insufficient domestic resources to fund development activities. As a result, the region remains heavily dependent on foreign capital in the form of foreign direct investment and other flows to finance productive investment. This has made the Caribbean more vulnerable to reversals of capital inflow and to significant repatriation of profits and dividends overseas.

External funding remains vital to production and employment for Caribbean SIDS. This has stemmed from the structural current account deficits run by most Caribbean SIDS. During the last five years, the current account deficit has averaged 14% in the Caribbean, reflecting a huge savings investment gap. Fortunately, the Caribbean has been able to attract substantial inflows of FDI, especially in tourism, minerals, and services such as telecommunications, to help bridge this gap. However, debt inflows have been substantial in a number of countries whose external deficits were due to large fiscal deficits.

A real concern for the Caribbean in the context of the MSI+5 is the extent to which FDI can contribute to production upgrading and diversification by investing in higher value added and more technology-intensive activities, especially in partnership with domestic investors. This would require investment to increase competitiveness including a skilled workforce, a critical mass of technology-competent workers, and the creation of a more conducive business environment. The international community can support through capacity-building involving technology transfer and assistance with education and training.

ODA to Caribbean SIDS appears to have stabilized at a lower level in the 2000s compared with the 1990s. This is indicated by a decline in volatility measured by the crude standard deviation from 1.3 from 1992 to 1999 to 0.6 from 2000 to 2007. This might suggest that, having largely shifted focus to low income countries in Africa and other regions, donor assistance is largely focused on a few countries and activities.

Apart from the structural decline in the quantity of ODA to the Caribbean, SIDS face challenges in the productivity and quality of aid and other forms of ODA. Tied-aid remains a problem as many donor countries stipulate the use of their own consultants and goods and services, which are often more costly than competitively sourced expertise and goods and services. This has cut the realized benefit of aid by a significant factor. By illustration, the United Nations estimates that tied aid cuts the value of aid to African countries by 25% to 40%

The achievement of middle-income status by Caribbean SIDS does reflect development progress by these economies and is cause for some optimism. Nevertheless, the focus by the international community on relatively high per capita incomes downplays the significant inherent vulnerability of Caribbean SIDS to environmental hazards, international economic shocks such as the current global slowdown, and social challenges.

In order to finance production restructuring, trade, and human resource development in an increasingly challenging global environment will require more innovative and flexible instruments and mechanisms. A critical financing gap in the Caribbean is funding for environmentally sustainable (high-S) technologies and climate change adaptation measures.

## B. CAPACITY-BUILDING

The unique human resources situation in SIDS, characterized by issues such as the migration of professionals and the subsequent brain drain, makes these countries the most vulnerable in the broader context of vulnerability. SIDS are small, their human resources are limited, and their environments have limited capacity to absorb shocks.

The fundamental principles for national vulnerability reduction in SIDS are:

- Minimize the risks from external shocks
- Maximize environmental, economic, and social resilience.

Implementation of the MSI requires that SIDS strengthen their requisite capacities to reduce their vulnerability, through minimizing the risks from external shocks and maximizing environmental, economic, and social resilience. This may be achieved in the areas of human resource development, support for local level capacity-building and institutional strengthening.

The main challenge in Caribbean education and training remains the quality and relevance gap. Education in the region remains inadequate to the task of developing individuals and workers with an analytical and problem-solving mindset to tackle the challenges in the workplace and society at large. Employers continue to complain about the mismatch between what is learnt in schools and universities and what is required in the workplace. Therefore, much attention still needs to be focused on developing highly skilled and competent technicians and policymakers to advance sustainable development under the MSI+5 programme.

These capacity challenges, namely, inadequate funding, dearth of appropriate levels of technical expertise, weaknesses in institutional structure and policy frameworks, and lack of public awareness of development issues, have forced Caribbean SIDS to turn to regional institutions for specialized assistance.

Caribbean SIDS benefit from the work of ECLAC, collaborating with CDCC and CARICOM in operationalizing the RCM, which serves to provide support to these countries in implementing the MSI. However, resources are still needed to develop the full organizational structure of the RCM, and until that has been achieved, its role remains limited.

In order to overcome these constraints, the following are recommended:

**(a) Human resource development.** Development of the capabilities of SIDS is essential in implementing the MSI and as such, education must receive the highest priority. Regional and national universities have made considerable progress in diversifying their curriculums to make them more relevant to the development needs of SIDS. Progress has been made on the implementation of a more technology-oriented programme of study with the introduction of a technology curriculum at the University of Trinidad and Tobago, and in the development of consulting services through a Business Unit at the University of the West Indies.

Information and communications technology (ICT) is necessary if SIDS are to benefit from the information that is available from the Internet. SIDS are only starting to incorporate these technologies into their operating systems. ICT has great potential to transform positively the way SIDS address persistent economic, social and environmental problems. The opportunities offered by ICT could bridge the digital divide for these countries by opening up opportunities for communication with developed countries.

**(b) Support for local level capacity-building.** Individual participation, particularly at the community level, is an important means for complementing the expertise that exists at the national level in achieving the MSI. Support for local level capacity-building initiatives would encourage and empower nationals to take ownership of the processes, to participate in decision-making, and would strengthen co-operation in implementing initiatives in support of the MSI. Strengthening local capacity may also increase the flow of financial and technical resources from the international donor community to non-governmental and community-based organizations for the implementation of national and regional initiatives. The challenge here is to bring the most creative organizational development products and tools, to provide information on how to improve management, operations, communications and resources.

**(c) Institutional strengthening.** National capacity plays an essential role in promoting sustainable development. In general, more progress has been made in those SIDS with, than in those without, proper institutions in place. Governments of SIDS should take a proactive stance towards systemic capacity building by strengthening national sustainable development bodies, enhancing their political and legal status, increasing their staffing levels, and improving their modalities of operation. SIDS that have not established such bodies should take action to ensure that a national mechanism for guiding and coordinating sustainable development policy is put in place and is given adequate status and resources for effective functioning.

Many of the institutions that have responsibility for implementing the MSI are constrained by the lack of inter-institutional and intersectoral cooperation. The public sector is organized and managed by sector, and economic and social issues are divorced from environmental considerations: all of this in the presence of weak capacity for social planning. This poses a challenge in implementing the MSI, since the programme of work is interdisciplinary and therefore requires a coordinated effort. Strengthening legal and operational mandates of key institutions and developing strategies for promoting and enhancing inter-agency collaboration would greatly enhance the capacity for implementing the MSI.

**(d) Regional cooperation.** In general, given the diseconomies of scale, it would be useful for Caribbean SIDS to identify commonalities with respect to skills requirements and address them on a regional basis, especially in areas where collaboration in research and training could provide solutions to national resource constraints, facilitate the exchange of best practices, and increase cost-effectiveness. Two of these areas may well be the preparation of new legislation, and the formulation and implementation of national strategies to promote regional cooperation. Furthermore, it is important to ensure that developed and existing skills filter down to the various entities responsible for implementing the MSI. The challenge here is to identify the compendium of activities that would form the basis of cooperation without compromising the sovereignty of individual SIDS.

**(e) South-South cooperation.** Lateral co-operation in building capacity could be of tremendous value to Caribbean SIDS. For example, the proximity of South American neighbours, particularly Brazil and Venezuela, could be an asset to the Caribbean subregion, specifically in the area of energy and the provision of pharmaceuticals, as in the case of selected anti-retroviral drugs to OECS.

**(f) International cooperation.** The international community should provide adequate financial resources to enable SIDS to carry out necessary institutional reforms to improve their capacity. Agencies of the United Nations system, such as GEF and other organizations, should increase training activities to help update and improve the skills of staff engaged in sustainable development activities

### **C. SCIENCE, TECHNOLOGY AND INNOVATION**

The MSI recognizes science, technology and innovation (STI) as a cross-cutting issue for all sectors involved in the sustainable development of SIDS. It calls for more action in: (a) incorporating STI into national strategies, (b) promoting and protecting traditional knowledge, (c) reviewing STI in relation to environmentally - sound technologies and sustainable development; (d) using STI and indigenous technology to reduce environmental risk, and (e) providing a mechanism for cooperating and sharing STI experiences in the region.<sup>255</sup>

However, there is a significant science and technology gap that Caribbean SIDS must bridge to modernize production and institutional structures to pursue self-sustaining growth and development. Science, technology and innovation in the Caribbean has been directly linked to the decline of traditional sectors such as agriculture and minerals, and has hampered efforts to diversify into new high value added activities. It is however recognised that the development of STI in the Caribbean can lead to an increase in economic growth and resilience, through: (a) the commercialization of products and intellectual property; (b) improvement in the areas of safety and health; (c) ensuring food and energy security, and (d) reducing negative environmental impacts

### **D. KNOWLEDGE MANAGEMENT**

In most cases, locating knowledge in the region is a problem, as there is too little or too much data. For example, there is a lack of statistical data to guide evidence-based policy- and decision-making. In fact, identifying useful information may be challenging, as the information may be too general, superficial and/or not adapted to the reality of Caribbean SIDS. Furthermore, stakeholders may not be aware of relevant information or the information sourced may not be reliable (accurate and updated). Although the Internet provides vast amounts of information, people in isolated/rural communities may not have (proper) access to it, or may not know how to (better) use it. Internet information may be neither classified nor organized and may often be collected but not necessarily linked to either qualitative and/or quantitative analysis for development purposes. Consideration should also be paid to the issue where knowledge sharing may be hampered by differences in socio-political context, legal frameworks and national priorities.

There is a lack of capacity for research-based analysis and scientific experimentation, and a lack of resources and of a culture that supports and enables innovation and creation of knowledge. Creating knowledge is a complex process, which may embed other processes. There may be a lack of articulation and coordination among institutions and initiatives, which may hamper the realization of training programmes.

The region lacks an entrepreneurial culture, in which enterprises are seen as enablers of knowledge creation and innovation. Language is another barrier, which needs to be addressed in designing an appropriate KM system, as various languages and Creoles are spoken in the Caribbean – French, Spanish, Dutch, and Creole in Dominica and Saint Lucia. The region also lacks ‘give and take’ with respect to sharing information and learning from each other’s experiences as such information has been neither captured nor applied. Other cultural differences exist, such as hoarding knowledge as a source of power, different values, and perceptions on the use of knowledge.

The knowledge management process in the Caribbean is evolving, and educational institutions and community organizations need to become involved in redefining this process to harness intellectual assets

<sup>255</sup>See [online]: [http://portal.unesco.org/en/ev.php-URL\\_ID=32210&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=32210&URL_DO=DO_TOPIC&URL_SECTION=201.html)

and utilize them effectively to move towards an information society/region. Encouraging innovation, understanding the scope of knowledge, utilizing it and sharing it effectively will encourage development, as the two are directly linked.

## **E. MONITORING AND EVALUATION**

Programmed monitoring and evaluation are critical to assessing progress in the implementation of the MSI+5 by Caribbean SIDS. In the past, Caribbean SIDS have focused their efforts on designing and implementing development strategies with little emphasis on monitoring and evaluation. Monitoring and evaluation in the region confront challenges, including:

- (a) Inadequate data gathering and benchmarking indicators to assess performance
- (b) An ingrained culture that is not favourable to assessment
- (c) Asymmetries in power between the region and donor countries and agencies that leads to the monitoring and evaluation framework being driven from outside
- (d) A shortage of financial, technical and institutional capacity which limits the ability of countries to respond to new issues as they arise
- (e) Lack of clear strategies for moving from monitoring and evaluation to implementation of changes proposed by evaluations. This leads to inertia in conducting future evaluations, which are often deemed pointless since they might not be acted upon.

With respect to data gathering and indicators, the region needs to complete the development of sustainable development indicators to measure and monitor performance. Although the development of aggregate indices presents difficulties of weighting of indicators and aggregation, individual indicators for key areas relating to socio-economic and environmental sustainability remain vital. On the institutional side, the challenge is to provide adequate technical and financial resources to undertake the periodic monitoring and evaluation of progress. To date, monitoring and evaluation of activities are project oriented and are linked to donor funding. To lessen the impact of asymmetries in power, donor agencies need to agree to partner with Caribbean SIDS in the M&E process. The costs of implementation need to be properly addressed, as without a clearly defined funding mechanism some countries may be unable to implement agreed actions under the MSI+5. A reenergized international commitment to funding and capacity-building for implementation is required. Nevertheless, Caribbean SIDS need to allocate their own resources, particularly to fund activities that are vital to their development.

The CARICOM Matrix is a critical component of the monitoring and evaluation process. The matrix has targeted four main areas for action: climate change, disaster management, freshwater resources and trade, environment and development policy. In terms of specific progress, the CCCCC was set up in 2005. A draft regional climate change strategy has been developed to track indicators. With respect to disaster management, the CDEMA has been tasked to take the lead the process. Progress has been made in the management of freshwater resources under the CEHI/IWCAM project.

At the subregional level, the St. George's Declaration of Principles for Environmental Sustainability provides a blueprint for monitoring and evaluating progress in OECS. The declaration proposes action on sustainable development issues, including integrated socio-economic and environmental management, education and training, waste management and private sector participation. Monitoring and evaluation of progress will be entrenched by targets and the establishment of an

implementation arm with financial and technical resources. Nevertheless, given human resource constraints and the difficult financial situation in many OECS countries, it is anticipated that they would require regional and international assistance to properly implement and evaluate actions and projects under the Declaration.

At the wider SIDS level, the Consortium of SIDS Universities has sourced funding for graduate training in climate change and sustainable development. The Consortium is now waiting for the finalization of a project agreement with the United Nations Department of Economic and Social Affairs (DESA) to undertake the training. Importantly, the training will incorporate distance learning across SIDS, allowing for the sharing of experiences across Caribbean, Pacific and other SIDS. Crucially, plans are afoot to revitalize SIDSNET. This will be on the agenda at a meeting in Fiji in March this year. A fully functional SIDSNET would act as a vital knowledge management portal for SIDS. It will promote the sharing of expertise, coordinate technical assistance programmes, and provide a databank for information and data on member countries.

## VI. THE WAY FORWARD

### A. RECOMMENDATIONS

In consideration of the significant progress that has been made in the Caribbean region over the last five years and the persistent concern that this progress will be eroded and or stymied by the present financial crisis, the following recommendations are made:

(a) Caribbean SIDS face a number of hard choices in stimulating growth, while seeking to maintain macroeconomic stability in a period of limited public resources. Like other developing countries, they seek to adjust to the loss of preferences and compete globally. It is recommended that they focus on national and regional markets, and seek to raise the level of human capital through private and public sector partnerships;

(b) There is the need for international agencies to increase ODA to the region, especially for capacity-building for improving production, trade and human resource development. In this regard, there is an opportunity for EPA needs to quickly capitalize the Caribbean Development Fund to finance targeted activities that accelerate crop diversification to promote food security, restructuring of sugar and bananas, and the development of new niches in services, including culture and entertainment, geriatric health and tourism, among others.

(c) The pursuit of regional integration through the CSME is important but several key pillars such as the coordination of economic activity, free movement of all citizens within the region and the harmonization of quality standards have yet to be completed. Furthermore, the region has no common trade policy in relation to the rest of the world and there is need to integrate trade and development policy if trade policy is to be effective. It is also suggested that a regional competition policy should be developed.

(d) In order to build resilience, it is necessary to seek the assistance of the international community for the development of climate change models at scales appropriate to SIDS. It is also important to build on the work already achieved in mainstreaming adaptation to climate change into other sectors, in particular agriculture, fisheries, health and water resources management and to incorporate climate change adaptation concerns in national sustainable development plans. Research into the economic impacts of climate change on the economies of SIDS would greatly facilitate economic planning and, as such, ECLAC will continue to provide support in determination of the costs of adaptation and mitigation in key sectors of Caribbean economies.

(e) Detailed research on the complex nature of vulnerability would greatly enhance implementation of the MSI. Integrated development planning, completion of the work on vulnerability indices, capacity-building and resources are all urgent requirements. Although there has been some progress in these areas, programmes for addressing vulnerability mapping for integration into sustainable development plans, building codes and legislation should be enhanced. The need for international support in this regard is emphasized.

(f) Improved access to, and transfer of, environmentally sound technologies related to climate change by, inter alia, assessment of its technology needs, identification of barriers to technology transfer, improvement of enabling environments for technology transfer and the identification of capacity-related needs to facilitate technology transfer would support adaptation to, and mitigation against climate change. Of particular importance here is maximization of the region's access to, and use of, the Clean Development Mechanism of the Kyoto Protocol in order to promote renewable energy use and to achieve substantial technology transfer. The importance of

improved public education and awareness of climate change issues in the region cannot be underscored;

(g) In preparing and responding to natural disasters, it is recommended that measures for risk transfer be explored at the sector level, particularly in regard to the agricultural and the low income housing sectors. Risk reduction measures have to be seen as an integral part of development planning, and strategic plans and/or sectoral plans should be reviewed with a view to ensuring that DRR measures have been fully integrated into these plans. Furthermore, it is recommended that the issue of insurance and re-insurance schemes should again be highlighted and that an appropriate international institution be identified to undertake a feasibility study on cost-effective and affordable facilities that could be made available for SIDS. The Caribbean Catastrophe Risk Insurance Facility serves a useful purpose but its width of coverage for disasters still requires re-examination;

(h) In the area of waste management, the OECS solid waste management strategy should be considered as a best practice. This strategy could be complemented by the development of a system for evaluating existing waste management systems in order to identify more SIDS-appropriate systems and models and, where necessary, to seek international assistance to develop SIDS-appropriate systems for recycling, waste minimization and treatment, reuse and management;

(i) Improved development and management of coastal and marine resources require mainstreaming of policies on coastal zone management with other policies, such as watershed management, for the benefit of all the communities. However, given the limited success achieved in this regard at the national levels, regional approaches to policy development could be explored. Such policies would also ensure that improvement in the livelihoods of coastal communities is explicitly addressed in coastal zone management processes, policies and practices.

(j) It is recommended that public awareness initiatives, including the strengthening of community-based natural resource management programmes, be promoted. Although some progress has been made in this regard, the activities are unsustainable as they are dependent on external sources of funding that are also not regularly available. Additionally, further research into coral reef protection and regeneration, and sustainable forestry, as well as into management of mangrove and sea grass beds to preserve their integrity is required;

(k) There is need for ratification and implementation of international agreements that are relevant to Caribbean SIDS, as well as enacting of appropriate legislation and enforcement of this legislation. Improved surveillance of coastal and marine activities especially in multi-user areas, and continued research, mapping and data collection of coastal and marine resources in the restoration and rehabilitation of damaged ecosystems is also recommended;

(l) Owing to their co-dependence, it is recommended that water resource management be integrated with energy services management. Additionally, sanitation and waste management areas could benefit from an integrated approach to enhance efficiency. Of particular importance here is capacity- building in integrated water resource management.

(m) It is necessary to establish national authorities for administration and management of land and for watershed management, to address issues such as land degradation, soil erosion and desertification. The G77 and China has underscored the need for the international community to provide assistance to SIDS to enable them to build institutional capacity, including appropriate legislative and regulatory frameworks for coordinated management and monitoring of their land resources. In order to provide much needed expertise in these areas, it is recommended that additional and relevant research and post-graduate programmes in geographic information systems (GIS), natural resource management and forestry science be introduced at the regional

tertiary level institutions. It is also recommended that programmes be put in place to make land more affordable and accessible for local populations, especially for low-income groups. It is also important for SIDS to maximize their access to available resources through the financial mechanism of the UNCCD;

(n) Regional cooperation for research and development for SIDS-appropriate applications of renewable energy and energy efficiency, such as the Bagasse project in Cuba and Belize, is recommended. In conjunction with this, is the proposal for accelerated implementation of energy efficiency initiatives and development of projects to utilize the abundant renewable energy resources and geothermal sources as viable alternatives to address prohibitive energy costs.

(o) Exploration of the possible use of regional development banks as facilitators for energy transfer could be explored. Consideration of the establishment of an international SIDS investment fund to finance investments in programmes towards energy efficiency, renewable energy and capacity for the development of energy services could also be examined. Facilitation of broad-based, targeted public awareness programmes aimed at promoting the use of renewable energy and energy efficient technologies is recommended. Aligned with the development of policies is the need to improve capacity in the field of alternative sources of energy;

(p) There is critical need to determine carrying capacity and limits to acceptable change with a view to guiding sustainable development in the tourism industry in Caribbean SIDS. Continued support for ecotourism and other sustainable community-based efforts should be emphasized, as is heritage, nature-based and cultural tourism;

(q) The establishment of trans-border or multinational biodiversity and land and marine conservation areas in the region is recommended. This could be complemented through the development of measures to control and, to the extent possible, eradicate alien or modified organisms that may have adverse effects on biodiversity. Programmes for inventorying, documenting and assessing local biodiversity, as well as promoting regional cooperation may also support these initiatives. Of particular importance to biodiversity is the soliciting of international support and cooperation among SIDS to promote and enhance research into existing natural resources for traditional and alternative use, with a view to developing the economic potential of local medicinal plants while ensuring the protection of intellectual property rights of owners. Promotion of wider appreciation of the true value of biodiversity for tourism, watershed management, agricultural development and the overall sustainability of SIDS is further recommended;

(r) It is necessary to share information especially best practices among SIDS and to promote networking as mechanisms for bridging the digital divide. This would enhance national capacity, raise the level of awareness and educate the populace in order to obtain support for programme conceptualization, design and implementation in the area of information technology. The development of databases would greatly enhance the exchange of expertise and, in this regard, ECLAC, through its social and statistical unit, could provide the necessary support.

(s) The development by the Association of Caribbean States (ACS) of a regional air transport agreement is welcomed, but it is necessary to rationalize air services in the region. The need for consideration of improved land and sea transport policies should also be examined.

(t) The structural and cultural factors that sustain gender inequality need to be addressed with the clear understanding that the complex manifestations of gender inequality are organically linked. Gender equity must be seen as central to planning and development.

(u) The RCM functions as a monitoring and evaluation mechanism but is, at present, stymied by limited financial resources. It would be expedient if the international community could partner with the RCM to support its full operationalisation: the capacity of Caribbean SIDS would be

strengthened through the adoption of a regional approach to implementation of the MSI thereby facilitating cooperation critical to sustainable human development.

## **B. OUTCOMES**

Having reviewed the progress of implementation of the MSI by Caribbean SIDS, and having discussed this progress at the Caribbean MSI+5 regional review meeting convened in St George's on 16 and 18 March 2010 and hosted by the Government of Grenada, Caribbean SIDS declare the following:

### **1. National and Regional Enabling Environments**

(a) We applaud the progress made in creating an enabling institutional framework over the past five years, such as the establishment of the Caribbean Court of Justice (CCJ), Caribbean Catastrophe Risk Insurance Facility (CCRIF), Caribbean Community Climate Change Centre (CCCC) and Regional Coordinating Mechanism (RCM).

(b) We recognize that while the majority of countries in the region do not explicitly have sustainable development plans, the emerging institutions and policies do recognize the centrality of sustainable development issues as set out in the MSI. At the same time, we duly note that our countries must continue to develop and strengthen their legislative, administrative, and institutional structures to ensure the realization and proper implementation of these strategies.

(c) We acknowledge the importance of stakeholders in the implementation of sustainable development programmes and the need to increase their awareness and involvement and to this end, call for greater public-private partnerships.

(d) We remain significantly constrained by a lack of expertise and finance in the region and recognize the need to enhance national and regional capacity by supporting local capabilities, institutions, and national systems. We believe that this can be achieved in part through increased ODA and technical cooperation by international agencies.

### **2. Assessment of MSI implementation in addressing vulnerability in the Caribbean**

(a) We welcome the inclusion of sustainable development matters into national development planning and observe that in the circumstances there is no longer need for separate sustainable development plans.

(b) We recognize the vulnerability of our countries with respect to food security and realize that there is a great need for us to improve this aspect. It is expected that by incorporating sustainable agriculture into our development plans, food security will not only be improved but there will also be a reduction in the food import bill and, by extension, foreign exchange will be saved.

(c) We have all encountered various socio-economic challenges in implementing the MSI and commit ourselves to addressing these issues. The current world recession has made matters worse but we believe that a concerted effort must be made to improve safety nets using a more targeted approach.

(d) We call for the enhancement and strengthening of programmes for addressing vulnerability mapping for integration into sustainable development plans, building codes and legislation as a means of augmenting the implementation of the MSI.

### **3. Recent trends and emerging issues**

(a) We are aware of our susceptibility to external shocks and their implications for our economies. Coming out of this, it is clear that economic restructuring is critical and that there must be stricter adherence to fiscal discipline and a reduction in the current account balance.

(b) We are cognizant of the opportunities that exist for intraregional trade and are committed to moving away from narrow trade specialization into more diversified economies driven by more sophisticated exports, innovation and heightened competitiveness.

(c) In the fallout from the global recession, many of our countries have seen our tourism industries heavily impacted and the consequent implications for our economies. We, therefore, recommend the development of diversified tourism products utilizing and creating linkages with other sectors.

### **4. Interlinkages and cross cutting issues**

(a) Despite many of us falling into the high-middle/high income category, poverty and social exclusion still exist, fuelled by low economic growth, macroeconomic shocks and limited social services. This persistence of poverty, especially among female-headed households, the elderly and immigrants, is clearly a cause for concern and an impediment to the implementation of the MSI. As such, we reiterate the need for carefully targeted delivery of social services.

(b) Although the indicators of access to education are relatively high in the subregion, we are concerned by the quality of outcomes with respect to problem solving and innovation and creativity. Moreover, we are particularly worried by high drop-out rates and underperformance, especially among males and the link between this and crime.

(c) The Caribbean region has experienced some progress in the matter of gender equity including representation in political parties and training initiatives to increase participation in decision-making. Nevertheless, a more expansive regional approach must be taken to create better opportunities for women to participate at all levels of the society.

(d) We are aware of the importance of human capital development in successfully implementing the MSI; as a result, we are increasingly concerned about migration of highly skilled persons out of the region as it has the ability to erode some of the development gains made, particularly in health and education. On another note, the free movement of highly skilled labour within the region, encouraged by the CSME, is guided by market forces which allow for more efficient allocation of these resources.

(e) We acknowledge that there is significant scope to further integrate our countries and economies premised on the use of ICT applications. Once properly implemented, ICT applications have the capability of connecting our more remote regions, easing human resource constraints and facilitating the transfer of knowledge and technical expertise.

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