

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)



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EXECUTIVE SUMMARY

The UN General Assembly Resolution 63/213 (February 2009) Follow-up to and Implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, reaffirmed the GA decision 62/191 to “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”. 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 Mauritius Strategy for Implementation (MSI) and agree on what needs to be done to further address the vulnerabilities of SIDS.”

As a first step in the process, the MSI acknowledges that sustainable development is primarily a national responsibility, and as such, it is crucial that any forward looking assessments of progress in addressing vulnerabilities of SIDS need to build upon national level assessments. Such National Assessment Reports (NAR) should inform the development of further concrete projects and programmes for the implementation of the MSI. In this regard, SIDS have been asked to prepare NARs based on a set of guidelines (attached for information) in accordance with the above mentioned GA resolutions.

Saint Lucia’s NAR reviews each of the sectoral/thematic areas identified in the BPOA and MSI highlighting in particular concrete actions taken and specific progress made in implementation. The Report also reviews the special constraints and challenges, and lessons learned in implementing the various thematic areas.

Despite the progress that Saint Lucia has made in achieving many of its MDG targets – through interventions financed mainly from the national budget - and despite its performance in the HDI, the rapid deterioration of the global economy has contributed to the slowdown in the pace of economic activity in Saint Lucia. The challenges being faced by Saint Lucia as a result of the international financial crisis include:

- (a) Contraction in the real GDP in the medium term as a result of declines in tourism receipts and foreign direct investment; and*
- (b) The challenging debt to GDP ratio resulting in limitations on government’s ability to adopt counter cyclical policies to mitigate the impact of the crisis.*

Saint Lucia’s strategic response to the global and economic financial crisis was to join with the other members of the Eastern Caribbean Currency Union (ECCU), in September 2009 to develop the ECCU Eight Point Stabilisation and Growth Programme. In addition to the ECCU response, Saint Lucia has also developed a multilevel response given the persistent structural challenges and the interconnectedness of economic, social, and environmental factors. To this end, the country is participating in a number of initiatives managed through the UNDP Sub-regional office for Barbados and the OECS. These have been designed as multi-donor technical assistance mechanisms designed to deliver multi-country capacity development in key areas.

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, which brought together political leaders, governmental agencies, local private sector interests, development partners and potential investors.

Despite the absence of a NSDS, Saint Lucia's development agenda is guided by various instruments - the Medium-Term Economic Strategy Paper (MTESP), the annual Budget Speeches, the annual Estimates of Expenditure (budget) and the Corporate Plans of individual ministries - that define the types and levels of public sector investments in the various sectors, the human and technical resources allocated to various programmes and services, the main institutional arrangements for implementation, as well as the fiscal measures and their roles as incentives and disincentives to achieve specific development objectives. The lessons learned from Saint Lucia's experience in planning for and implementing development initiatives and interventions raises a fundamental question. Is a NSDS necessary especially for SIDS, which are deficit in human expertise and financial resources? Should the NSDS be replaced by a **PROCESS**, which allows for a coordinated set of participatory and continuously evolving processes of analysis, debate, decision-making, capacity development, planning, investment, monitoring, and evaluation?

The global crisis is having serious implications for Saint Lucia's small and vulnerable economy. The Government has sought to manage the impact of the crisis, but its tight policy space and liquidity constraints make it difficult to deal with shocks of this magnitude. Saint Lucia however recognises that, over the longer term, steps have to be taken to improve its development prospects by adopting resilience building strategies and diversifying into new economic activities.

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 Saint Lucia's economic futures become disproportionately more tourism-focused, her vulnerability increases.

Achieving sustainable development entails particular attention by Saint Lucia 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.

The major shortcoming of past efforts and a critical challenge to sustainable development for Saint Lucia is finding adequate resources to undertake all that is required. Within the last five years, Saint Lucia'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.

Saint Lucia has demonstrated her commitment to sustainable development by utilising principally 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, Saint Lucia's efforts have been pursued within the constraints of limited financial resources.

A review of the activities undertaken in the implementation of the various thematic areas show that considerable work has been undertaken by Saint Lucia. Unfortunately, with a few exceptions – tourism, communication and transport- much of this work has been undertaken with external sources of funding. The initiatives are therefore projectised and very seldom proceed beyond the life of the project. Most of the interventions are also “soft” in nature, i.e. assessments and reviews; drafting of policies and legislation; designing institutional frameworks and such like. Funding for capital intensive intervention – establishing, for instance, wind farms and other renewable energy technologies - are not forthcoming. Compounding this is that sustainable development initiatives are considered to be environmental initiatives, and there is an unstated assumption among those who are responsible for keeping the national accounts that environmental initiatives ought to be supported with external funding.

While having to deal with these issues, Saint Lucia is also cognizant that the Caribbean region will be disproportionately affected by climate change because of its location and greater dependence on sectors such as tourism and agriculture that are highly vulnerable to climate change. The Intergovernmental Panel on Climate Change (IPCC) has categorized the region as a global —hot spot. They also warn that the risks are particularly high for SIDS. The irony is that Saint Lucia is a victim rather than a source of the problem. Yet Saint Lucia is ranked in the top 40 countries experiencing extreme weather impacts.

Against this background, capacity building, access to appropriate technology, and means of implementation must feature prominently in the discussions with the International Community. The speedy development of renewable energy resources; the implementation of energy efficiency practices; and the formulation of appropriate adaptation strategies are particularly relevant to Saint Lucia. The International Community needs to open up the various financing instruments that have been agreed to but which have been slow in maturing.

TABLE OF CONTENTS

SECTION	PAGE
FOREWORD	
EXECUTIVE SUMMARY	
1 BACKGROUND	1
2 INTRODUCTION	1
2.1 The Context	1
2.2 The Framework for Sustainable Development	6
3 SAINT LUCIA'S VULNERABILITIES: CHALLENGES AND RESPONSES TO BUILDING RESILIENCE	8
3.1 Climate Change and Sea-Level Rise	8
3.1.1 Concrete Actions	9
3.1.2 Special Constraints and Challenges, lessons Learned	11
3.2 Natural and Environmental Disasters	12
3.2.1 Concrete Actions	13
3.2.2 Special Constraints and Challenges, lessons Learned	15
3.3 Management of Wastes	17
3.3.1 Concrete Actions	17
3.3.2 Special Constraints and Challenges, lessons Learned	18
3.4 Coastal and Marine Resources	20
3.4.1 Concrete Actions	20
3.4.2 Special Constraints and Challenges, lessons Learned	22
3.5 Fresh Water Resources	23
3.5.1 Concrete Actions	27
3.5.2 Special Constraints and Challenges, lessons Learned	28
3.6 Land Resources	29
3.6.1 Concrete Actions	30
3.6.2 Special Constraints and Challenges, lessons Learned	32
3.7 Energy Resources	34
3.7.1 Concrete Actions	36
3.7.2 Special Constraints and Challenges, lessons Learned	38
3.8 Tourism Resources	39
3.8.1 Special Constraints and Challenges, lessons Learned	41
3.9 Biodiversity Resources	41

3.9.1	Concrete Actions	42
3.9.2	Special Constraints and Challenges, lessons Learned	43
3.10	Transportation and Communications	44
a.	Transportation	44
b.	Communications	45
3.8.1	Concrete Actions	46
4.0	FIVE YEARS AFTER MAURITIUS	46
	References Cited	52
Figures		
1	Saint Lucia's Majestic Pitons at Sunset	1
2	Location of Saint Lucia	2
3	Saint Lucia: Topographic Map	2
4	Hurricane Dean Leaving Martinique and St. Lucia islands and causing severe damage	9
5	Damage caused by Hurricane Dean, 2007	13
6	SLSWMA's Outreach Programme	17
7	Coastal Zone Regions of Saint Lucia	20
8	Wetlands filtration system for managing wastewater	24
9	Students Attend Energy Symposium to Mark Energy Awareness Week, 2009	35
10	Installation of Solar Panels on the Roof of the SLNT	37
11	Electricity Generation Plant in Cul De Sac	37
12	Diamond falls in Soufriere	39
13	Coral Reef off Anse Chastnet, Soufriere	40
14	The Piton Management Area	42
15	A Vista of the entire PSEPA from Moule A Chique	42
16	Saint Lucia Iguana	42
17	Tarantula in Quillesse Rainforest Reserve	43
Tables		
1	Saint Lucia At A Glance	2
2	Status of Implementation of MDGS	4
3	Summary of Scores Attained by Saint Lucia in all Categories of Disaster Risk Management Tool	14
4	Stakeholders Involved in the Management of Water Resources in Saint Lucia	24
5	Summary of Problems in Water Resources Management in Saint Lucia	25
Boxes		

1	Impact of Global Economic and Financial Crisis on Saint Lucia	3
2	Statement by Minister Rufus Bousquet	8
3	Special Programme on Adaptation to Climate Change (SPACC	10
4	CARICOM Heads of Government adopt the Liliendaal Declaration on Climate Change	11
5	The 2009 Global Climate Risk Index	12
6	Creating Synergies between CCA, DRR, and CZM	16
7	Special Waste Management Strategies in Saint Lucia	18
8	The CZMAC	21
9	Land degradation in Saint Lucia	30
10	Saint Lucia Energy Policy Stakeholders Meeting, April 2006	35
11	The Saint Lucia Heritage Tourism Programme	40

ACRONYMS

BAP	Bali Action Plan
BIT	Banana Industry Trust
BPOA	Barbados Plan of Action
BTool	Benchmarking Tool
CAR/RCU	Caribbean Regional Coordinating Unit
CARTAC	Caribbean Regional Technical Assistance Centre
CCA	Caribbean Conservation Association
CCA	Climate Change Adaptation
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CDEMA	Caribbean Disaster Emergency Management Agency
CDM	Comprehensive Disaster Management
CEHI	Caribbean Environmental Health Institute
CPACC	Caribbean Project on Adaptation to Climate Change
CZM	Coastal Zone Management
CZM	Coastal Zone Management
CZMAC	Coastal Zone Management Advisory Committee
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRR	Disaster Risk Reduction
ECCU	Eastern Caribbean Currency Union
ECTEL	Eastern Caribbean Telecommunication Authority
EEZ	Exclusive Economic Zone
ESCO	Energy Saving Company
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHGs	Greenhouse gases
GIS	Geographical Information Systems
GNP	Gross National Product
GOSL	Government of Saint Lucia
GPS	Geographic Positioning System
HDI	Human Development Index
HDI	Human Development Index
HPI	Human Poverty Index
IBRD	International bank for Reconstruction and Development
ICT	Information and Communications Technology
IDP	Integrated Development Planning
IDP	Integrated Development Planning
IPCC	International Panel on Climate Change
IPRSAP	Interim Poverty Reduction Strategy and Action Plan
ISM	Island Systems Management
IWCAM	Integrated Watershed and Coastal Areas management
IWRM	Integrated Water Resources Management

JPOI	Johannesburg Plan of Implementation
KAP	Knowledge, Attitude and Practice
LBS	Land Based Sources
LUCELEC	Saint Lucia Electricity Services Company
LUCELEC	Saint Lucia Electricity services Ltd.
MACC	Mainstreaming Adaptation to Climate Change
MAFF	Ministry of Agriculture, Fisheries and Forestry
MARPOL	International Convention for the Prevention of Pollution from Ships
MDGs	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MSI	Mauritius Strategy for Implementation
MTESP	Medium Term Economic Strategy paper
NAO	National Authorising Office
NAP	National Action Programme
NAP/SAP	National Action Plan/Strategic Action Plan
NCA	National Conservation Authority
NCCC	National Climate Change Committee
NCSA	National Capacity Self Assessment
NEMO	National Emergency Management Organisation
NPA	National Plan of Action
NSDS	National Sustainable Development Strategy
NWSC	National Water and Sewerage Commission
OAS	Organisation of American States
OECS	Organisation of Eastern Caribbean States
PET	Polyethylene terephthalate
PRF	Poverty Reduction Fund
PV	Photovoltaic
SD&ES	Sustainable Development and Environment Section
SGD	St. George's Declaration of Principles for Environmental Sustainability in the OECS
SLM	Sustainable Land Management
SLM	Sustainable Land Management
SLNT	Saint Lucia National Trust
SLSWMA	Saint Lucia Solid Waste Management Authority
SMMA	Soufriere Marine Management Authority
SPACC	Special Programme on Adaptation to Climate Change
SPARC	Support to Poverty Assessment and Reduction in the Caribbean
UNCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations Convention and Law of the Sea
UNDESA	United nations Department of Economic and Social Affairs
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
WASCO	Water and Sewerage Company
WB	World Bank

REVIEW OF PROGRESS MADE BY SAINT LUCIA IN ADDRESSING VULNERABILITIES OF SIDS THROUGH IMPLEMENTATION OF THE MAURITIUS STRATEGY FOR THE FURTHER IMPLEMENTATION (MSI) OF THE BARBADOS PROGRAMME OF ACTION (BPOA)

1.0 BACKGROUND

The United Nations convened a high-level meeting in Mauritius in 2005 to review the implementation of and refine the 1994 Barbados Programme of Action for the Sustainable Development of Small Island Developing States. The principal negotiated outcomes of the meeting were the Mauritius Declaration and Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. The Mauritius Strategy not only builds on and reassesses the original areas in the Barbados Programme of Action, but also highlights several new priorities and emerging issues now considered to be important dimensions of sustainable development in small island developing States.

The Mauritius Strategy is a framework of strategic policies that countries and regions are urged to adopt and implement to help them achieve sustainable development. There are several other international instruments, such as the Rio Declaration on Environment and Development, Agenda 21, the Johannesburg Plan of Implementation and the United Nations Millennium Declaration, which reinforce the notion that sustainable development is primarily a national responsibility. The Mauritius Strategy contains 20 chapters, 19 of which address different strategic sectors of small island developing States. The final chapter, on implementation, cuts across all the sectors and announces a commitment by the small island developing States, with the support of the international community, to implementing key areas of the Strategy.

2.0 INTRODUCTION

2.1 The Context

St. Lucia is located within the West Indies archipelago at latitude 13° 53' N and longitude 60° 68' W. and is the second largest of the four Windward Islands. The island is 616 km² in area and is intersected by fertile valleys that were historically the nuclei for plantation, and later, small farming agriculture.



Figure 1: Saint Lucia's Majestic Pitons at Sunset

Source: oursurprisingworld.com

With an overall population of approximately 170,000, and average life expectancy of 72 years, the per capita cost of physical and social infrastructure is high.



Figure 2: Location of Saint Lucia
Source: Caribbean map @bugbog.com



Figure 3: Saint Lucia: Topographic Map
Source: caribpro.com

Table 1: Saint Lucia At A Glance, 2008¹

Population (mid 2008)	170,331		
Area	616.0 km ²	Habitable Area	539.1km ²
Average Annual Growth, 2001-2007		Poverty Gap (2005/2006): Population 164,842	
Population (%)	1.0	% Indigent	1.6
Labour Force (%)	2.3	% Poor	25.1
		Poverty Gap	9.0
Urban Population (% of total population)	28	Central Government Fiscal Operations (MXCD) – FY08/09	
Life expectancy at birth (years)	74	Total Revenue & Grants	816.0
Infant Mortality (per 1,000 live births)	12	Current Revenue	788.7
Access to water (% of pop.)	98	Total Expenditure	959.1
School Enrollment		Inflation Rate	7.2%
Primary School Enrollment	20,164	Debt Ratios	
Secondary School Enrollment	15,527	Public Debt/GDP	66.0%
Tertiary School Enrollment	1,944	External Debt Outstanding/GDP	36.5%
Merchandise Foreign Trade (MXCD)			
Imports (CIF)	1772.8		
Exports	372.6		

¹ Adapted from the Report by the World Bank Group; The Saint Lucia Economic and Social Review, 2008; and St. Lucia Poverty Assessment, 2006/2006, Volume I

Saint Lucia does not have programmes and projects that are specifically geared towards the achievement of the Millennium Development Goals (MDGs), but most of the work of state agencies, civil society and the private sector contributes, directly and indirectly, to this agenda. Indeed, the main governmental instrument of MDG implementation is the on-going work of ministries and other agencies, especially those involved in poverty reduction, social development, health, education, gender and environmental management. The institutional analysis conducted in 2003 as part of the Interim Poverty Reduction Strategy and Action Plan (IPRSAP) process² remains largely valid and accurate, and provides a description of all the main actors involved.

The country has made considerable progress towards the attainment of the MDGs and, while the country still exhibits a relatively high index associated with human development, there are considerable social gaps and deficiencies, the most notable one being the high rate of unemployment³. The performance of Saint Lucia to date in achieving the MDGs is summarised in the Table 2 below.

The Human Development Index (HDI)⁴ for Saint Lucia is 0.821; which gives the country a rank of 69th out of 182 countries with data. In addition, the Human Poverty Index (HPI)⁵ ranked Saint Lucia as 26th among the 135 countries for whom the Index was calculated.⁶

Despite the progress that Saint Lucia has made in achieving many of its MDG targets – through interventions financed mainly from the national budget - and despite its performance in the HDI, the rapid deterioration of the global economy has contributed to the slowdown in the pace of economic activity in Saint Lucia. Rising input costs stemming from high oil prices undermined the performance of many sectors although growth was spurred by increases in some sectors. However, these positive influences were tempered by the contractions in other sectors.

Box 1: Impact of Global Economic and Financial Crisis on Saint Lucia:

- ▶ Decrease in foreign exchange because of:
 - ✓ Tourism arrivals from Europe and North America decrease
 - ✓ Shrinking trade volumes
 - ✓ Slump in workers remittances
- ▶ Access restrained to international capital:
 - ✓ Concessional loans
 - ✓ Commercial lending
 - ✓ FDI
- ▶ Current Account deficits rise:
 - ✓ Volatility of commodity price, food price, and energy price
- ▶ declining Fiscal Revenue
- ▶ Increase in unemployment

² Government of Saint Lucia. 2003. Interim Poverty Reduction Strategy and Action Plan for Saint Lucia. Ministry of Social Transformation, Culture and Local Government, Castries, Saint Lucia..

³ Government of Saint Lucia, 2008. Development Conference -“Investing In St. Lucia’s Development: Exploring Opportunities; Forging new Partnerships”.

⁴ The HDI provides a much more complete picture of a country's development than other indicators, such as GDP per capita.

⁵ The Human Poverty Index (HPI-1), focuses on the proportion of people below certain threshold levels in each of the dimensions of the human development index - living a long and healthy life, having access to education, and a decent standard of living. By looking beyond income deprivation, the HPI-1 represents a multi-dimensional alternative to the \$1.25 a day (PPP US\$) poverty measure.

⁶ UNDP, 2009. National Human Development Fact Sheet for Saint Lucia.

TABLE 2: STATUS OF IMPLEMENTATION OF MDGS⁷

MDGS	STATUS
Goal 1: eradicate extreme poverty	Increase in poverty from 25.1% of individuals and 18.7% of households in 1995 to 28.8% and 21.4% respectively in 2005. Reduction of indigence from 7.1% of individuals and 5.3% of households in 1995 to 1.6% and 1.2% respectively in 2005 Gini coefficient reduced from 0.5 in 1995 to 0.42 in 2005
Goal 2: achieve universal primary education	Primary school enrolment 93% Universal secondary education achieved in 2006 but actual enrolment 79% 8% drop-out rates among boys aged 12-16 years Adult literacy 89% (90% for females and 87% for males), higher in urban areas (92% versus 84%), universal among youth population
Goal 3: promote gender equality and empower women	Girl enrolment in primary schools: 48% in 1999/00, 47% in 2004/05 Secondary school enrolment: 86% females and 72% males Disparities in income and occupational opportunities remain in the private sector, at the expense of women.
Goal 4: reduce child mortality	Mortality rates: (i) infant, per 1000 - 2000: 16.8, 2005: 12, 2007: 12; (ii) under five years, per 1000 - 2000: 16.1, 2005: 14 CPA reports 100% coverage for immunisation against measles, other sources, including World development indicators database, report 88% in 2000 and 94% in 2005 7.5% of children without any vaccination
Goal 5: improve maternal health	98% of births are attended by skilled health professionals; 96% of women benefiting from pre-natal care.
Goal 6: Combat HIV/AIDS, malaria and other diseases	HIV prevalence rate is estimated at 0.12 % (2006). Provision of free ARV through financing provided by the Global Fund and medication provided by the Government of Brazil. Regional and national programmes are supported by a number of donors, including the World Health Organisation, the World Bank and the Clinton Foundation. National AIDS Coordinating Council and National AIDS Programme Secretariat are main public sector institutional mechanisms. AIDS Action Foundation is main NGO active on HIV/AIDS issues
Goal 7: Ensure environmental sustainability	Integrated Development Planning (IDP) process initiated but incomplete Current proposals to develop a five-year Mid term Economic Strategy Paper Active management of natural areas, including forests, watersheds and areas placed under protected status Status of ecosystems known, status of species unknown The national and regional policy framework for environmental management is elaborate, with instruments such as the National Environmental Policy and Management Strategy, the Coastal Zone Management policy, and the Sustainable Energy Plan. Saint Lucia is also a signatory to all main regional and international environmental conventions and agreements.
Goal 8: Develop a global partnership for development	Active participation of Saint Lucia in all international negotiations and processes related to SIDS. Aid as a % of GDP: 1.6% (2005); Aid per capita (2005) US\$ 67.12 Official development assistance and official aid (2007): US\$24mil.; Foreign direct investment, net inflows (BoP, current US\$) (millions): 261 (2007) Workers remittances (2007): US\$261mil

⁷ Assembled from the Country Poverty Assessment (Kairi Consultants Ltd, 2006); the Core Welfare Indicators Questionnaire; website of the Saint Lucia Department of Statistics, the World Bank Group; Saint Lucia, Facts At A Glance by CIDA; A Plan for Action and For localizing the Millennium Development Goals.

Estimates indicate that real economic growth decelerated to 0.7 percent in 2008, following growth of 1.5 percent in 2007 and below the average growth rate of 4.6 percent recorded between 2005 and 2006.

The challenges being faced by Saint Lucia as a result of the international financial crisis include :

- (a) Contraction in the real GDP in the medium term as a result of declines in tourism receipts and foreign direct investment; and
- (b) The challenging debt to GDP ratio resulting in limitations on government's ability to adopt counter cyclical policies to mitigate the impact of the crisis.

Saint Lucia's strategic response to the global and economic financial crisis was to join with the other members of the Eastern Caribbean Currency Union (ECCU), in September 2009 to develop the ECCU Eight Point Stabilisation and Growth Programme⁸. 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. Rationalisation, 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 too soon to evaluate, it aims to stabilise and transform the Saint Lucian economy with three main objectives, namely: stabilisation, 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.

In addition to the ECCU response, Saint Lucia has also to develop a multilevel response given the persistent structural challenges and the interconnectedness of economic, social, and environmental factors. To this end, the country is participating in a number of initiatives managed through the UNDP Sub-regional office for Barbados and the OECS. These have been designed as multi-donor technical assistance mechanisms designed to deliver multi-country capacity development in key areas. CARTAC aims to enhance the institutional and human resource capacities of countries in the Caribbean region to achieve their macroeconomic, fiscal and monetary policy objectives. The goal of SPARC⁹ is to strengthen poverty and MDG monitoring and social policy development systems in Caribbean countries.

⁸ Eastern Caribbean News Room Press releases.

⁹ A multi-donor framework of support to enhanced data collection, analysis, interpretation and dissemination linked to policy reform for sustainable human development, it is a network for delivering assistance across the UN and development partner community.

2.2 A Framework for Sustainable Development

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, which brought together political leaders, governmental agencies, local private sector interests, development partners and potential investors.

Previous to this, in response to domestic development challenges and calls from the international community for countries to develop and begin the implementation of National Sustainable Development Strategies by 2005¹⁰, the Government of Saint Lucia initiated a project named Integrated Planning for Sustainable National Development in 2003. The Initiative was financed by UNDESA and spearheaded by the Sustainable Development and Environment Section (SD&ES) in the Ministry of Planning. Its goals were:

1. To raise public awareness on Integrated Development Planning (IDP) and undertake a baseline study on development planning in St. Lucia;
2. To undertake capacity building exercises for outreach, education, planning and participation and to articulate a national vision for sustainable development;
3. To select a first set of indicators of sustainable development for St. Lucia; and
4. To prepare a draft national sustainable development strategy for St. Lucia.

The initiative did not evolve as planned mainly due to inadequate political and financial support and the inability of key institutions to see the bigger picture this initiative tried to paint for the nation. There are however a number of lessons that were learned from the process.

1. While it is recognised that NSDS constitutes the adaptation of existing processes to comply with sustainable development principles, the preparation of a National Sustainable Development Strategy (NSDS) remains illusive because there still is no common understanding of what characterizes sustainable development.
2. A major constraint in formulating and implementing a NSDS is the lack of national implementation capacity stemming from the lack of national understanding, ownership and political will to implement such Strategy. The Public Service is small; and Saint Lucia requires a critical mass of institutions, (including foreign missions, education and health services and police) to exist as a “state”. Consequently, the country’s small human resources are often spread too thinly across government institutions.
3. Putting in place a strategy development process involves additional costs, including those associated with the reform of laws and institutions, engaging civil society and the private sector in the strategy process, and developing new skill sets. All attempts at developing an Integrated Development Plan or a NSDS were spearheaded with external funding which was insufficient to complete the entire process. Despite the attempts by the SD&ES to allocate finances in its annual budget to continue the process, the Ministry of Finance did not approve such allocations.
4. IDP had been pursued solely by the SD&ES which, unfortunately, did not have the authority to effect changes within the public service and even the wider community.
5. In general, the human resources required to promote and pursue IDP and sustainable development goals have not been made available to the relevant agencies, and in

¹⁰ the 2002 Johannesburg Plan of Implementation (JPOI) underscored the importance of national sustainable development strategies, and called on states to take immediate steps to make progress in the formulation and elaboration of national strategies for sustainable development and to start their implementation by 2005 [JPOI, Chapter XI, para 162 (b)]

instances where persons have been charged with responsibility for these matters, they have not been provided with adequate training and support to enable them to operate effectively.

6. The long-term visions and commitments normally required in developing and implementing IDP and national sustainable development strategies are not necessarily compatible with the nature of Saint Lucia's political system. As a result, the level of political support required for developing and implementing IDP/NSDS was not easily attained.
7. The SD&ES initiated the IDP/NSDS process. The question that was raised all along however was whether a Unit whose focus was sustainable development and the environment was indeed best suited or had the mandate to facilitate and coordinate the process of developing an IDP/NSDS. While the SD&ES had the will, some understanding of the definition and process of sustainable development, and the initial donor resources, the Ministries of Economic Planning and Finance felt that they had the mandate for formulating national development plans.
8. The importance of translating a NSDS or the like into the budgetary process is central to being able to implement the NSDS or development plan and this has been the problem facing Saint Lucia.

Despite the absence of a fully articulated IDP and NSDS, Saint Lucia's development agenda is guided by various instruments - the Medium-Term Economic Strategy Paper (MTESP), the annual Budget Speeches, the annual Estimates of Expenditure (budget) and the Corporate Plans of individual ministries - that define the types and levels of public sector investments in the various sectors, the human and technical resources allocated to various programmes and services, the main institutional arrangements for implementation, as was as the fiscal measures and their roles as incentives and disincentives to achieve specific development objectives. Budget Addresses provide very explicit statements of national policy in a number of critical areas. To this end, it is instructive that in his 2009 Budget Address¹¹, the Prime Minister, Hon. Stephenson King outlined the following sustainable development principles:

1. Formulating a strategic vision to provide long term direction and vision,
2. Setting clear objectives which involves converting the strategic vision into specific performance outcomes,
3. Creating a national development strategy, designed to achieve the desired outcomes of national growth, development and social change,
4. Implementing and executing the chosen strategy effectively and efficiently, and
5. Evaluating performance and initiating corrective adjustments in vision, long term direction, objectives, strategy and implementation activities, in light of actual experience, changing conditions, new ideas and new opportunities.

¹¹ Government of Saint Lucia, 2009. 2009 BUDGET ADDRESS for the Financial Year 2009/2010 *"Generating Growth, Securing Jobs, Promoting Competitiveness and Protecting Vulnerable Citizens in the Face of Global Recession."*

3.0 SAINT LUCIA'S VULNERABILITIES: CHALLENGES AND RESPONSES TO BUILDING RESILIENCE

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 Saint Lucia's size, vulnerability to natural disasters; the fragility of its 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. Its resilience, on the other hand, is its coping ability to withstand or bounce back from external shocks. Saint Lucia's coping mechanisms for resilience are nurtured through good governance, sound macroeconomic management, market efficiency and social cohesion¹².

Based on the foregoing definitions and based on the guidelines provided for the preparation of this National Report, 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.

3.1 Climate Change and Sea Level Rise

Box 2: Statement by Minister Rufus Bousquet

Tuesday October 6, 2009 – Saint Lucia's External Affairs Minister Hon. Rufus George Bousquet who referred to climate change as the most serious challenge facing mankind today, called for an urgent collective response by the international community. Mr. Bousquet, who was at the time addressing the United Nations in New York, detailed how Saint Lucia was working on policies to reduce the effects of the phenomenon.

"For our part, Saint Lucia and other Caribbean states have pledged to take voluntary mitigation measures to ensure our collective survival. We are working assiduously to formulate policies and renew legislation to develop our renewed energy potential in wind, solar and geothermal energy. We will intensify efforts to preserve our limited forest cover, which serves to protect our water supply, biodiversity and our important factors in carbon sequestration. These are for us central survival measures," the Minister said.

Source: <http://www.stlucia.gov.lc>

¹² Adapted from, "Building the Economic Resilience of Small States" by Lino Briguglio at the 2007 Small States Forum, The World Bank, 21 October 2007.

3.1.1 Concrete Actions

Institutional responsibility for management of climate change concerns in Saint Lucia resides with the SD&ES. This Section coordinates activities for the implementation of many of the environmental conventions to which Saint Lucia is party. Among its ongoing activities in relation to climate change are efforts aimed at sensitisation of principal stakeholders, public awareness, and capacity building on matters relating to sustainable development. In terms of the UNFCCC, the main activities at this stage revolve around implementation of the responsibilities relating to the reporting and other requirements of the convention, measures to promote capacity building, and public awareness activities.

Another agency with primary responsibility in the area of climate change is the Meteorological Department, which is responsible for the collection and analysis of meteorological data. In addition, the National Climate Change Committee (NCCC) a multi-sectoral steering committee comprising various public and private sector agencies provides technical input on climate change to the SD&ES. It meets periodically to provide guidance on, and monitor the implementation of, national and regional climate change activities. The Committee comprises representatives of the following, public, statutory, academic and private sector bodies.

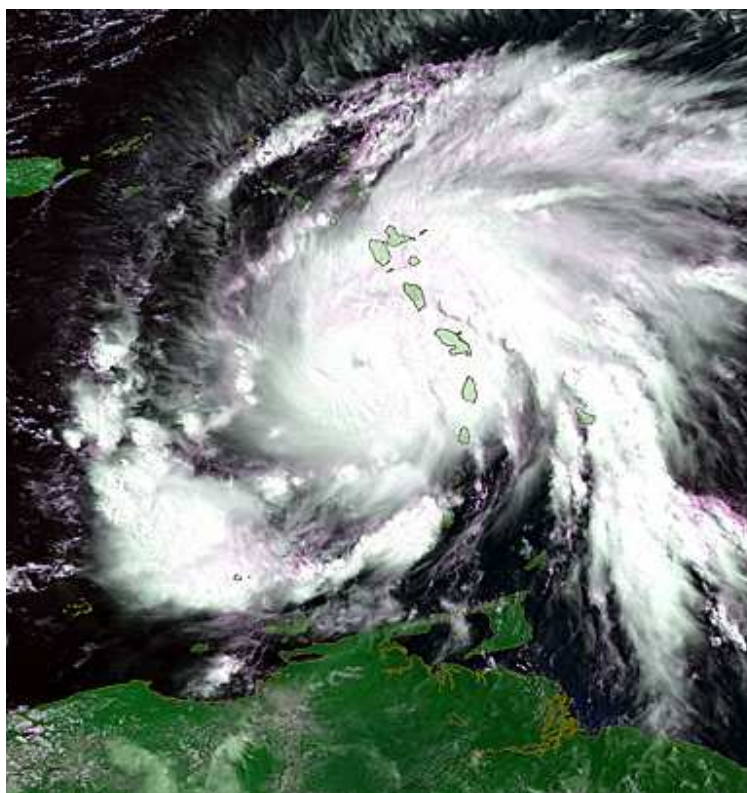


Figure 4: **Hurricane Dean** Leaving Martinique and St. Lucia islands and causing severe damage. Dean was a category-3 hurricane with winds up to 180km.

Source: Time Photos¹³

To date, Saint Lucia has promulgated no legislation to deal specifically with climate change. Consideration is, however, being given to revising the Electricity Supply Act, which addresses electricity generation, in order to, among other things, more effectively allow for the generation of electricity from renewable energy sources.

Work is also underway on the passage of an Environmental Management Act which is expected to include references to climate change.

In 2006, the Government of Saint Lucia received funding from UNEP for the conduct of Environmental Education activities. Key outputs included a video production on climate change

¹³ <http://www.time.com/time/photogallery/>. Sourced on November 21 2009

from a Saint Lucian perspective. This documentary entitled *Paradise at Risk? Facing up to Climate Change* was produced in both English and Kweyol and was formally launched on World Environment Day 2008 at a formal ceremony and on national television. It was also shown in a number of communities around the country.

Saint Lucia's contribution to global climate change is so microscopic that mitigation of and adoption to climate change are determined by choices that are primarily targeted at non-climate change related needs. These include development of new and renewable sources of energy and improved energy efficiency to improve economic performance and reduce greenhouse gas emissions; and the protection of critical natural resource assets on which development is dependent – and where impacts of climate change are in many instances likely to be most significant. Other initiatives include the management of coastal areas; assessment and improved management of water resources; establishment of a national disaster mitigation policy and strengthening of capability in this field; and development of an integrated national land policy. Additionally the Government of Saint Lucia has elaborated a National Climate Change Policy and Adaptation Plan that outlines sectoral and macro level measures for enabling adaptation to climate change.

Box 3: Special Programme on Adaptation to Climate Change (SPACC): Implementation of Adaptation Measures in Coastal Zones Project.

One of Saint Lucia's two sub-components focuses on the Strengthened Critical Coastal Infrastructure in the Castries Area and is a pilot adaptation measure that seeks to demonstrate the design and implementation of appropriate interventions to reinforce critical infrastructure to the effects of intensified hurricanes. The Marchand Community Centre, upon local consultation, has been selected as the building of choice for the demonstration of findings.

Part of the vision of the Government of Saint Lucia (GOSL) for the Marchand Community Centre entails enhancing the usefulness of the building as a shelter during natural disasters, given that water and electricity shortages are commonplace during and following a hurricane and other natural disasters. This vision includes the establishment of the following:

- Water storage (both potable water from the authorised water utility company and rainwater harvesting), with requisite pumps
- Water conservation, through the use of low-flush toilets, low water use shower heads and automatic shut-off taps
- Generation of electricity using photovoltaic technology
- Use of solar panels

Saint Lucia is also participating in the Special Programme on Adaptation to Climate (SPACC) Project. Funded by the GEF and implemented by the World Bank, the SPACC Project is aimed at "supporting efforts by participating countries (Dominica, St. Lucia, and St. Vincent and the Grenadines) to implement pilot adaptation measures addressing the impacts of climate change on biodiversity and land degradation along coastal and near-coastal areas." The project seeks to complement the goals of the (MACC) Project and to apply the lessons and information gathered through the (CPACC) project by undertaking pilot implementation of adaptation measures in countries that have "already taken mainstreaming decisions and which seek to execute specific measures to address the impacts of climate

change on biodiversity and land degradation."

Major activities to be implemented in Saint Lucia under the SPACC include the strengthening of critical infrastructure in the north of the island to withstand at least category 4 hurricanes and measures to realize water conservation in the hospitality sector in the south of the island.

Saint Lucia benefited from the Mainstreaming Adaptation to Climate Change (MACC) Project (2004-9) project in a number of ways including: conduct of a first-ever baseline climate change Knowledge, Attitudes and Practice (KAP) study; human resource development through training on KAP methodologies; further strengthening of systematic observation networks, and coral reef monitoring.

Box 4: *CARICOM Heads of Government adopt the Liliendaal Declaration on Climate Change and development which expresses regional commitment to protect the region's marine resources and ecosystems, and in its work towards fulfilling the UNFCCC objectives.*

Saint Lucia is presently engaged in completing its second Communications on Climate Change. The main components are integrated vulnerability and adaptation assessments; identification of national circumstances that affect the assessments; conduct of green house inventory; mitigation exercises; and identification of challenges experienced by various sectors, and lessons learnt.

3.1.2 Special Constraints and Challenges , and Lessons Learned

- a. Adaptation activities “on the ground” have been taking place mainly in an ad-hoc, individual way and on a localised scale.
- b. Saint Lucia recognises that it has a wide range of adaptation options that it can implement. There are however constraints that limit its choices - inadequate data and technical capacity, weak human and institutional capacity and limited financial resources.
- c. Significant challenges for policy development have been identified in relation to a range of likely impacts of climate change, including the loss of revenue across productive sectors; damage to coastal infrastructure and accelerated coastal erosion; depletion and/or shifting of fish stocks; bleaching and ultimately death of coral reefs; and the availability and quality of water resources required for local communities and tourism. There is therefore an urgent need for financing, access to technologies, capacity development, etc which will allow for interventions to prevent economic, social and ecological disruption and for Saint Lucia to build coping strategies against its many vulnerabilities.
- d. The inadequacies or lack of data, e.g. hydrological monitoring, bathymetric data, hinder adaptation activities and policy formulation. This lack of data has also forced Saint Lucia to still use the scenario-based approach based on utilising outputs from general circulation models. The top-down, scenario based approaches and tools, including impact and integrated models, are strong in terms of biophysical aspects of impacts and certain types of dynamic interactions, but do not perform well in representing human interactions and local capacities to adapt.

- e. Saint Lucia has not yet been able to undertake an in-depth, nationwide climate change impact and vulnerability assessment in an integrated manner. Without such national assessments as a sound basis for designing and planning adaptation policies, strategies and programmes, decisions on adaptation remain problematic.
- f. The poor are most vulnerable to extreme climatic events because they tend to reside in hazardous locations with greater exposure to floods, windstorms and landslides. The vast majority of them live in the coastal areas or in unregulated settlements; their quality of housing does conform to codes for disaster-risk reduction; and because of the temporary or casual nature of their employment many of them are usually the first to be laid off when production is disrupted in the tourism and agricultural sectors. Those communities that are more directly exposed to climatic impacts, more sensitive to change and less able to adapt to climatic changes will necessarily require more consideration as Saint Lucia develops its Adaptation Plan.
- g. Climate change issues facing Saint Lucia cannot be framed only as environmental issues because they have substantial impacts on social, economic and financial systems, and livelihoods. Often, it is only when framed in these latter terms that climate change issues connect to the daily lives of most Saint Lucians, including the vulnerable. To this end Saint Lucia has introduced a number of inter-thematic/sectoral interventions such as climate change and energy; climate change, coastal zone management and disaster risk reduction, etc. Some of these interventions will be presented in appropriate sections of this Report.
- h. Impacts of climate change on tourism will emanate from a number of sources including those on the coastal zone, higher operating costs from increased temperatures and impacted water supplies, as well as from hurricane and storm action. The critical role of tourism in the national economy in terms of employment, linkages with other sectors, and foreign exchange means that the success of measures for adaptation will be important to wider national development. Barriers, however, to the utilization of climate change adaptation technologies in the tourism sector in Saint Lucia include costs of adaptation such as refurbishment of capital stock, as well as limited awareness of vulnerabilities to existing and future climate, and competing sectoral interests.
- i. The report of the IPCC's Third Assessment Report Working Group Three, entitled "Climate Change 2001: Mitigation", points out that there are an increasing number of technologies presently available for mitigating climate change through reducing emissions of greenhouse gases into the atmosphere. These include technologies for reducing emissions from energy, transportation, LULUCF, agriculture, and wastes. Unfortunately, in many instances, Saint Lucia's limitations of small size means that these options do not represent immediate or medium term prospects because the small size of the market, as well as limited technical personnel, restricts the opportunity for adoption of even well established technologies such as those for mass transit in the transport sector, or for waste heat recovery.

3.2 Natural and Environmental Disasters

Box 5: The 2009 Global Climate Risk Index ranks Saint Lucia in the top forty countries experiencing extreme weather impacts.

Source: <http://www.germanwatch.org/klima/cr2009.pdf>

Saint Lucia like the other SIDS, is highly prone to devastating natural disasters, owing to (a) its small geographical area, which accounts for the fact that disasters take country-wide proportions; (b) its

location in some of the highest risk areas of the planet, such as mid-ocean ridges with strong

volcanic and seismic activity, tropical cyclone belts, and direct exposure to the forces of the oceans; and (c) the fact that they it is dependent on few sources of income, in the agricultural sector or in tourism, for a substantial part of its gross national product (GNP). These sources of income have been severely reduced for months by a single catastrophic event.

Another critical factor in this vulnerability is Saint Lucia's limited capacity to reactivate the development process. The fragility of the ecosystems and the limited human resources often preclude any possibility of developing and implementing meaningful disaster-mitigation programmes and substantive vulnerability studies.

A range of natural disasters has impacted Saint Lucia over the years, some of which may have been exacerbated by unsustainable and poor development practices. Since Hurricane Allen in 1980, Saint Lucia has been affected by:

- at least six (6) hurricanes and tropical storms, three of them occurring during the 2002 – 2007 period;
- about eight (8) major land slippages, which have resulted in the destruction of homes, dislocation of approximately 145 families, loss of biodiversity particularly from landslide at La Sorciere and costs totaling over two million Eastern Caribbean Dollars (EC\$2M);
- Tropical storm Debbie which caused major flooding, landslides and damage to bridges, homes and road infrastructure in 1994; and
- a series of earthquakes in 1990 and just recently in November 2007, an earthquake of magnitude 7.3 on the Richter scale, followed by a number of aftershocks.

In many instances, the Saint Lucian Government has had to bear the majority of the rehabilitation costs, since most persons affected did not have insurance coverage or adequate financial means to undertake restoration works and recovery of livelihoods. , nevertheless, Saint Lucia is cognizant that much of the adverse effects of natural disasters could have been reduced if appropriate mitigation measures had been implemented.

3.2.1 Concrete Actions

The Cabinet of Ministers recently approved the revised National Emergency Management Plan in 2007. The National Emergency Management Organisation (NEMO), which is chaired by the Honourable Prime Minister, has responsibility for ensuring that this country is in a state of readiness to respond to emergencies and for coordinating responses in the aftermath of a hurricane or other natural disaster. The country has embarked on a number of disaster management initiatives, the most recent being the Second Disaster Management Project, a follow up to the recently completed OECS Emergency Recovery and Disaster Management Project. The project is intended to support Government's efforts at reducing the country's vulnerability to the devastating effects of natural disasters.



Figure 5: Damage Caused by Hurricane Dean, 2007

Credit: Mike Davis

The project budgeted at EC\$24 million includes physical prevention and mitigation works, strengthening emergency preparedness and response, and institutional strengthening activities.

Saint Lucia has embraced the Comprehensive Disaster Management (CDM) approach of the Caribbean Disaster Emergency Management Agency (CDEMA) and the disaster response and risk reduction programmes in support of the St. George's Declaration of Principles for Environmental Sustainability in the OECS (SGD).

In addition, NEMO has been able to develop a compendium of Disaster Management Policies, Plans and Protocols which collectively make up the Saint Lucia Emergency Management Plan.

In 2006, with assistance provided by the OECS Environment and Sustainable Development Unit, Saint Lucia undertook a National Assessment on Risk Management using the Risk Management Benchmarking Tool (BTool)¹⁴. The assessment provides a snapshot of Saint Lucia's exposure to natural disaster and the country's state of readiness to undertake hazard identification, hazard mitigation, risk transfer, disaster preparedness, emergency response, and recovery.

From Table 3 below and other information provided in the Assessment Report, it is noted that Saint Lucia attained an overall score of 47% for the formulation and implementation of adequate and appropriate national policies that promotes disaster risk reduction in all aspects of the country national development. A score of 100% was obtained in disaster preparedness but a low 14% was obtained in risk identification policies.

Table 3: Summary of Scores Attained by Saint Lucia in all Categories of Disaster Risk Management Tool¹⁵

Category	Total Percent Score
Policy	47
Legislation	59
Standards and Regulation	65
Assignment of responsibilities	69
Technical tasks	70
Technical content	56
Public awareness	60
Stakeholder participation	65
Funding	28
Human capacity	88
Information Management	17
Use of results	100
Monitoring and Evaluation	100

The country obtained 59% overall in the use of legislative tools with a score of 100% in risk identification and risk mitigation legislations. A 25% score in risk transfer legislation indicates

¹⁴ This tool was developed by Dr Jacob Opadeyi of UIWI to improve the ability of national governments, civil society organizations, and the private sector to proactively plan and implement effective and efficient actions that would reduce their vulnerability to natural disasters and create greater economic resilience when they do occur. The Benchmarking Tool is designed as a self-administered tool with responsibility for oversight, data analyses, data storage, data management, and quality control assigned to an independent regional lead agency.

¹⁵ USAID and OECS, 2007. National Assessment: Saint Lucia.

need for some improvements. In terms of Standards and Regulations, the country scored an overall 65% out of a total of 23 standards and regulations questions. This is good but more work is needed in terms of the drafting and adoption of DRM Standards and Regulations. It should be noted that the country scored a perfect 100% in the standards and regulations questions on emergency response management.

Since the detailed Assessment is available at <http://www.stlucia.gov.lc/nemp/general/BToolReport.pdf> it will suffice to mention here that the component of risk management which still remains illusive to Saint Lucia is Risk Transfer¹⁶.

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, Saint Lucia, together with the other Caribbean countries has established the Caribbean Catastrophe Risk Insurance Facility, the (CCRIF). This Facility is a parametric insurance facility, owned, operated and registered in the Caribbean for Caribbean governments. It insures government risk and is designed to limit the financial impact of catastrophic hurricanes and earthquakes to Caribbean governments 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. The CCRIF represents a paradigm shift in the way governments treat risk.

The CCRIF made two payouts in its first year, both because of the magnitude 7.4 earthquake, which shook the eastern Caribbean on 29th November 2008. One of these payments was to the Saint Lucian government, which received US\$418,976 towards post-earthquake recovery efforts.

3.2.2 Special Constraints and Challenges, and Lessons Learned

- a. Climate change related natural disasters - storms, hurricanes, floods and droughts - have very devastating effects on Saint Lucia as the entire island is adversely affected ecologically, economically and socially. No sectors are spared either from the direct or indirect impacts. Thus there is no safety net because there is no unaffected sector or area after a disaster event.
- b. Most of the settlements, including the capital, Castries, and major towns and villages are located along the coast. According to the 2005/2006 Poverty Assessment, a number of these settlements house the most vulnerable groups and households in the country. In addition, the rural urban drift caused by the rapid decline of the agricultural sector has exacerbated living conditions in the coastal towns and communities. There has been an increase in unregulated settlements located in very fragile areas which, in turn, are extremely vulnerable to natural and environmental disasters. Moreover, as evidenced over the past few years, the coastal zones are subjected to increased sea level, flooding and windstorm damage.
- c. Saint Lucia's experience shows that the macro-economic and developmental implications of natural disasters are both long lasting and large. The immediate impact effects of

¹⁶ which includes Insurance and reinsurance of public infrastructure and private assets; Financial market Instruments (catastrophe bonds and weather-indexed hedge funds); Privatization of public services with safety regulation (energy, water and transportation); Calamity Funds (national or local level).

disaster is a destruction of part of the physical assets of the economy (banana fields, tourism infrastructure, etc), including capital stocks, infrastructure, and natural resources. There is however other long term impacts on the overall economic performance, including deterioration in output and production potential, and in trade and government balances, together with induced shifts in fiscal and monetary policies in order to finance additional government expenditure incurred from rehabilitation interventions.

- d. Saint Lucia is undertaking a number of measures to reduce the physical destruction caused by natural disasters. One of these is the Second Saint Lucia Disaster Management Project (DMP II) which is being financed through a blend of IBRD loan and credit agreements with some government co-financing. The objective of this Project is: (a) to further reduce the country's vulnerability to adverse natural events (such as hurricanes, floods etc.) through investing in risk management activities; and (b) to strengthen the institutional management and response capacity of the respective ministries and agencies for disaster management through the provision of facilities, critical equipment, technical

Box 6: Creating Synergies between CCA, DRR, and CZM:

Reducing Vulnerability in Saint Lucia through Climate Change Adaptation and Disaster Risk Reduction

Strong linkages between climate and society provide adequate justification for attempts at projecting Saint Lucia's future climate. The vulnerability of coastal communities and their livelihoods, and important coastal infrastructure to storm and hurricane activity (particularly wind and storm surges) indicate the usefulness of projections of future storm activity and sea level rise. Saint Lucia, however, needs to assemble knowledge, information products and innovative technologies in order to develop appropriate response strategies that will minimise threats to the security of its citizenry caused by climate change risks and by its vulnerability as a small island. To this end the Government of Saint Lucia has submitted a Concept Paper to the European Commission for funding .

The proposed action will contribute to enhancing the security of coastal communities from loss of their homes and livelihoods; and controlling the rural-urban drift thereby reducing the pressure on larger towns and cities which themselves are located along the coast. Importantly, the action will also generate good practices for sound sustainable development and spatial planning. Such planning will allow Saint Lucia to undertake adaptation and disaster risk reduction strategies which will help reduce the cost of loss of lives and property and the cost of coastal rehabilitation projects. The results of the proposed action will also assist Saint Lucia in the development of guidelines and a digital toolbox for use by both planners and developers.

Activities to be undertaken will assist in generating the knowledge and information necessary for storm surge modeling and other types of decision support systems to predict the impact of climate change on Saint Lucia's coasts so that the necessary adaptation mechanisms and disaster risk reduction strategies can be put in place.

assistance and training. Activities have included coastal protection works for a coastal community; b) drainage, river walls and slope stabilization activities; c) rehabilitation and reconstruction of selected bridges; d) retrofitting of schools and health centers; e) procurement of additional stock of gabion baskets, and geo-textiles for slope stabilisation. Of note is that these critical interventions can take place only with loans and with already stretched government financing, thereby exhibiting Saint Lucia's own vulnerable coping mechanisms.

- e. Saint Lucia's experiences with coastal flooding and storm surges clearly indicate that climate change adaptation cannot be decoupled from disaster risk reduction. To this end, the SD&ES with support from the NAO has submitted a Concept Note to the European Commission for the Elaboration of a project to ensure that vulnerable coastal communities and livelihoods are safeguarded from the adverse effects of climate change.

If funded, Saint Lucia will be able to obtain and develop data products necessary for preparing site specific and sectoral Plans that integrate climate change adaptation and disaster risk reduction responses.

3.3 Management of Wastes

St. Lucia has made tremendous progress in ensuring that solid waste generated on the island is managed in an environmentally sound manner.

3.3.1 Concrete Actions

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 St. Lucia. In this regard, the provisions of MARPOL are enforced.



Figure 6: SLSWMA's Outreach Programme

Credit: SLSWMA

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.

More importantly, the SLSWMA has been very successful in forging alliances with all the agencies which are involved in some aspect of waste management. This has realized economies and efficiencies for the sector: The cost of waste collection and disposal has declined while the amount of waste collected and disposed has increased over the last few years. The Authority has also forged other important alliances with organisations like the National Emergency Management Organisation (NEMO), Poverty Reduction Fund (PRF), National Conservation Authority (NCA), St. Lucia National Trust (SLNT), sporting and community based organizations, and the commercial sector¹. Such multistakeholder partnerships have facilitated the activities of the SLSWMA, and enabled their initiatives to be more effective.

Box 7: Special Waste Management Strategies in Saint Lucia

a) Biomedical waste – plans have been developed for most medical institutions. All health centres and hospitals receive a biomedical waste collection service. Training is provided to the relevant personnel of the various medical institutions. Efforts are on-going to commit the full participation of the St. Lucia Medical and Dental Association to ensure that smaller medical facilities manage waste properly.

b) Waste Oil – waste oil storage containers have been placed in strategic locations around in the island. Generators of used oil are encouraged to use these containers. In areas where these containers cannot be accommodated, users of waste oil have provided drums for the collection of the waste oil. The Saint Lucia Solid Waste Management Authority is examining and determining appropriate locations, with proper signage, where waste oil storage containers can be placed for public use.

c) Ship waste – a functional system is in place for ship-generated waste. Ships submit notification forms, which have been modified to accommodate ship chandlers. Ship waste guidelines have also undergone changes, to accommodate ship chandlers.

d) Asbestos – the Authority needs to be informed of any asbestos removal, to ensure that handlers and all who may be engaged in the operation at the site visit must be with proper gear and all necessary arrangements are made at the landfill, to accommodate safe and proper disposal ~ which is deep burial

e) Used Lead Acid Batteries – these are collected and safely stored at the landfill and later given to entrepreneurs, who are engaged in the recycling trade (the batteries are normally shipped to Trinidad).

3.3.2 Special Constraints and Challenges, and Lessons Learned

- a. The pressing problem for waste management is the presence of a number of stakeholders in the sector. Each of these stakeholders plays a very important role in the management of the sector; they however remain uncoordinated and do not subscribe to a uniform set of standards in waste management. Currently, when the institutions involved in waste management wish to understand, implement or amend their waste management responsibilities, they each go to different sources. Each of these sources manifest a different waste management policy and regulation but also treat the institution charged with the implementation of the legislation as the 'boss' of the waste management activities dealt with and gives them a source of funds enabling them to 'do their own thing'. The result of this fragmentation in the legislative provisions is that proper co-ordination of waste management activities is left up to the will of the institutions. Once the establishment of proper co-ordination and co-operation presents challenges the tendency has been for the institutions involved to fall back on their own legislated powers and resources. Depending on the extent of those powers and resources, they are sometimes able to solve the problem created by the lack of co-ordination. Other times they merely perpetuate the problem with impunity. In either instance there arises friction in the relationship that hinders solid waste management initiatives that depend on the collaboration of the various institutions.
- b. Currently, waste management policy and regulation is contained in various sector specific legislation; this policy and regulation, in addition to being fragmented as a matter of geography, is also fragmented conceptually. This refers to the fact that under each piece of legislation, waste management is viewed in a narrow perspective as part of another objective, that objective being public health or communications or physical amenities or environment. The result of the conceptual fragmentation is that waste management remains ineffective owing to the existence of several 'bosses' having independent power and resources.

- c. Although waste characterisation studies show that there are significant quantities of organics, plastics (particularly PET), paper and cardboard, recycling efforts are constrained by the following:

- Relatively small quantities generated at a national level
- Distance of markets, and high cost of transportation
- Lack of economic instruments to encourage diversion

Be that as it may, there are small floundering enterprises involved in exporting scrap metal and bottles. The challenge is to nurture these enterprises so that they become more sustained and bigger operations.

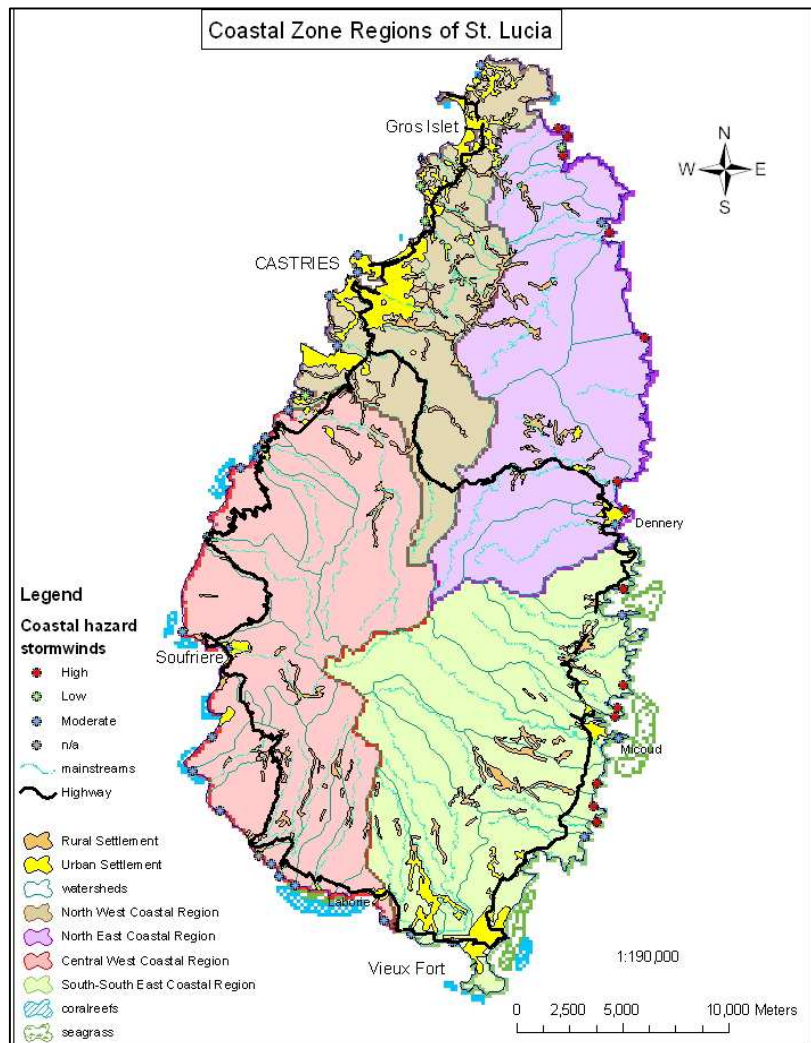
- d. The Saint Lucian public has now become more sensitised to environmental issues and to the impact of poor waste management on the environment and on public health. There is a good understanding of how waste should be prepared for pick up and haulage; the proper use of the receptacles provided for curbside collection; the need to maintain a litter free environment; etc. Unfortunately, while there is this broad understanding of the issues, behavioural changes still remain at their infancy. This is reflected in the volume of waste that flows down any watercourse in Saint Lucia. A recent waste characterisation at one of the bays determined the volume of waste that was in the Castries River at that time to be 49 tonnes.
- e. The experiences of the SLSWMA indicate that public awareness campaigns on solid waste management must be multi-media, sustained over a very long period and be associated with site specific community based projects.
- f. Saint Lucia has made significant progress in solid waste management. There is, however, need for technology – for waste minimization, recycling and reuse – that is appropriate to the scale of SIDS.
- g. The success of waste management initiatives is a function of the extent to which the citizenry sees the relationship between good waste management practices and livelihoods. Fair Trade registered banana farmer groups, for instance use their social premium funds to finance weekly collection, haulage and disposal of the plastics – blue diothene and used chemical bottles – which they generate in their farms. They are willing to do this because this is a condition of Fair Trade Certification. These banana farmer groups are now in discussions with the Ministry of Agriculture, the Banana Investment Trust and other major stakeholders for the implementation of a strategy for the collection, baling and export of the blue diothene for recycling. It is quite likely that the banana farmers would not be holding these discussions if they were not affected by the market forces which in turn have been pushing for environmentally friendly treatment of non biodegradable farm waste.

3.4 Coastal and Marine Resources

Saint Lucia's coast, like other coastal areas around the world, has always been a magnet for urban development. However, with a growing population, as well as the growth of new economic sectors, the development of the island's narrow coastal strip continues to increase. For the most part, such development has been characterized by haphazard, unplanned and undirected planning evident by the growing threat to the sustainability of fragile coastal and marine ecosystems. For example, between 1995 and 2001, reefs along the central west coast, particularly those bordering the town of Soufriere, lost an average of 47% of coral reef cover in shallow waters and 48% in deeper waters¹⁷. Much of the loss in coral cover can be attributed to increased levels of suspended particles attributed to poor land use¹⁸. The vulnerability of coastal and near shore resources are further increased by climate change and global warming.

Figure 7: Coastal Zone Regions of Saint Lucia

Source: Ministry of Physical Development, Environment and Housing, Government of Saint Lucia



3.4.1 Concrete Actions

Saint Lucia has formulated a Coastal Zone Management Policy (CZM)¹⁹ the objectives of which are to maintain the integrity and productivity of the coastal zone and resources therein; optimise the contribution of the coastal zone to social and economic development through the

¹⁷ Laverne Walker, n.d. Towards the Development of a Coastal Zone Management Strategy and Action Plan for Saint Lucia.

¹⁸ Government of Saint Lucia, 2005. State of the Environment Report

¹⁹ Government of Saint Lucia, 2004. Coastal Zone Management in Saint Lucia: Policy, Guidelines and Selected Projects

sustainable use of resources and the equitable sharing of benefits; and harmonise uses of the coastal zone and provide a framework for the management and resolution of resource use conflicts. This CZM policy 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 SD&ES, and a Coastal Zone Management Advisory Committee (CZMAC). 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.

Box 8: The CZMAC is responsible for:

- Providing guidance for integrating coastal zone management and development issues at all levels, including private sector, community based organizations and civil society.
- Proposing and formulating strategic programmes and projects for integrative coastal zone management.
- Facilitating communication and co-ordination among coastal zone management and development agencies.
- Advising on, and overseeing the coastal zone management programme components.
- Fostering and facilitating public education on coastal zone management issues.
- Advising as appropriate on institutional, legislative and policy issues impacting on the coastal zone.

Saint Lucia has also prepared a Coastal Zone Management Strategy and Action Plan. The stated purpose of the Strategy and Action Plan is to facilitate improved management of Saint Lucia's coastal and marine resources while ensuring that economic growth is balanced with sustainable management of environmental resources. Also incorporated into the Strategy and Action Plan are several actions that will facilitate the implementation of the aforementioned CZM Policy.

In 2007/08, with financing provided under the Special Framework for Assistance, 2003, the SD&ES 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.

One of the main findings of this Project is that there is an integral link between watershed management practices in Saint Lucia and coastal habitat health. The need to broaden coastal decision making to include inland issues as well as shoreline practices is therefore critical.

In January 2008 St. Lucia ratified the Protocol on Marine Pollution from Land-based Sources and Activities (LBS Protocol) under the Cartagena Convention. The ratification of the Protocol set the stage for the implementation of concerted national-level actions to deal with the issues of pollution of the country's fresh and coastal waters. Later that year, work was undertaken in drafting Guidelines on Standards for Recreational Water Quality by the Caribbean Environmental Health Institute; the Saint Lucia Bureau of Standards, with technical and advisory assistance from the SD&ES, and the Department of Environmental Health is presently formulating the standards.

The Government of Saint Lucia entered into a Memorandum of Understanding (MOU) with the Caribbean Regional Coordinating Unit (CAR/RCU) to develop a demonstration project on the “Economic Assessment of the Impact of Marine Litter on the Livelihood of Fishers (Bananes Bay Project).” The objective of the Bananes Bay Project was to assess the impact of land-based pollutants on this coastal area, with emphasis on the impact of such wastes on the livelihood of local fishers.

Coastal States, under article 16, paragraph 2; article 47, paragraph 9; article 75, paragraph 2; and article 84, paragraph 2, of the UNCLOS Convention, are required to deposit with the Secretary-General of the United Nations, charts showing straight baselines and archipelagic baselines as well as the outer limits of the territorial sea, the exclusive economic zone and the continental shelf; alternatively, the lists of geographical coordinates of points, specifying the geodetic datum, may be substituted. Coastal States are also required to give due publicity to all these charts and lists of geographical coordinates.

Documentation for Saint Lucia has not yet been deposited. However, Saint Lucia’s EEZ is clearly defined in local legislation – the Maritime Areas Act No. 6 of 1984 –, which makes provision with respect to the territorial sea and the continental shelf of Saint Lucia and establishes a contiguous zone and an exclusive economic zone adjacent to and beyond the territorial sea. The area of Saint Lucia’s EEZ is approximately 7,500 km².

3.4.2 Special Constraints and Challenges, and Lessons Learned

- a. Integrated Coastal Zone Management is often considered a challenging endeavour due to the large myriad of activities occurring in the coastal zone - which itself is a dynamic transition zone - as well as the large number of agencies with possible overlapping mandates. The coastal region, more so than any other region on an island, shows the interlinkages between terrestrial and marine ecological processes. More specifically, the interaction of activities occurring in the upper reaches of watersheds has direct influence on activities along the coast and this within very short temporal scales. The interlinkages of environmental systems from ridge to reef is accentuated on small islands, such as Saint Lucia. This is due to the small size of these islands, and thus the close proximity of ecosystems, a feature which accentuates the

Coastal Dependence



- Rugged interior has led to a high demand for the comparatively low lying coastal lands for commercial, housing and infrastructural developments.
- Our economy depends on coastal resources especially for human settlements, fisheries and more recently for tourism.

linkages between and/or among habitats. In light of this, the successful implementation of a coastal zone management programme in Saint Lucia is dependent on the adoption of an Island Systems Management (ISM) approach²⁰ where the island is viewed as one inter-dependent coastal entity. Recognition of this geoecological reality also leads to a regional (local) approach to management. This regional approach would allow the island to be divided into practical regions, where region specific needs and priorities can be effectively determined and addressed. Neither of the two approaches proposed above can, however, be successfully implemented without the support and participation of the general public.

- b. Past successes such as the implementation of the Soufriere Marine Management Area²¹ (SMMA) has shown the importance of involving local communities in management and development decisions that directly impact their livelihoods. In light of this success, the successful implementation of any coastal zone management programme is dependent on a high level of involvement and participation by the resource users and stakeholders.
- c. Coastal and marine resources management in Saint Lucia is impacted upon by the lack of sound data collection and management. The lack of information regarding coastal process in the environment continues to impinge on sound and informed planning and management decisions. Saint Lucia needs access to training and to technologies that will assist in such data collection.
- d. UNCLOS has presented SIDS with a unique opportunity by allowing for a 200-mile Exclusive Economic Zone to be claimed. However, this EEZ will not become a practical and legal reality, unless EEZ delimitation and submission of charts is concluded speedily by SIDS. Saint Lucia needs urgent technical and financial assistance was in order for this work to commence. Similar assistance was also required to facilitate Saint Lucia in developing her continental shelf claims, as appropriate.

3.5 Freshwater Resources

There are thirty-seven (37) major watershed areas in Saint Lucia of which a total of seven are important for water supply. With the exception of areas in the north of the island, all other areas are supplied by surface water intakes located in the upper reaches of the watershed within which these are located. Treatment at some of the intakes comprises slow sand filtration combined with chlorination while for all the others minimal sedimentation and chlorination is the only treatment provided.

The management of water resources in Saint Lucia lies under the jurisdiction of a number of agencies and as such, management responsibilities are dispersed. Table 4 below provides a

²⁰ Island Systems Management (ISM) recognizes the need for a holistic approach in regulating the use of island resources. The ISM concept seeks to eliminate sectoral boundaries through the establishment of a multisectoral, multidisciplinary mechanism which links a partnership arrangement of public and private sectors, non-governmental organizations and community-based organizations, in the decision-making process. The ISM philosophy can be described as a boundary less system, focusing on issues (e.g. degrading water quality, unplanned and uncontrolled development) and problem areas (e.g. mangroves and wetland destruction) through the adoption of a multidisciplinary, multisectoral and multifaceted approach towards management and development [Nichols, K. E. and V. Chase. 1996. Island Systems Management: A new Concept of Coastal Zone Management for Small Islands]

²¹ The Soufriere Marine Management Area established in 1994 consists of 11km of zoned coastal area that is successfully managed by a multi-stakeholder board of directors which comprises of representatives from key resource user groups.

matrix of all the stakeholders involved in water resources management in the country while Table 5 summarises the water resources problems in Saint Lucia.

Table 4: Stakeholders Involved in the Management of Water Resources in Saint Lucia

Country	Main Stakeholders	Basin/Watershed Organisations		
		Public	Private	NGO/CBO Partnerships
Saint Lucia	Water and Sewerage Company Ministry of Agriculture, Lands, Forestry and Fisheries Development Control Authority Ministry of Health	National Conservation Authority	Bottled Water Companies Brewery Soft Drink manufacturers Distillery	Water Catchments Groups

The public water supply, has in recent years, been severely impacted by pressures of increased demand due to increasing socio-economic development, destruction of upper watersheds, increasing exploitation of the rivers and wetlands, and an inefficient, inadequate and aging water distribution network. Low river base flows experienced during the dry season and high turbidity during the rainy months combine to significantly constrain the ability of the Water and Sewerage Company (WASCO) to meet the current demand for water, island wide. During the dry season (usually January to May) water production can be as low as 24.5 million litres per day, as compared to a value of approximately 41 million litres per day during the rainy season. It is widely suggested that present water demand is exceeding the available supply and that the potential increase in future demand can only serve to exacerbate this deficit. While the available data does not allow for an exact determination of supply/demand dynamics, data of the potential supply/demand situation within various sectors and zones and for the island as a whole point more to a suppressed demand than a real deficit.

Generally, water is not treated as an economic good and consequently water rights, water markets and pricing are not used to improve management and for the most part, there is no incentive for consumers to use water efficiently. Presently, there is no clear strategy or criteria by which to establish allocation priorities. Generally, allocation mechanisms are administratively-based, with current sector demand used to guide allocation. In addition, priority is given to uses such as health and sanitation and tourism where there are health risks associated with water shortages.



Figure 8: Wetlands filtration system for managing wastewater

Credit: Donna Spencer.

Table 5: Summary of Problems in Water Resources Management in Saint Lucia²²

Root Cause	Immediate Causes	Consequences
<p>Water is not managed within an Integrated Approach</p> <p>Water is not treated as an economic good</p>	Lack of Integrated Approaches	Multiplicity of institutions and jurisdictions that deal with various aspects of water resource management, often developing and implementing policies and programmes in isolation of one another.
	Fragmented and sectoral approach to water resources management	Multiplicity of laws, each dealing separately with various aspects of water resource management, thus encouraging a compartmentalised approach to management of the sector.
	Deficient economic valuation of water resources	Poor stakeholder participation / low awareness among public and decision makers.
	Economic Poor feasibility assessment of water projects	Water mainly considered a social and public good.
	Social Access and affordability Lack of appropriate / direct /transparent targeting and subsidy policies	Inadequate pollution control and regulation is threatening the development of the tourism industry
	Environmental Deficient urban & rural land use planning.	Inadequate access to safe water can impact on socioeconomic development
		Deforestation, soil erosion, water resource degradation.

²² Adapted from Vasantha Chase, 2008. Water Forum Of The Americas Report Of The Caribbean Sub-Region Prepared For The Inter-American Development Bank

Root Cause	Immediate Causes	Consequences
Heterogeneity of water quantity, quality and availability	<p>Insufficient information to support decision making</p> <p>Deficient capacity to deal with natural hazards</p> <p>Inadequate institutional capacity</p>	Inadequate data collection and information management
Inadequate Public awareness and political commitment	<p>Multiple water legislation, regulatory and monitoring frameworks, and institutions</p> <p>Water policies Inadequate policies on integrated water resources management Unclear responsibilities of the range of stakeholders in the water sector</p>	<p>Each institution/agency has its “own” piece of legislation and mandate, limiting the scope for action and coordinated efforts.</p> <p>Water pollution from untreated municipal and industrial discharges</p> <p>Weak technical capacities among water sector personnel.</p> <p>Lack of resources for research and technology</p> <p>Lack of consistency on policies to promote contribution of water resources to national economies.</p> <p>Policy on future consumption patterns related to population growth, increased tourism, agricultural and industrial developments are poorly articulated</p>

3.5.1 Concrete Actions

- Saint Lucia has formulated a National Water Policy. The process was driven by Government's philosophy that there must be joint ownership of the process of change. Consequently, the process was underpinned by dialogue and consultation among the social partners, to generate awareness of the major issues and challenges facing the Water Sector and to develop a coordinated approach to overcoming the challenges and to achieve fundamental and sustainable water resource use and development.
- A National Water and Sewerage Commission (NWSC) has been established with responsibilities for designing and operating a system in which conflicts between water users are resolved in a manner that ensures that water resources are used as efficiently and economically as possible.
- A Water Management Plan for Drought conditions was formulated in 2001 and last revised in 2006. This plan provides a framework for preparing for and responding to future droughts to minimize conflicts and negative impacts on Saint Lucia's natural resources and economy.
- CEHI is assisting the Government in the formulation of a Roadmap towards development of a National Integrated Water Resources Management (IWRM) Plan. The Roadmap which is close to being finalised captures all the key actions that are required by the Government of St. Lucia and its partners that will lead to the development of the national IWRM Plan.



- A pilot rainwater harvesting initiative has been established at a hotel in Vieux Fort, in the south of the island. This is a public-private partnership between the Government of St. Lucia, the Caribbean Community Climate Change Centre, and the hotel. Vieux Fort has a significant water deficit, and the hotel uses 10-14% of the supply. The collected water is used for irrigation and toilet flushing, and the used water is recycled prior

- to discharge.
- The GEF Financed Integrated Watershed and Coastal Areas Management (IWCAM) Project has set up a demonstration project in Saint Lucia. The project is developing a model approach for participatory watershed management in the Fond D'or watershed. Deliverables toward achieving this objective include developing mechanisms for sustainable natural resource management and capturing lessons in legislation, policies, and management strategies. Main activities include: Monthly river water quality monitoring; Groundwater resource assessment; Education and training; Land use and compatibility assessments; a study on compensation for environmental services; the construction of a wetland as a wastewater treatment system to eliminate household black and grey water pollutants; river bank stabilisation; Rainwater harvesting; demonstration project on the use of pig waste for biogas; and an expansion of water reticulation system.

3.5.2 Special Constraints and Challenges, and Lessons Learned

- a. St. Lucia faces serious challenges in the management of its water resources, but is moving forward to address them in innovative ways and has recognized the potential of market-based approaches to improve management effectiveness and efficiency. It has made good use of assistance from international agencies including the World Bank, the OAS, and the EU, and regional organizations, particularly the Caribbean Environmental Health Institute (CEHI) and the OECS Environment and Sustainable Development Unit. It is participating in the GEF-funded project *Integrating watershed and coastal area management in small island developing states of the Caribbean*, which is coordinated by CEHI and the United Nations Environment Programme. While there is much work still to be done to sensitise people to the link between activities in the watershed and the quality and reliability of water, the projects supported by these agencies have had a positive impact on public awareness.
- b. The national water policy was developed in tandem with a national land policy, with the involvement of many of the same actors, providing opportunities for the development of more integrated and holistic approaches to managing the water cycle.
- c. The future of the water sector will be determined by the policy and sectoral reform processes that Saint Lucia has undergone, and the current structure of the industry could change significantly as a result of these processes. The Water Policy proposes that the rates charged for water should cover all costs of production, storage, treatment, and delivery, including those related to “protecting forests, watersheds and other ecosystems required to regulate and maintain water quality”. In order to implement this policy recommendation, the economic value of these watershed management services would need to be established. The policy also suggests that the National Water and Sewerage Commission should have control over the allocation and use of all freshwater resources, even in areas within or surrounded by private land. This directive would have significant implications for the further development of the sector, including the water bottling business, which is now largely carried out by private landowners on their own lands without regulation. On the other hand, the draft policy does not address the issue of water abstraction or private production, through technologies such as desalinisation, for industrial uses, although their expansion could have significant implications for the development and privatisation of the sector.
- d. Incentives have not been a major tool in watershed management in the past. Poor water quality and reliability have actually served as incentives for both water conservation and community action, but as quality and reliability improve, other incentives will be required to sustain desired behaviours. In addition, there are precedents for the use of fiscal incentives; for example an incentive programme already exists for the purchase of solar water heaters, which could potentially be expanded to include water conservation devices and roof catchment systems with associated cisterns.
- e. The decentralized nature of Saint Lucia’s system of water abstraction, treatment and distribution creates the possibility of local water management and thus provides the incentive for the establishment of water catchment groups around intakes. But the work of protecting intakes is costly and time-consuming, and sustainable sources of support are required. A pilot market based approach to the provision of intake protection services could be developed and tested in a number of communities.
- f. The Ministry of Agriculture is interested in using its GIS rural land use planning tools to develop watershed based management systems, including management plans for critical

watersheds. The Ministry also has a long-standing history of support to community-based management approaches. Using the watershed management planning process as an opportunity to bring stakeholders together in a watershed forum could provide the potential for negotiations between stakeholders on upstream uses that have downstream impacts and even for direct transactions between upstream and downstream users. Past interest by a major coastal hotel in supporting upstream watershed management activities in order to reduce sedimentation of its coastal waters demonstrates that there could be interest in such transactions.

- g. The challenges and constraints of sustainable water resources management in Saint Lucia can be categorized into three broad thematic areas:
- Saint Lucia like all SIDS has uniquely fragile water resources due to its small size, lack of natural storage and competing land use, vulnerability to natural and anthropogenic hazards, including drought, hurricanes and pollution. This requires detailed water resources monitoring and management and improving collaboration with meteorological forecasting services;
 - Water service providers face challenging constraints to sustaining water and wastewater provision due to the lack of resources including human and financial resource bases, which restrict the availability of experienced staff and investment, and effectiveness of cost-recovery. Future action is required in human resources development, water demand management and improving cost-recovery; and
 - Water governance is highly complex and requires programmes such as awareness, advocacy, and political will, at community; institution and government levels to create a framework for integrated water resources management.

3.6 Land Resources

The main characteristics of land in Saint Lucia are a rugged terrain and a limited land space. In several parts of the island, the agricultural potential is limited, because of risks of erosion, low fertility, stoniness and acidity of soils, and dangers of land slippage. In many areas, steep slopes and drainage patterns also render access and infrastructural development difficult.

There are a multitude of factors that affect land management and development in Saint Lucia. Past failures to adopt, implement or enforce appropriate land policies and management practices are at the root of environmental degradation, inequity and poverty. Land use and development require complex systems of management, because of the competing demands for a scarce resource, the impacts of these uses on soils and land resources, population growth, and changing demands and use patterns in recent times as a result of a shift from agriculture to services and as a result of cultural change. Fragmented and sectoral approaches to land policy are no longer capable of meeting needs, and an integrated, coherent and comprehensive framework is now needed to arrest negative trends, address current and emerging issues, and guide all relevant sectoral policies and programmes.

Saint Lucia's land resources could contribute more than they currently do to economic growth and development. For a number of reasons, however, land is not being utilised optimally, good agricultural lands are being converted to other uses, and critical coastal areas are being lost to uses that restrict their economic potential. Resource use conflicts and inadequate practices

Box 9: Land Degradation in Saint Lucia

Since signing the 1997 United Nations Convention to Combat Desertification (UNCCD), St. Lucia still continues to be faced with challenges with land degradation and drought-like conditions, particularly in watersheds with high agricultural activity. Chief Forestry Officer, Mr. Michael Andrew stated that the persistent problem of soil loss and land degradation in key watersheds and coastal areas highlighted the need for sustainable land management practices in the agricultural and construction industries. "It is estimated that soil loss is as much as 25 to 63 tons per hectare per year for some of the larger watershed and approximately 300,000 tons annually due to banana cultivation alone

Source: St. Lucia News Online, September 30 2009

impact negatively on the productivity of key sectors. There is therefore a need for a policy framework that realises the full potential of land capital.

The importance of family lands is highly significant. It is a form of communal ownership among members of a family and, as such, it presents a number of advantages, allowing a number of heirs to have access to land, providing security to all co-owners while retaining flexibility in land use, and providing a buffer as well as a number of non-monetary welfare benefits that would otherwise not be available to the weakest and poorest among the heirs. Family land tenure in Saint Lucia is an important institution, and it is one to which people are consciously and unconsciously attached. While family land tenure offers some benefits, it also creates constraints and problems, particularly in cases of disputes, or when land is needed as collateral for access to credit. In this sense, family land tenure can be seen as an obstacle to social mobility and economic empowerment in rural areas. Communal ownership may also be an obstacle to land conservation and to the use of good agricultural practices.

Two additional trends and phenomena related to rural land tenure should be highlighted. One is the incidence of land speculation, which impacts negatively on production (some rural properties are maintained at very low levels of production, and their owners are not concerned with farm production), while contributing to increases in land prices above what their productive capacity would justify. The other is the continued fragmentation of small parcels at the expense of agricultural production, down to a size which often becomes no longer viable, especially in light of recent changes in the banana industry and of the need to diversify production.

There exists a broad and complex set of policies that govern land use, management and Development. In order to implement these policies, there are a number of public sector agencies involved in various aspects of land management. Over the past few years, there have been important processes of rationalisation and capacity building within and among these various agencies. In several key areas of land management, the Government of Saint Lucia has established sophisticated management systems and procedures, and has allocated significant human, technical and financial resources towards their implementation and operation.

3.6.1 Concrete Actions

1. In recognition of the urgent need to reverse negative trends and to optimize the contribution of land to sustainable development, the Government of Saint Lucia has undertaken a number of initiatives. Key among these is the elaboration of its National

Action Programme (NAP) in keeping with the country's obligations as signatory to the UNCCD. Following a series of consultations and under the guidance of an Ad-hoc Committee convened for this purpose, Saint Lucia has finalised the NAP.

2. Under a parallel regional PDF-B stage SLM initiative (implemented by UNEP and executed jointly by the OAS and CEHI) that focuses on demonstration activities (Type II SLM project), the country undertook a demonstration activity in the Soufriere area as part of a series of national demo projects.
3. Another major initiative, which has been ongoing since 2000, is the development of a National Land Policy (NLP). This has involved a broad based consultative process. The next stage of the NLP was the development of the National Action Plan/Strategic Action Plan (NAP/SAP), which serve as one of the fundamental components of the (NLP) by promoting and enforcing the adoption of sustainable land management in Saint Lucia. The SAP will establish a system for monitoring and evaluation of land degradation and drought using Geographic Information Systems (GIS) applications and Geographic Position System (GPS) as assessment tools. A user-friendly manual has also been developed identifying sustainable land management approaches and practices.
4. The Ministry of Physical Development and the Environment has received funding from the LDC-SIDS Portfolio Project for Sustainable Land Management. The project will mainstream sustainable land management into Saint Lucia's social and economic development agendas and build institutional and individual human resource capacities for sustainable land management with environmental benefits accruing to forest and agricultural lands estimated at 55,800 hectares.
5. As part of a framework of assistance under the Cotonou Agreement, the European Union has pledged approximately US\$ 10.5 million (€8 million) annually (over 10 years, to proportionally decline annually thereafter) to the GOSL in support of economic and social recovery programmes in the wake of trade reforms in the banana industry (successor instrument to STABEX under the Lomé Agreement). With this assistance, the country has made investments in productively enhancement in the banana sector, engaged in programmes to encourage economic diversification, and developed human resource capacity in alternative livelihoods. Under the Special Framework of Assistance (SFA) 2003 tranche, the focus was on natural resources management through a programme entitled Economic and Agricultural Diversification and Poverty Reduction through Integrated Natural Resource Management. The programme was completed in 2009.
6. There are two additional support initiatives of relevance to SLM to be funded by the European Union. The Land Tenure Legislative Review (funded under the SFA1999 tranche) will address removal of land tenure barriers and other administrative constraints that hamper agricultural land development through a slate of legislative and administrative reform recommendations. A Data Capture Project (funded under the SFA 2001 tranche) will contribute to enhanced decision support capacity in agricultural land allocation and planning. The effort will contribute to the development of a national digital Land Resources Information System (LRIS). Some of the key activities envisaged include translation of the paper-based Land Registry parcel mapping to digital (GIS) format, establishment of a mechanism within the MPD&E (Surveys and Mapping Section) for rapid updates (mutations) of land parcel data and development of metadata standards (including data quality standards).
7. The National Capacity Needs Self-Assessment (NCSA) for Global Environmental Management has been finalized. The NCSA identified the major gaps with respect to

existing capacity to implement the MEAs, as well as the synergies that exist, to better utilize available resources.

8. In 2004, the MAFF launched a Fiscal Incentives Regime in Support of the Agricultural Sector. A number of special incentive measures are proposed to help promote sustainable environmental practices (inclusive of land and water management) in agricultural investments. The Cabinet of Ministers approved the Incentive Regime in 2005 and the Ministry is operationalizing the programme.
9. The World Bank (WB) is providing financial assistance for the Second Disaster Management Project. The key objectives of the project are to assist the GOSL through its National Emergency Management Organisation (NEMO) to (a) further reduce the vulnerability of the physical infrastructure to natural disasters through the implementation of physical mitigation measures and (b) further strengthen the institutional capacities of the various ministries and agencies dealing with disaster management through the provision of adequate facilities, critical equipment, technical assistance and training. Under this program Vulnerability Assessment and Hazard Mapping (including landslide hazard mapping) has been undertaken for the island and will contribute to the knowledge base for SLM.
10. With respect to other MEAs, Saint Lucia is one of the beneficiaries of the Special Pilot Adaptation Programme (SPAC). The SPAC is a Stage II Adaptation Project under the UNFCCC. Stage II adaptation Projects include projects that: (a) propose an adjustment in national or human systems in response to actual or expected climatic stimuli or their effects that moderates harm and exploits beneficial opportunities; and (b) increases resilience to adverse impacts of Climate Change on vulnerable countries, sectors and communities. The island's pilot submission entitled Integrated Approaches to Improving Water Use Efficiencies as an Adaptation to Climate Change specifically targets degraded pasture areas in the south of the island.
11. The MAFF has developed a GIS-based land use planning system, which pulls together the results of past land use and capability studies and incorporates spatial decision support tools for determining optimal land management regimes. The system is meant for use at the watershed level, and the Ministry plans to use it as the basis for the development of management plans for critical watersheds. The availability of this information base on GIS and associated decision tools opens up possibilities for new and interesting approaches to participatory land use planning.

3.6.2 Special Constraints and Challenges, and Lessons Learned

- a. There are critical gaps and overlaps in institutional responsibilities; there is insufficient collaboration among public sector agencies; and there is some degree of fragmentation of land management authority and roles among a range of agencies, including ministries and statutory corporations. This reality tends to be an obstacle to the rational, effective and efficient management of all land resources.
- b. There is very little public sector intervention in the management and operation of land markets. In particular, taxation is not being used intentionally to guide these land markets and land uses in any significant way. Levels of taxation are determined by the land area, not by the value of the land.
- c. Generally, there is a lack of an articulated national development plan and strategy, and of a comprehensive physical development framework and strategy. In practice, and in spite of the significant progress that has been made in recent years, government is not assuming a lead role in defining critical land development objectives, processes and

directions, as in the case of the proliferation of human settlements. At the same time, there have been inadequate public sector responses to private sector-led urban expansion, particularly in relation to housing and infrastructure, and there remains a tendency for the public sector to follow private sector land development trends.

- d. Land administration can only be effective if it is served by accurate, reliable and up-to-date information. At present, information required for land management is not readily available to relevant agencies. There is also an urgent and critical need for up-to-date digital maps that can serve as a base for updated land ownership and land use data. At the same time, there is a need for integrated information management systems that allow for the much-needed sharing of information among agencies in an effective and efficient manner.
- e. Saint Lucia has a land use policy; but there are no statutory land zoning prescriptions that define spatial allocations in the context of optimal land use. Land development patterns are now driven more by land market forces rather than policy and strategic planning instruments. Planning for land development has traditionally been very sectoral-driven with little attention paid to holistic management based on maintenance of supply capacity for the various ecosystem services (water, soil productivity, biodiversity, buffer to natural hazards, etc.). The result has been exploitation of land resources beyond the carrying capacity and loss in potential to maintain ecosystem services.
- f. The key limitations within the legislative framework with respect to sustainable land management are related to weak or missing regulations, inadequate or poorly defined institutional roles that results in duplicity and/or low impact, and narrow jurisdictional scope. Furthermore, coordinating mechanisms between the various instruments are generally lacking.
- g. Besides the technologies themselves, capacities within State and non-state agencies and other stakeholders have to be strengthened to ensure sustainability of technological applications. Under previous project-driven initiatives in Saint Lucia, personnel from various state and non-state agencies, community-based organizations, farmers and other stakeholders have been exposed to technological applications that are of relevance to sustainable land management; these have ranged from demonstration of land management techniques to application of information technology to facilitate decision-making. However, once these “special projects” end the status-quo resumes with little semblance of continuity of the initiative. A useful lesson that is to be learned from these “special projects” is the need to institutionalize these initiatives into the business plans of agencies and organizations from a human resource development perspective. Personnel who may have benefited from capacity-building initiatives themselves are often not sufficiently empowered to become resource providers. Saint Lucian public sector agencies need to create the environment that warrants active demand of skills attained in real-world application. There also needs to be increased emphasis on technical in-house human resource development using trainer-of-trainer approaches.
- h. The following institutional capacity needs specific to land management have been identified under the NCSA process. These needs are critical in order that Saint Lucia meets its obligations under the UNCCD and for implementing programmes and projects in SLM:
 - Clear definition of organizational missions and mandates;
 - Institutions effectively structured and management equipped with relevant competencies (environmental and social sciences, natural resource economics) to facilitate more effective inter-agency collaboration;

- Systems to ensure that reports and other relevant information required for decision-making are disseminated in a timely manner; investment in clearing house mechanisms for information sharing;
- Support from the education sector and relevant institutions in promoting national awareness (Ministry of Education, Government Information Service, etc.)
- Research and systematic monitoring frameworks to support decision-making and planning;
- Investment in database development and management for decision support purpose (inclusive of data capture systems, multi-user spatial information systems - computerization of the land registry and the development of a land information system); and,
- Technology needs assessments and technology assessments for acquisition of appropriate technology which will allow more effective management and distribution of the country's water resources

3.7 Energy Resources

Saint Lucia is a net importer of fossil-based commercial energy with the power and transport sectors relying completely on imported oil derivatives. All economic sectors have been affected by increasing oil prices in recent times. This development has also had negative impacts on the country's balance of trade. The effects of energy supply interruptions and oil price shocks on economic performance are therefore of major concern given the island's almost complete dependence on imported energy. The Government of Saint Lucia has recognised the influence that changes in the global energy markets have on domestic needs and it has taken steps to achieve higher energy security and independence. In May 1999, the Government resolved by Cabinet Conclusion No. 464 to eliminate all import duties and consumption taxes on renewable energy equipment and materials. Further, in April 2001, it decided to make the purchase of solar water heaters tax deductible. Meritorious as these initiatives may be, it has been recognised that they are inadequate for addressing the broader/deeper challenge of achieving energy efficiency in all sectors and reducing reliance on current energy sources. 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.

The Government of Saint Lucia is committed to the broad objective of relying on market forces to achieve the efficient allocation of resources. Nevertheless, in the case of energy, the Government may intervene where necessary, in order to support the exploitation of new and indigenous energy resources and in promoting energy conservation and energy efficiency. While Government's intervention in the day-to-day operation of the power sector will be minimal, it will retain primary responsibility for policy formulation and actualization.

The development of energy sector policy and strategies will be consistent with Government's overall macro-economic policies. Even under a regime where there is substantial private participation in the energy sector, the Government will continue to play a vital role by setting the legal framework for the entire

sector. For such purposes, the Government will continuously analyse the results of its intervention and amend the energy policy, the energy strategy, and/or the legislation, as necessary. As a result, it is anticipated that Saint Lucia's economy as a whole will benefit from the supply of cost-efficient energy and the protection of certain customer groups, in addition to minimizing negative environmental impacts. The Government will ensure the development of, and/or exploitation of new and renewable energy resources as an important measure in its efforts to establish Saint Lucia as a "Sustainable Energy Demonstration Country". Although the original target of 2012 is no longer realistic, the Government of Saint Lucia is committed to making significant strides by that date.

The imperatives of the National Energy Policy are therefore intended to achieve:

- Procurement of energy supplies at the least cost through liberalisation of the energy sector and broad private sector participation;
- Energy security and reliability;
- Diversification of the energy base;
- Exploitation of indigenous renewable energy resources;
- Higher efficiency in energy production, conversion and use of energy with the overall objective of reducing energy intensity; and
- Reduction of adverse environmental effects and pollution by rehabilitating existing energy sector facilities and introducing new standards for energy-related products, as well as mandating appropriate environmental impact assessments of new projects and options.



Figure 9: Students Attend Energy Symposium to Mark Energy Awareness Week, 2009

Box 10: Saint Lucia Energy Policy Stakeholders Meeting, April 2006

Sponsored by GSEII and the German aid agency Gesellschaft für Technische Zusammenarbeit (GTZ), a meeting was held in St. Lucia to discuss the nation's energy policy and progress over the past five years. Resulting from this meeting, in which representatives of the St. Lucian government agencies, utilities, and private and trade organizations were present, were prioritized actions to meet the nation's sustainable energy plan targets for the year 2010.

Source: GLOBAL SUSTAINABLE ENERGY ISLAND INITIATIVE

3.7.1 Concrete Actions

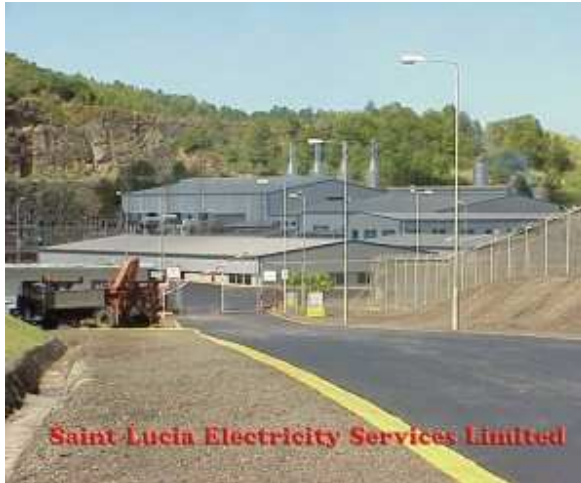
Actions	COMMENTS
Cuban Light Bulb Project [completed in 2008]	Cost savings for the households through reduction in electricity consumption. MCWTPC & Social Community groups The Cuban government through the Government of St. Lucia undertook a large scale distribution of CFL's within the residential sector to replace incandescent bulbs. The bulbs were donated and distributed by Cuban workers with the assistance of locals.
Geothermal activities – MOU signed with United Network of the Eastern Caribbean to explore geothermal exploration; participates in GeoCaribe Initiative with Dominica and St. Kitts and Nevis; draft geothermal bill to look at legislation and regulations	Work has not commenced as yet
Training in baseline analyses and benchmarking	Workshops targeted engineering/maintenance personnel and was focused on energy consuming areas usually found in small hotels
Energy Conservation and Plant Maintenance Workshop	
12.6 MW Wind Farm	The Government of Saint Lucia has agreed to acquire 210 acres of land at Sugar Mill for the development of a 12.6 MW wind farm
Duty Free Concessions On Energy saving Devices	Duty Free Concessions on Energy Saving Devices are offered in keeping with St. Lucia's commitment in becoming a sustainable energy demonstration country. Components include: Deep discharge storage batteries, voltage regulators, inverters, cut-off switches, setup transformers, etc
Solar water Heating Financing	To promote the use of Solar Water heaters in low and middle-income households and to reduce the use of or dependence on electric water heaters. Middle and low-income households are provided access to low interest loans through Credit Unions.
Energy Awareness Week	The Energy Awareness Week is conducted every year. Over the past several years it has been held in November. The week of activities usually include a symposium surrounding new technologies and RE potential, school lectures, radio quizzes, an energy supplement with feature article by the Minister with responsibility for energy. The week usually brings together a number of energy stakeholders including ESCo's, LUCELEC, and various public sector agencies with responsibility for various energy components.

The formal launch of the Saint Lucia Banana Industry Trust's (BIT) Photovoltaic Project took place on Thursday 13th August 2009. The event was held at the headquarters of the National Trust at Pigeon Island, one of the beneficiary sites of the project. This project is among several sustainable development focused initiatives undertaken by the BIT with the assistance of the European Union Special Framework of Assistance for 2003. In addressing the persons and the media present, Director of the National Trust, Bishnu Tulsie reiterated the Trust's intention to reduce its carbon footprint by incorporating the use of renewable energy of the Trusts'

properties. Solar energy is not the only option that the Trust is pursuing, as they have also expressed an interest in wind energy.

Figure 10: Installation of Solar Panels on the Roof of the SLNT

Credit: Anonymous



Saint Lucia's lone electricity supplier, LUCELEC, faced up to the challenge of expanding its power sources and reducing its dependency on oil. The company's progress towards use of potential alternative power sources such as wind and solar energy has in the past been hindered by storage limitations and existing regulations.

Figure 11: Electricity Generation Plant in Cul De Sac

Credit: LUCELEC

whereby LUCELEC intends to use its grids to save solar energy harnessed by the company by means of grid-tied photovoltaic (PV) systems. According to news coverage by Helen Television System (HTS) Saint Lucia, this 'pilot project will target domestic households and is capable of harnessing as much as one (1) kilowatt of power while the average Saint Lucian household uses between 1 and 2 kilowatt of power.

Nonetheless, LUCELEC has embarked on a pilot project with Solar Saint Lucia Limited,

A new power plant will use banana waste to produce methane via biodigesters²³. It will use a new four-stage fermentation process that is much more productive and cost effective than traditional batch processes. The methane will power the plant itself and be used to produce ethanol. This project is one of the award-winning projects of the 2009 IDEAS Energy Innovation Contest for improving energy efficiency and expanding access to renewable energy. The contest is jointly sponsored by GVEP International, GTZ, the Inter-American Development Bank, and the Korean Government.

Another one of Saint Lucia's award winning projects of the 2009 IDEAS Energy Innovation Contest is the Indirectly Charged Ferry Project²⁴. A Solar Boathouse will be constructed in Marigot Bay. The boathouse will collect solar power from panels on its roof and will contain a

²³ The Project was designed by Ken Aldonza is a Mechanical Engineer from St Lucia, West Indies. He pursued a Master's Degree in Renewable Energy Systems Technology with Loughborough University in England. The Banana Ethanol project is based on his Master's thesis

²⁴ This Project was designed by Bob Hathaway who is a naval architect at the Marina at Marigot Bay, an exclusive marina for mega yachts and large sailing yachts. There he designed and built the "Sunshine Express", the first fully solar powered ferry in the Caribbean using local labour and expertise.

battery bank. The battery bank will allow for each boat to be charged up with the power it needs for the trip across the Bay. This means boats can be charged up there and travel without having to carry the heavy batteries usually needed for this type of power thereby enabling them to take more cargo. The scheme will enable residents to travel across the bay at a much lower cost and will protect the sensitive local marine life from oil residue deposited by two-stroke engines.

3.7.2 Special Constraints and Challenges, and Lessons Learned

- a. In Saint Lucia, the nexus between energy services and economic development is complicated by four factors: (a) heavy dependence on imported petroleum for energy needs, (b) ongoing loss in preferential access to OECD markets, (c) vulnerability to natural disasters and the adverse impacts of climate change, resulting primarily from the growth of fossil fuel related emissions, and (d) limited integration of the energy sector with the other sectors so as to maximize synergy and the efficient use of financial resources.
- b. Although Saint Lucia, like all the other SIDS contributes the least to the problem of global climate change because of low per capita and aggregate greenhouse gas emissions. Nevertheless, the latest report from the IPCC states that these states would suffer most from the adverse effects of global climate change (such as sea-level rise, coastal zone inundation, and escalations in the frequency and intensity of hurricanes and typhoons) which threaten their very existence. The sustainable development of renewable energy resources in Saint Lucia is therefore an urgent priority.
- c. Saint Lucia has a high and relatively constant supply of solar energy. Consequently, the use of small-scale solar photovoltaic (PV) power to provide electricity in rural areas is a very viable option. However, more work on financing and institutional arrangements need to be done to realize their full potential. Biomass from agriculture, either as by-products in agro-industry (bagasse from the processing of sugarcane, or waste from livestock production or fish processing) represents not only potential substitutes for fossil fuel, but opportunities to improve local agricultural productivity and economic profitability, directly contributing to quality of life improvements and reducing vulnerability. The combination of energy from the agricultural sector combined with wind and solar represent opportunities for base load and peak electricity production in Saint Lucia.
- d. There has been an increase in the number of companies that offer renewable energy services and technologies in Saint Lucia. This has been supported by an enabling environment, which provides for duty free concessions and low interest credit for renewable energy technologies. All of this has contributed to an increased uptake of renewable energy technologies by middle and low-income households.
- e. Sustainable energy is the foundation of sustainable development, and requires affordable financing, but Saint Lucia does not have the financial and technical resources or affordable access to financing. Saint Lucia requires political commitment as well as financial investments to build appropriate institutional and human capacity, develop the necessary regulatory frameworks, energy policies, and financing mechanisms, and to catalyse public sector involvement. Saint Lucian policy makers also need to become much more innovative in developing financing mechanisms in partnership with the local and external private sector, and to tap into the much cheaper capital available internationally.
- f. The examples provided above show that there are indigenous entrepreneurs who are developing technologies or providing renewable energy/low carbon technologies. They however need access to more capital, including venture capital. Saint Lucia is of the

opinion that there is much scope for international public finance to be fully deployed at the margin to stimulate equity investments in technology through venture capital; and for private finance and investment for low carbon technology deployment in SIDS.

- g. Saint Lucia feels that enhancing the participation of SIDS in the global carbon market through the Clean Development Mechanism (CDM) is urgent. The CDM has the potential to bring significant foreign investment to SIDS given that it costs less for industrialised countries to invest in emission abatement in SIDS than at home. At the same time, SIDS receive advanced technologies helping them in their own sustainable development efforts. So far, however, SIDS have attracted only few CDM investors. The international community needs to ensure a more equitable distribution of CDM projects.

3.8 Tourism Resources

In response to the formidable challenges imposed by globalization, Saint Lucia has increased her commitment to economic diversification by targeting tourism as a strategic development priority. This emphasis on tourism can be attributed to a variety of factors. First, in spite of their limited resource base, Saint Lucia is endowed with rich natural and cultural assets—scenic landscapes, beaches, waterfalls, forests and fascinating histories—which are major attractions for tourism. The sector is viewed as one of the few industries in which Saint Lucia enjoys comparative advantage. Saint Lucia has turned to tourism as a development choice because it provides many opportunities for linkages with traditional economic sectors such as agriculture, fisheries and manufacturing. It also brings the consumers to the product, thus increasing the potential for additional demand for goods and services throughout the economy. Finally, Saint Lucia faces relatively few trade barriers to the promotion of tourism in international markets.



Figure 12: Diamond Falls in Soufriere

Credit: Colin Bosch

Saint Lucia has witnessed positive growth in tourism in recent years to the extent that this sector has effectively replaced agriculture as the lead contributor to the Gross Domestic Product. However there is growing concern about the future of tourism both in terms of global developments and the need to safeguard and maximize its development potential. The stated proposition signifies a major shift in the traditional approaches to tourism development in Saint Lucia. Moreover it challenges the current concepts and practices towards national development planning and export strategy formulation in particular.

Saint Lucia is still quite immature in export strategy formulation as a national development planning exercise even though strategic planning for tourism development has advanced significantly. The stated proposition therefore constitutes a threefold challenge to the small Island state. These challenges can be delineated as follows:

- Refining and strengthening the strategic planning framework for export development to adequately integrate tourism.

- Changing the existing strategic planning framework for tourism development to an export oriented approach.
- Finding the most appropriate mechanisms for fusing the above two endeavors or approaches so that tourism becomes the core of a national development strategy based on export development.

Associated with this concern is the need for balancing environmental concerns and protection with tourism development expansion. In Saint Lucia a National Land Policy and Coastal Zone Management Policy has been drafted with input from the tourism sector. A Systems of Protected Areas has also been developed. The formulation of a National Physical Development Plan, which includes tourism development, and incorporates other existing environmental protection policies, is a matter to be addressed.

Tourism is major driving force for economic development in Saint Lucia because of its large potential multiplier and spillover effects on the rest of the economy. The sector tends to

Box 11: THE SAINT LUCIA HERITAGE TOURISM PROGRAMME

The emphasis of the Programme is on enhancing the impact of tourism on communities, and on improving the relationship between tourism and other facets of rural development. It is a case of a comprehensive national tourism initiative that has a strong pro-poor component. It is an attempt to shift an entire sector, as quickly and as effectively as can reasonably be expected, so that it becomes more sustainable, more equitable, and more focused on the needs of poor people. In order to achieve this ambitious goal of transforming the existing tourism sector, the Programme employs a two-pronged strategy:

- facilitating a broader and improved distribution of the benefits of the existing tourism sector (cruise ship passengers and stay-over visitors); and
- creating a new complementary sub-sector, qualified as Heritage Tourism, aimed at a new clientele

generate a large number of jobs, particularly of the unskilled or semi-skilled variety. Be that as it may, while the overall contribution of tourism to income and employment generation tends to be positive, the overall contribution to national income has, in some cases, been diminished by primary leakages of foreign exchange earnings arising from imports of materials and equipment for construction, imports of consumer goods (including food and drink), repatriation of profits earned by foreign investors, overseas promotional expenditures, and amortisation of external

debt incurred in the development of hotels and other tourism-related resorts.



Figure 13: Coral Reef off Anse Chastnet, Soufriere

Source: <http://www.ansechastanet.com/scuba.html>

3.8.1 Special Constraints and Challenges, and Lessons Learned

- a. Saint Lucia is a long-haul destination from key source markets in Europe. This has raised concerns regarding the potential adverse impact of prospective climate regulation of the air travel and shipping sectors and consumer preferences shifting in favour of short-haul destinations. Some of the source market governments and companies have already adopted environmentally friendly charges, levies and technologies, some of which have caused the cost of travel and transportation to increase. Such cost increases will likely have adverse effects on travel and tourism to Saint Lucia. There has been substantial recent media coverage on this topic, specifically as it relates to air travel. Long-haul destinations can be particularly affected and officials in the Caribbean have expressed concern that mitigation policies could adversely impact their national tourism economy.
- b. Studies indicate that a shift of attractive climatic conditions for tourism towards higher latitudes and altitudes is very likely. Uncertainties related to tourist climate preference and destination loyalty require attention if the implications for the geographic and seasonal redistribution of visitor flows are to be projected²⁵. In addition, The IPCC has concluded that increases in the frequency or magnitude of certain weather and climate extremes (e.g. heat waves, droughts, floods, tropical cyclones) are likely as a result of projected climate change²⁶. This means that Saint Lucia will see changes that will affect its tourism industry being affected by increased infrastructure damage, additional emergency preparedness requirements, higher operating expenses (e.g., insurance, backup water and power systems, and evacuations), and business interruptions.
- c. Saint Lucia's tourism is dependent on its environment. Climate related environmental changes will have profound effects on tourism at the local level. Changes in water availability, biodiversity loss, reduced landscape aesthetic, altered agricultural production (e.g., food and wine tourism), increased natural hazards, coastal erosion and inundation, damage to infrastructure and the increasing incidence of vector-borne diseases will all impact tourism to varying degrees.

3.9 Biodiversity Resources

Saint Lucia's First National Biodiversity Strategy and Action Plan (NBSAP) focuses on 5 programme areas, i.e. Planning and Policy Formulation; Research and Monitoring; Conservation; Sustainable Use; and Education and Awareness. To date, implementation of the NBSAP has concentrated on

- Institutional arrangements
- Legal instruments
- Organisational development and capacity building
- Financing
- Monitoring and Evaluation
- Regional and International Cooperation

²⁵ UNWTO and UNEP and WMO (2008), Climate Change and Tourism: Responding to Global Challenges, (prepared by Scott, D., Amelung, B., Becken, S., Ceron, JP., Dubois, G., Gössling, S., Peeters, P. and Simpson, M.C.), UNWTO, Madrid, and UNEP, Paris.

²⁶ IPCC (2007a): Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., Qin, D., Manning, M., Marquis, M., Averyt, K., Tignor, M.B., LeRoy Mil H., (eds.)]. Cambridge University Press.

3.9.1 Concrete Actions

At least 19 of the projects that were identified in the First NBSAP have been completed or are in the implementation stage. A few of the projects were not implemented due to revised national priorities or financial constraints. Funding for these projects came from local government sources or other funding agencies. Some of the concrete outcomes of implementation include:

- Draft biodiversity legislation based on harmonised frame OECS legislation for biodiversity management;
- Formulation of an institutional mechanism for biodiversity management in Saint Lucia;
- The design of a National Biodiversity Information Network;
- Study of the status of iguana, parrot, selected bats, and ground lizard;
- Preparation of an inventory on floral and agrobiological resources; Design and implementation of Standards and guidelines of behaviour in nature tourism sites and attractions by the Ministry of Tourism;
- Preparation and Review of a Second Systems Plan of Parks and Protected Areas - this activity is being coordinated by the Saint Lucia National Thrust;
- The establishment of two more legally protected areas, i.e. the Piton management Area which is a World Heritage centre; and the Point Sable Environmental Protection Area.

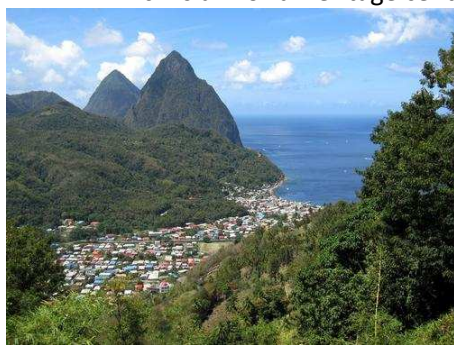


Figure 14: The Piton Management Area

Credit: Palestrina © Palestrina



Figure 15: A Vista of the entire PSEPA from Moule A Chique

Credit: Martin Satney

- A study was undertaken for compensation for environmental services in one watershed. The findings of the study are under review and discussion;
- A management programme for the Saint Lucia parrot has been developed and is awaiting implementation;
- A photographic and videographic database on Saint Lucian biodiversity has been created and is widely used;
- A turtle monitoring programme has been established; and
- The National herbarium has been upgraded.

In 2008, Saint Lucia undertook the preparation of the Second NBSAP.

Figure 16: St Lucian Iguana

Source: <http://www.reptileforums.co.uk/>



The Second NBSAP is premised on the assumption that a Biodiversity Coordinating Mechanism will be established under the aegis of the Ministry of Agriculture, Fisheries, and Forestry. It also envisages the establishment of a Biodiversity Scientific Committee that will serve as the technical Committee to the Authority. Finally, this NBSAP explores the feasibility of establishing a Biodiversity Trust Fund.

In 2009, the Forestry Department undertook the National Forest Demarcation and Bio-Physical Resource Inventory Project. Seventeen major vegetation types were identified and described; many species were recorded in Saint Lucia for the first time. Few islands can match Saint Lucia for its diversity of forest species:

- 945 native 'higher plants'
- 137 native ferns and club mosses
- About 50 native resident birds
- 17 native reptiles
- 2 native amphibians
- 10 native mammals
- About 1,400 beetles
- More than 1,000's other invertebrates



Figure 17: Tarantula in Quillesse Rainforest Reserve

Source: <http://www.reptileforums.co.uk/>

3.9.2 Special Constraints and Challenges, and Lessons Learned

- a. Progress has been made in the implementation of Saint Lucia's NBSAP. More effort however is needed in creating the institutional, policy and legal framework for mainstreaming biodiversity management into the country's development goals and for reducing the overlaps and conflicts between different agencies involved in natural resources management in Saint Lucia.
- b. The Saint Lucian experience points to the need for approaches to biodiversity management to include the creation of alternative sustainable livelihoods; the inclusion of mitigation strategies rather than depending only on response strategies; and mainstreaming biodiversity issues into landuse planning, development control, and foreign investment planning.
- c. Although data and information is currently available for some of the thematic areas in biodiversity management, these databases are not regularly updated. Consequently decision making is not sufficiently informed by scientific data; neither is the economic value of the natural resources integrated into decision making.
- d. The outcome of the recently concluded Biophysical Resource Inventory Project clearly points to the need for establishing data management systems that are operational for key parameters (e.g. carrying capacity, inventories, population studies and other indicators required for biodiversity management) and priority species / ecosystems. Prior to the commencement of the Project only 172 species of beetles were identified for Saint Lucia. At the completion of the assessment, over 500 species were recorded with at least 200 being endemic to Saint Lucia.

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St Lucia's forests reveal the smallest beetle in the world

Published on Saturday, August 15, 2009

CASTRIES, St Lucia -- St Lucia maybe home to the smallest beetle in the world according to the results of the Bio-Physical Resource Inventory assessment which ended in July, 2009. Dr Michael Ivie, a beetle specialist who has assembled the world's largest collection of West Indies beetles, announced in his recent presentation to the Forestry Department that **an unknown species measuring a third of a millimetre** has been discovered in St Lucia.

"The smallest beetle ever to be recorded was the one-millimetre long feather-winged beetle in the United States," said Dr Ivie. "The specimen found here does not belong to the feather-winged family or any other known family of beetles. If we are correct St. Lucia may be a candidate for having the smallest beetle in the world."

26 workers and scientists from around the world and St Lucia participated in the 3 month assessment where more than 1400 species of beetles were expected to be found on the island. Dr Ivie stated that **only 172 species of beetle were documented before the assessment** and believes the team has already **found over 500 species with over 200 of them endemic to St Lucia**. "There are a lot of specimens we have collected which we have never seen before," said Ivie. "The way things are going, St. Lucia may have an endemic beetle for every square mile and we are only half way through the inventory."

The assessment by Dr Ivie was done under the National Forest Demarcation and Bio-Physical Resource Inventory Project for the Forestry Department, under the European Union funded SFA2003 Programme, Environment Management Fund which is managed by the Banana Industry Trust (BIT).

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3.10 Transportation and Communications

a. Transportation

The transport sector is the largest energy consumer in Saint Lucia, but because of the wide dispersal of ownership of the rolling stock and the practical difficulty in regulating the movements and usage pattern of privately owned motor vehicles, it is also the most difficult sector to achieve benefits as far as a reduction in energy consumption is concerned. Further, most energy conservation measures in the transport sector are effective only in the medium and long term. The Government's strategy is focused on maintaining a level of adequate taxation on motor vehicles and on gasoline and automotive diesel fuel, in order to encourage the use of public transportation and for households to pay greater attention to fuel consumption.

The road transport sector as the second main source of GHGs in Saint Lucia. Growth in this sector has been particularly rapid with a phenomenal increase in the number of registered vehicles increasing. The rapid growth of road transport may have resulted in the sector now accounting for a larger share of fuel imports and greenhouse gas emissions than the energy generation sector.

For the road transport sector, in addition to the problems associated with greenhouse gases from vehicular emissions, there are also more immediate development concerns related to lost productivity, road safety, air and ground pollution, infrastructural development and costs, and foreign exchange leakage. Nonetheless, despite the problems relating to the transport sector, effective regulation of growth in the sector remains difficult given the strong demand for personal transportation and the reliance on petroleum dependent imported transportation technologies.

The Draft Energy Policy states that in the medium and longer term, infrastructural measures such as improved road maintenance, repairs and construction, transport planning and mode shifts (towards public transport) will be implemented.

b. Communications

The most striking aspect of the Saint Lucia information and communication technology (ICT) market is the rapid growth of mobile telephones. Competition to the incumbent Cable & Wireless was introduced in March 2003 when Digicel-an Irish-owned, pan-Caribbean mobile company-entered the market as the second operator. AT&T Wireless launched its operation a month later. Six months after the introduction of mobile competition, the telecom regulator reported 132'700 subscriptions, resulting in a penetration rate of 83 per cent of the population. An amazing result, considering that the number of mobile subscribers per 100 inhabitants stood at only nine in December 2002. Today, coverage is over 90 per cent of the population and there are now more mobile than fixed telephone subscribers. The intense competition has resulted in among the lowest mobile tariffs in the region. It is notable that mobile operators were allowed to provide their own international services. As a result, international call prices have dropped significantly.

The regional telecommunication regulator, the Eastern Caribbean Telecommunication Authority (ECTEL), has been instrumental in this transformation through licensing guidelines and negotiations with the incumbent operator to accelerate liberalization. The entry of multiple mobile operators in all of the ECTEL members-whose five members have a total population in the vicinity of half a million-refutes the historical argument that small market size is a barrier to competition.

Although Saint Lucia's entire telecommunication market is theoretically liberalized, competition has developed only in mobile and international services, and so far not spread to other market segments. One project that will help St. Lucia's transition to an information society is the Public Sector Reform Project, financed with external assistance. It has an ICT component that calls for enhancing e-government services. Saint Lucia already ranks high in e-government in the region with all ministries linked on a government network. The nation's tertiary institution, all secondary and almost all primary schools have Internet access through an educational network. It is envisioned that the future universal service policy would include provisions for providing broadband access to schools and other localities such as libraries and post offices.

The communications sector has witnessed steady growth in the St Lucian economy over the last two and half decades. There is growing recognition among government officials that Information and Communication Technology (ICT) can be an important tool for Saint Lucia's economic and social development. However there is still some distance to travel to formally

incorporate ICT into government policies, strategies, plans and institutional arrangements. While there is a Telecommunications Act, other guiding documents such as e-commerce legislation and ICT policy and strategy documents are lacking. The government is conscious of these limitations and various ICT related documents are under preparation. One shortcoming has been the lack of a coordinating agency within the government to drive the information society.

3.8.1 Concrete Actions

- Conduct of a National E-readiness Assessment in 2009. The assessment was structured to complement and build upon the nine focus areas that will feature in the National ICT Policy and Strategy, namely Agriculture, Community Development, Education and Human Resource Development, Government (including Justice and National Security), Health, Industry and ICT Sector (including Customs and Financial Services) Tourism, Legal and Regulatory Environment and Technical Infrastructure. The official results from the readiness assessment is yet to be published, however the initial results highlight a significant task ahead if Saint Lucia is to effectively and efficiently participate in the Global Information Society and digital economy.
- Conduct of an ICT Benchmarking Assessment (Saint Lucia National ICT Policy 2009-ICT Benchmarking Assessment) was also undertaken in 2009. The Assessment helped Saint Lucia determine its relative position in the global field with respect to selected ICT indicators.
- Establishment of an E-Government Unit which collaborates with other governmental ministries, non-governmental organizations, public and private sectors and industries in enabling ICT programs, policies, training, and employment. This Unit also manages the first National Information and Communications Technology Center (ICT).

4.0 FIVE YEARS AFTER MAURITIUS

The global crisis is having serious implications for Saint Lucia's small and vulnerable economy. There have been declines in banana prices, other exports, remittances, tourism revenues, foreign direct investment (FDI) and capital flows. These effects have resulted in shrinking fiscal revenues, increased demand for social safety nets and higher levels of unemployment. The Government has sought to manage the impact of the crisis, but its tight policy space and liquidity constraints make it difficult to deal with shocks of this magnitude. Saint Lucia however recognises that, over the longer term, steps have to be taken to improve its development prospects by adopting resilience building strategies and diversifying into new economic activities.

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 Saint Lucia, have demonstrated a relatively enviable socio-economic performance, compared with many continental or large developing countries.

However, 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 sectorally, along such lines as energy, agriculture, and health. Consequently, although government leaders and senior policy-makers 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 Saint Lucia's economic futures become disproportionately more tourism-focused, her vulnerability increases.

Achieving sustainable development entails particular attention by Saint Lucia 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.

The major shortcoming of past efforts and a critical challenge to sustainable development for Saint Lucia is finding adequate resources to undertake all that is required. Within the last five years, Saint Lucia'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, Saint Lucia needs 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 Saint Lucia's classification as middle income states, it does not now qualify for debt relief assistance and are increasingly being considered as ineligible for development aid.

Saint Lucia has demonstrated her commitment to sustainable development by utilising principally 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, Saint Lucia's 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.

There is no single overarching document to guide sustainable development in Saint Lucia. There are however sectoral plans which are developed through extensive consultations and supervised by inter-agency/inter-sectoral Steering Committees. *The lessons learned from Saint Lucia's experience in planning for and implementing development initiatives and interventions raises a fundamental question. Is a NSDS necessary especially for SIDS, which are deficit in human expertise and financial resources? Should the NSDS be replaced by a **PROCESS**, which allows for a coordinated set of participatory and continuously evolving processes of analysis, debate, decision-making, capacity development, planning, investment, monitoring, and evaluation?*

While Saint Lucia does not have a NSDS, it has formulated a National Environmental Policy (NEP) and National Environmental Management Strategy (NEMS). Both of these documents were approved by Cabinet. The NEP expressly embraces complements and establishes links with all relevant national, regional and international policy statements and agendas. The NEMS elaborates the strategies and actions that will give effect to the NEP. The NEP and NEMS are therefore excellent points of reference for environmental management in Saint Lucia. Unfortunately, the NEP and NEMS are being implemented in an ad-hoc fashion primarily as a result of heavy reliance on funding from external sources.

The NEP articulates the framework for environmental management in St. Lucia and provides for the mainstreaming of the environmental agenda into national development policies. As part of this process, the NEP recognizes the importance of enacting "integrated, efficient, and effective"²⁷ legislation. In this regard, the Government commits to *inter alia* support primary legislation with comprehensive subsidiary legislation (including legislative provisions for the conduct of environmental impact assessments) as well as to develop and adopt international standards. To this end the Government, with funding provided through the SFA2003, sought to draft environmental legislation and to formulate an appropriate institutional structure for environmental management in Saint Lucia.

An important outcome of the exercise was the establishment of the National Environmental Commission which is an inter-agency coordinating body responsible for providing policy guidance to the SD&ES. In terms of legislation, the draft environmental legislation is, unfortunately, not comprehensive enough and exists alongside various pieces of sectoral legislation scattered among various agencies. There are, for instance at least fifteen pieces of legislation of relevance to the UNCCD and twenty-five to the UNCBD. It is impossible for the draft environmental legislation to repeal all these other pieces of legislation and incorporate all UNCCD and UNCBD issues into a single piece of legislation.

This sectoral approach to legislation has resulted in *inter alia* overlapping responsibilities among agencies, confusion in respect of enforcement as well as gaps in the legislative framework. The SD&ES is the principal entity in the environmental management process. The draft environmental legislation provides it with the legislative provisions to coordinate and facilitate all activities in environmental management in the country. This has significantly increased the

²⁷ Branes, R, *Developing Environmental Legislation and Applying it Effectively in the Countries of Latin America and the Caribbean*, 1991, Mexico: UNEP/ROLAC, p 123.

SD&ES' "weight" in the national decision making process; it does not however have the ability to enforce its decisions.

The scenario described above is not unique to Saint Lucia but is prevalent throughout the Caribbean and other SIDS regions. The question then is whether the difficulties experienced in formulating a single comprehensive framework for sustainable development or environmental management is a result of some of the peculiarities of a SIDS. Consequently, the aim should be to develop appropriate modalities for coordination, facilitation, monitoring and evaluation, and information sharing, rather than channeling limited resources into a planning framework.

Two decades after the Rio Declaration, the distinction between sustainable development and environmental management still remains blur. When the SD&ES undertook to champion the formulation of the NSDS, the Ministries of Finance and Economic Development felt that an environmental agency which did not have any mandate to coordinate planning in the country was actually meandering into their turf. Yet, all matters of sustainable development are considered to be the purview of the SD&ES.

There is now a school of thought in Saint Lucia which has been exploring the feasibility of a regional sustainable development plan at the level of the OECS. Member states of the OECS are getting ready to sign a new Economic Union Treaty on December 29th, 2009. A Regional Sustainable Development Strategy will ensure coherence across a number of development imperatives and provide the necessary instrument for monitoring development in the participating Member States.

The presentation and discussion in Section 3 of this Report point to the considerable amount of work that Saint Lucia has undertaken. Unfortunately, with a few exceptions – tourism, communication and transport- much of this work has been undertaken with external sources of funding. The initiatives are therefore projectised and very seldom proceed beyond the life of the project. Most of the interventions are also "soft" in nature, i.e. assessments and reviews; drafting of policies and legislation; designing institutional frameworks and such like. Funding for capital intensive intervention – establishing, for instance, wind farms and other renewable energy technologies - are not forthcoming. Compounding this is that sustainable development initiatives are considered to be environmental initiatives, and there is an unstated assumption among those who are responsible for keeping the national accounts that environmental initiatives ought to be supported with external funding.

While having to deal with these issues, Saint Lucia is also cognizant that the Caribbean region will be disproportionately affected by climate change because of its location and greater dependence on sectors such as tourism and agriculture that are highly vulnerable to climate change. The Intergovernmental Panel on Climate Change (IPCC) has categorized the region as a global —hot spot. They also warn that the risks are particularly high for SIDS. The irony is that Saint Lucia is a victim rather than a source of the problem. Yet Saint Lucia is ranked in the top 40 countries experiencing extreme weather impacts.

At least 60% of Saint Lucia's population resides within 2 kilometers of the coast. The projected gradual sea-level rise compounds the threat of climatic induced weather events with the threat of inundation. Some of the coastal communities are already reporting serious coastal erosion. Coral bleaching, climate change impact on fisheries and ocean acidification are threats that will

undermine food security and livelihood in Saint Lucia. These climate change vulnerabilities are further exacerbated by macro economic weaknesses. Developing adaptation strategies, with appropriate types of technologies, and which are relevant to all levels of the citizenry is no longer an option but a necessity. If Saint Lucia fails to adapt, it is likely to take direct and substantial economic hits to its most important industry sectors such as tourism, which depends on the attractiveness of its natural coastal environments, and agriculture (including fisheries). Both these sectors are highly climate sensitive sectors.

Intrinsic and systemic disadvantages impact on sustainable development and environment protection in Saint Lucia. The country has very little or no access to the means to adapt to climate change which places an enormous burden on its limited human and financial resources. The Government has had to divert precious budgetary resources to address damage caused by increases in extreme events.

Capacity building, access to appropriate technology, and means of implementation must feature prominently in the discussions with the International Community. The speedy development of renewable energy resources, the implementation of energy efficiency practices, and appropriate adaptation strategies are particularly relevant to Saint Lucia. The International Community needs to open up the various financing instruments that have been agreed to but which have been slow in maturing.

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