



# GREEN economy

Scoping Study



# Saint Lucia





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# Saint Lucia

## Green Economy Scoping Study





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## 2. LIST OF ACRONYMS

<b>ACP</b>	African, Caribbean and Pacific Group of States
<b>ALMPs</b>	Active Labour Market Policies
<b>BGCI</b>	Botanic Gardens Conservation International
<b>BMC</b>	Borrowing Member Country
<b>BPOA</b>	Barbados Programme of Action
<b>CAMMA</b>	Canaries Anse-la-Raye Marine Management Area
<b>CANARI</b>	Caribbean Natural Resources Institute
<b>CARICOM</b>	Caribbean Community
<b>CARIFORUM</b>	Forum of the Caribbean Group of African, Caribbean and Pacific (ACP) States
<b>CARIRI</b>	Caribbean Industrial Research Institute
<b>CCA</b>	Carrying Capacity Assessments
<b>CCIC</b>	Caribbean Climate Innovation Center
<b>CDB</b>	Caribbean Development Bank
<b>CEO</b>	Chief Executive Officer
<b>CFL</b>	Compact Fluorescent Light Bulbs
<b>CGI</b>	Clinton Global Initiative
<b>CIF</b>	Climate Investment Fund
<b>CITES</b>	Convention on International Trade in Endangered Species
<b>COTED</b>	Council for Trade and Economic Development
<b>CreW</b>	Caribbean Regional Fund for Wastewater Management
<b>CUBiC</b>	Caribbean Uniform Building Code
<b>DCA</b>	Development Control Authority
<b>E&amp;S</b>	Environmental and Social
<b>EC</b>	European Community
<b>ECCU</b>	Eastern Caribbean Currency Union
<b>EE</b>	Energy Efficiency
<b>EIA</b>	Environmental Impact Assessment
<b>EPA</b>	Economic Partnership Agreement
<b>ESA</b>	Electricity Supply Act
<b>ESS</b>	Electricity Supply Services
<b>ESTU</b>	Energy, Science and Technology Unit
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FDI</b>	Foreign Direct Investment
<b>FFI</b>	Fauna & Flora International
<b>GAP</b>	Good Agricultural Practices
<b>GATT</b>	General Agreement on Tariffs and Trade
<b>GCC</b>	European Union Global Climate Change Alliance
<b>GCF</b>	Green Climate Fund

<b>GDP</b>	Gross Domestic Product
<b>GE</b>	Green Economy
<b>GEF</b>	Global Environment Facility
<b>GESC</b>	Green Economy Steering Committee
<b>GESSL</b>	Green Economy Scoping Study of St Lucia
<b>GIS</b>	Geographic Information System
<b>GIWA</b>	Global International Waters Assessment
<b>GNI</b>	Gross National Income
<b>GOSL</b>	Government of Saint Lucia
<b>ICDF</b>	Taiwan International Cooperation and Development Fund
<b>ICZM</b>	Integrated Coastal Zone Management
<b>IPP</b>	Independent Power Producer
<b>IRENA</b>	International Renewable Energy Agency
<b>ISL</b>	Invest Saint Lucia
<b>IWRM</b>	Integrated Water Resources Management
<b>KAP</b>	Knowledge Attitude Practices
<b>LBS</b>	Land-Based Sources and Activities
<b>LED</b>	Light Emitting Diode
<b>LEED</b>	Leadership in Energy & Environmental Design
<b>LUCELEC</b>	St Lucia Electricity Services Limited
<b>MAFPFCRD</b>	Ministry of Agriculture, Food Production, Fisheries, Co-operatives and Rural Development
<b>MARPOL 1973/78</b>	Protocol of 1973 to the International Convention for the Prevention of Pollution from Ships, as Amended
<b>MEAs</b>	Multilateral Environmental Agreements
<b>MPDHUR</b>	Ministry of Physical Development, Housing and Urban Renewal
<b>MSI</b>	Mauritius Strategy for the further Implementation of the BPOA
<b>MTDSP</b>	Saint Lucia Medium-Term Development Strategic Plan
<b>NAMAs</b>	National Appropriate Mitigation Actions
<b>NEDF2</b>	The Second National Environment and Development Forum
<b>NEP</b>	National Energy Policy
<b>NURC</b>	National Utilities Regulatory Commission
<b>NGO</b>	Non-Governmental Organization
<b>OECS</b>	Organization of Eastern Caribbean States
<b>OPRC</b>	Oil Pollution Preparedness, Response and Co-operation
<b>PMA</b>	Pitons Management Area
<b>POP</b>	Persistent Organic Pollutant
<b>PPP</b>	Public Private Partnership
<b>PROUD</b>	Project for the Rationalization of Unplanned Development
<b>PV</b>	Photovoltaic
<b>RAMSAR</b>	Convention on Wetlands of International Importance especially as Waterfowl Habitats
<b>RE</b>	renewable energy

<b>REDD</b>	Reducing Emissions from Deforestation and Forest Degradation
<b>SAMOA</b>	SIDS Accelerated Modalities Of Action
<b>SEA</b>	Strategic Environmental Assessments
<b>SIA</b>	Social Impact Assessment
<b>SIDS</b>	Small Island Developing States
<b>SLHTA</b>	Saint Lucia Hotel and Tourism Association
<b>SLL</b>	Saint Lucia Linen Services Ltd
<b>SLNT</b>	Saint Lucia National Trust
<b>SLSPP</b>	Saint Lucia Social Protection Policy
<b>SLSWMA</b>	Saint Lucia Solid Waste Management Authority
<b>SMA</b>	Saint Lucia Manufacturers' Association
<b>SMMA</b>	Soufrière Marine Management Area
<b>SPA</b>	System of Protected Areas
<b>SRDF</b>	Soufrière Regional Development Foundation
<b>TBL</b>	Triple Bottom Line
<b>TEEB</b>	The Economics of Ecosystems and Biodiversity
<b>TSAP</b>	Tourism Strategy and Action Plan
<b>TVC</b>	Tourism Value Chain
<b>UK</b>	United Kingdom
<b>UNDPCC</b>	United Nations Development Programme Climate Community
<b>UNEP</b>	United Nations Environment Programme
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UWI</b>	University of the West Indies
<b>UWIC</b>	UWI Consulting
<b>VAT</b>	Value Added Tax
<b>WASCO</b>	Water and Sewerage Company
<b>XCD</b>	East Caribbean Dollars

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## 4. FOREWORD

Saint Lucia, like many Small Island Developing States, is disproportionately vulnerable to the impacts of climate change, in particular weather and ocean patterns. The future well-being of Saint Lucia and its peer nations therefore depends on our ability to deliver the 17 goals of the 2030 Agenda for Sustainable Development and the inclusive green economy that underpins it. This study identifies key sectors and actions that could help Saint Lucia make that transition, charting a path that would strengthen its environmental and economic resilience.

Saint Lucia is one of several Caribbean nations working with UNEP and the European Commission to embrace the green economy, with the research and planning already carried out by government, private sector, civil society and academic leaders providing the basis of this report. It couples an in-depth analysis of Saint Lucia's agriculture and tourism sectors with a more general review of manufacturing, transport and construction, integrating the key elements of energy, water and waste throughout.

In addition, the report outlines many recommendations to help nurture Saint Lucia's green economy. This includes suggestions for the review and update of fiscal policies, such as reducing or removing fossil fuel subsidies, and the adoption of green public procurement, which would use existing public expenditures to boost sustainable practices in everything from infrastructure to office stationary.

I am delighted that Saint Lucia is already using some of the ideas in this report to inform policy frameworks and national planning, as with the Social Protection Policy published in January 2015 and the forthcoming National Sustainable Development Plan. I hope that it will be equally useful to public and private sectors leaders from a wide range of countries and regions, but especially the small island developing states, who can draw on Saint Lucia's experience in shaping their own contribution to the Agenda 2030 and the green economy.

Achim Steiner

United Nations Under-Secretary-General  
and Executive Director of UNEP



# FOREWORD

The Government of Saint Lucia is committed to building an inclusive green economy. At the heart of this commitment is our shared belief that wealth creation and economic stability can, and indeed, must proceed hand-in-hand with reducing environmental impacts, improving ecosystem health, and reducing social inequality.

In 2012, Saint Lucia was among three pilot countries, including Jamaica and Haiti, that were selected under the European Commission-supported regional project entitled “Advancing Caribbean States’ Sustainable Development through Green Economy (ACSSD-GE)”. The Government of Saint Lucia is grateful for having had the opportunity to participate in this globally important project.

As part of our regional participation in the project we hosted the 2013 Caribbean Green Economy Conference. At the national level, this project has resulted in the production of this Green Economy Scoping Study. This study examines key levers for greening the economy. It attempts to demonstrate how a green economy may be transitioned through strategic changes in the areas of energy, water, waste and in the agriculture, tourism, construction and manufacturing sectors.

The process of creating this Green Economy Scoping Study has already contributed to a greener future for Saint Lucia. Green economy ideas have been integrated into the draft National Sustainable Development Policy and National Social Protection Policy, as well as the development of the National Energy Transition Strategy.

This Green Economy Scoping Study comes at an opportune time. Following the successful Paris Agreement, coming out of the UNFCCC 21st Conference of Parties (COP-21), and the 2030 Agenda for global development enshrined in the Sustainable Development Goals (SDGs), Saint Lucians and all global citizens are challenged to use their natural resources better and more sustainably. This is also a time of great opportunity for greening the Saint Lucian economy. Our work in the development of our geothermal, wind and solar energy resources and our efforts at increasing energy efficiency are catalyzing the positive transformation of our national economy.

We are grateful for the support of our partners in this project and for the assistance of all those who have contributed to this study. We have benefitted greatly from the experience and resources brought by our collaborators at the United Nations Environment Programme and the University of the West Indies Consulting. The perspectives, knowledge and passion brought by the many groups and individuals that helped to inform this study were vital to its production. I offer my heartfelt thanks to all who participated in this important national exercise.

We will use this Scoping Study as a starting point to inform future policies and actions, and hope that other sectors will also use it as a guide, ultimately leading to more sustainable use of our natural resources, decent jobs, and improved climate resilience.

James Fletcher

Minister for Public Service, Sustainable Development, Energy, Science and Technology

## 5. GENERAL KEY MESSAGES

1. **A green economy transition represents a unique opportunity to promote prolonged economic growth**, boost employment and protect the environment while enhancing Saint Lucia's resilience in the face of threats posed by climate change and other environmental hazards.
2. **Green economy transition has the potential to act as a catalyst for the transformation of traditional sectors and accelerate the development of new economic activities.** As a Small Island Developing State, Saint Lucia is highly dependent on costly fossil fuel imports for transport and electricity and has a very limited human, natural and institutional resource base which results in diseconomies of scale where firms incur increasing marginal costs when output is increased, and limits economic competitiveness. Greening, or the process of transitioning to a green economy, presents an opportunity to overcome such challenges through, inter alia, enhancing energy, water and waste efficiency and the use of technology and skill transfer to minimize the adverse effects of economic activities on the natural resource base.
3. **An enabling policy and regulatory framework that encourages and facilitates partnership with the private sector is a necessary component of a green economy transition.** This should not be limited to policies that prohibit environmentally harmful practices but should also include mechanisms that allow for capacity building, institutional strengthening and cooperation within and between the private and public sectors.
4. **A green economy transition can significantly reduce the cost of doing business in Saint Lucia** and increase the competitiveness of local enterprises. This is particularly the case in sectors in which Saint Lucia has a competitive advantage. In this context identifying and mainstreaming green investments is an essential component of public engagement and can help to leverage private investment.
5. **Private and public sector investment have a significant role to play** in promoting the preservation of biodiversity and in enhancing conservation efforts particularly through the introduction of internationally benchmarked best practices and technologies. There is considerable scope for both private and public sectors to introduce environmentally benign, socially inclusive, economic activities and engage in the reform and/or redesign of ecologically harmful practices that currently exist.
6. **Greening of the agricultural sector has already begun in Saint Lucia.** Programmes are already underway that aim to increase agricultural yields through improved farming practices and appropriate technologies while using fewer natural resources through enhanced levels of efficiency. The acquisition of water and energy efficient technologies is also a critical component of lowering costs and reducing the environmental footprint/impact of economic activities in both the agricultural and fisheries sectors.
7. **Green tourism must be acknowledged and mainstreamed by the Government of Saint Lucia as a crucial part of its drive towards**

**sustainability.** The benefits of greening tourism include enhancing visitor experience, adding value to local businesses, supporting biodiversity and reducing the negative impact on the environment. The overall focus should therefore be on establishing an appropriate and supportive policy framework aimed at creating a Saint Lucian tourism product that is internationally recognized as being economically viable, environmentally sustainable and socially inclusive.

8. **Research and policy instruments that are underpinned by principles related to 'The Economics of Ecosystems and Biodiversity (TEEB)'** can serve to inform and facilitate the sustainable use of natural capital. Policymaking should be based on sound quantitative and qualitative analysis and should include the stakeholders affected. Scientific tools

and methods, including TEEB-based analysis and Social and Environmental Impact Assessments, can indeed support policy design and business strategy. Well-informed use of natural resources and critical ecosystems, supported by scientific research and analysis, can serve to boost conservation efforts while enhancing the sustainable use of local materials for social and economic activities.

9. **Clear policy support and institutional strengthening are necessary to facilitate a green economy transition.** There will also be a need for retooling and retraining within both the construction and manufacturing sectors, specifically in relation to installing and utilizing green technologies and techniques. In this regard, it should be noted that institutional capacity building will be a key factor to drive sector-wide behavioural change.

## 6. INTRODUCTION

This study identifies key challenges, opportunities, benefits and imperative investments as well as the enabling conditions necessary to facilitate the greening of important economic activities in Saint Lucia. For the purposes of this report, definitions of a green economy put forward by the United Nations Environment Programme (UNEP) and the Caribbean Natural Resources Institute (CANARI) will serve as the contextual basis for this study (see Box 1). In this regard, this study will show that in order for a green economy transition to occur, budgetary processes and allocations need to prioritize expenditure on activities and projects that are environmentally sustainable, economically viable and socially inclusive. This report also illustrates the importance of policy and regulatory reforms, investment facilitation and positively influencing industry practices and standards in advancing a green economy transition. However, none of the aforementioned elements can be realized as part of such a transition without political leadership and the will to effect change.

This scoping study belongs to a larger regional initiative, the Caribbean Green Economy Initiative, and it has been undertaken under the Advancing Caribbean States' Sustainable Development Through

### Box 1: Defining the green economy

The United Nations Environment Programme (UNEP) defines a green economy as one “that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (United Nations Environment Programme 2011).

According to the Caribbean Natural Resources Institute, “a Green Economy in the Caribbean context aims for long-term prosperity through equitable distribution of economic benefits and effective management of ecological resources; it is economically viable and resilient, self-directed, self-reliant, and pro-poor.” (Caribbean Natural Resources Institute 2012, Leotaud 2015)

Green Economy (ACSSD-GE) project that comprises similar stocktaking for Jamaica and Haiti. The project includes other components such as capacity building at the University of the West Indies as a regional centre of excellence in green economy, training and the formation of national multi-stakeholder green economy knowledge and networking platforms for each participating country. It should also be noted that this initiative seeks to implement a concept note that was endorsed by the Thirty-Seventh Special Meeting of the Council for Trade and Economic Development (COTED) of the Caribbean Community (CARICOM) on Environment and Sustainable Development<sup>1</sup>.

### 6.1 METHODOLOGY

The preparation of the GESSSL was undertaken through analysis of key economic data as well as by conducting interviews with relevant people from the public and private sector in order to gain an insight into the current state of key sectors and the requirements necessary for greening these areas of economic activity.

A significant proportion of data was accumulated by reviewing and extracting data from secondary sources including publicly available documents from websites, publications from the Government of Saint Lucia (GOSL), newspaper articles, journals and reports. In addition, as mentioned earlier, some primary data was collected through semi-structured interviews with relevant stakeholders including Government Officers (Permanent Secretaries, Department Heads and other Senior Public Officers), NGOs and private sector representatives (Appendix I). It should also be noted that a national consultation on the green economy was held in Saint Lucia on 29 April 2014 jointly hosted by the Ministry of Sustainable Development, Energy, Science and Technology (MSDEST)

and UNEP in order to facilitate interaction with relevant stakeholders.

Ultimately, this study explores different policy measures and mechanisms as catalysts for accelerating green economic development in Saint Lucia. To this end, this report features in-depth analysis of tourism and agriculture via the work of two sectoral experts. In addition, it contains valuable insights which are relevant for the construction and manufacturing sectors. Moreover, water, energy and waste are addressed as cross-cutting themes that are important in shaping greening activities across different sectors in Saint Lucia. A sectoral approach was adopted so that specific economic activities and opportunities for greening could be highlighted.

This report is organized as follows: a general introduction to the Saint Lucian economy is given in section 7, which seeks to outline the benefits that can be derived from greening. In section 8 energy efficiency, water and waste management are examined as cross-cutting themes that affect economic activity across a variety of sectors. Sections 9 and 10 feature in-depth analyses of agriculture and tourism along with a case study on the latter. Section 11 reviews issues affecting a green economy transition with respect to construction and manufacturing. To conclude this study, section 12 pulls together the key findings by highlighting policy and investment imperatives that need to be addressed in order to advance the transition towards a green economy in Saint Lucia.

## 7. SAINT LUCIA: THE BACKDROP AND CONTEXT FOR A GREEN ECONOMY TRANSITION

**“Economic transformation should not be at the expense of the environment and its sustainability.”**

*Source: Saint Lucia Medium Term Development Strategic Plan (MTDSP): 2012-2016. Sectoral Action Plan. Final Draft*

Small Island Developing States (SIDS) typically have very limited human, natural and institutional resource bases. Economic growth in such nations is therefore considerably inhibited by diseconomies of scale and by a limited capacity to produce sufficient goods and services to satisfy local demand. Thus, SIDS find themselves in a position where they are “dependent upon narrow bases and on international trade, without having the means to influence that trade”<sup>2</sup>. The single island state of Saint Lucia is no different. Encompassing just 616 km<sup>2</sup> and home to approximately 170,745 people in 2013<sup>3</sup>, Saint Lucia is listed as a less developed member of the Caribbean Community (CARICOM).

Nevertheless, Saint Lucia is classified by the World Bank as an upper middle income country<sup>4</sup> and is also reported to have become the most economically developed member of the Eastern Caribbean Currency Union (ECCU)<sup>5</sup>. In 2012, Gross National Income (GNI) per capita stood at \$11,300<sup>6</sup> although the annual growth rate of Gross Domestic Product (GDP) per capita has slowed in recent times (see Figure 1 and Figure 2). There are other noteworthy considerations that are germane to this study. Firstly, the annual rate of inflation in Saint Lucia, which has in the past been relatively low when compared to other CARICOM nations, was not as negatively affected after the introduction of Value Added Tax (VAT) in October 2012 partially on account of lower international prices.

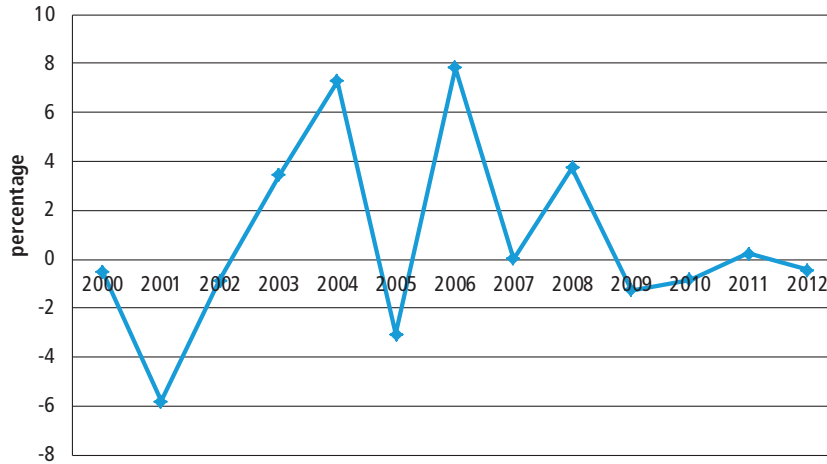
Specifically, the annual rate of inflation fell from 4.2 per cent at the end of 2012 to 1.5 per cent by year-end 2013. Nevertheless, VAT did lead to inflationary price increases for certain consumer goods during the same period. These included food, alcoholic and non-alcoholic beverages, household furnishings and equipment, communications, and health products<sup>7</sup>.

Secondly, the island has a relatively high rate of unemployment, which was reported at 20.6 per cent in 2010<sup>8</sup>. To add to this, “in the most recent Country Poverty Assessment (CPA) for Saint Lucia, conducted in 2005, 28.8 per cent of the population was found to be poor, up from 25.1 per cent in 1995”<sup>9</sup>. Notwithstanding this, 94 per cent of the population have access to improved or treated water sources, though only 65 per cent have access to improved sanitation facilities<sup>10</sup>. Thirdly, the official public debt increased to 73.6 per cent at the end of 2013, compared with 72.1 per cent one year earlier<sup>11</sup>.

A particularly crucial factor to the economic performance of Saint Lucia has been the evolution of the tourism sector. As a land of rich biological and geographical diversity, Saint Lucia is a well-known tourism destination. It may be useful to note that in 2012, it was reported that 2.5 per cent of the total territorial area of Saint Lucia was regarded as protected areas<sup>12</sup>.

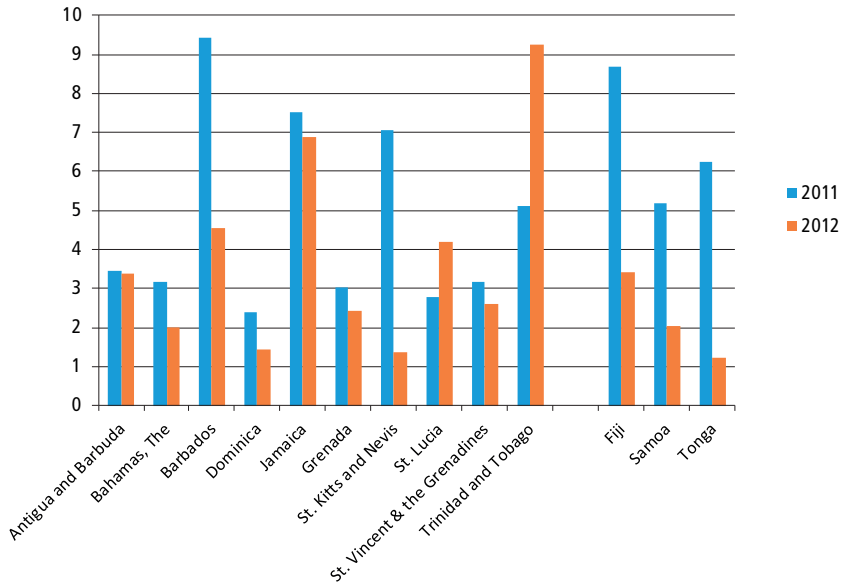
In recent years therefore, tourism has contributed significantly to the island’s Gross Domestic Product with hotels and restaurants (a proxy often used to represent the contribution of tourism) accounting for approximately 10 per cent of GDP in the recent past (see Figure 3). Furthermore,

**Figure 1: Annual percentage growth in GDP per capita in Saint Lucia**



Source: World Development Indicators, World Bank, 2013

**Figure 2: Annual percentage inflation in selected SIDS**



Source: World Development Indicators, World Bank, 2013

tourism is the country’s primary means of earning foreign exchange.

Besides tourism, important contributions to Saint Lucia’s GDP are made by the domestic real estate and construction sectors (see Figure 3). These were increased as a result of government incentives for the construction and real estate industries, geared towards meeting the need for additional accommodation capacity on the

island to cater to the 2007 Cricket World Cup, which was held across the West Indies in that year.

It should also be noted that agriculture was the single most important economic activity on the island for a considerable period of time, centred around banana production. Near the end of the twentieth century (1990 – 2000), the agricultural sector accounted for an “average of 50 per



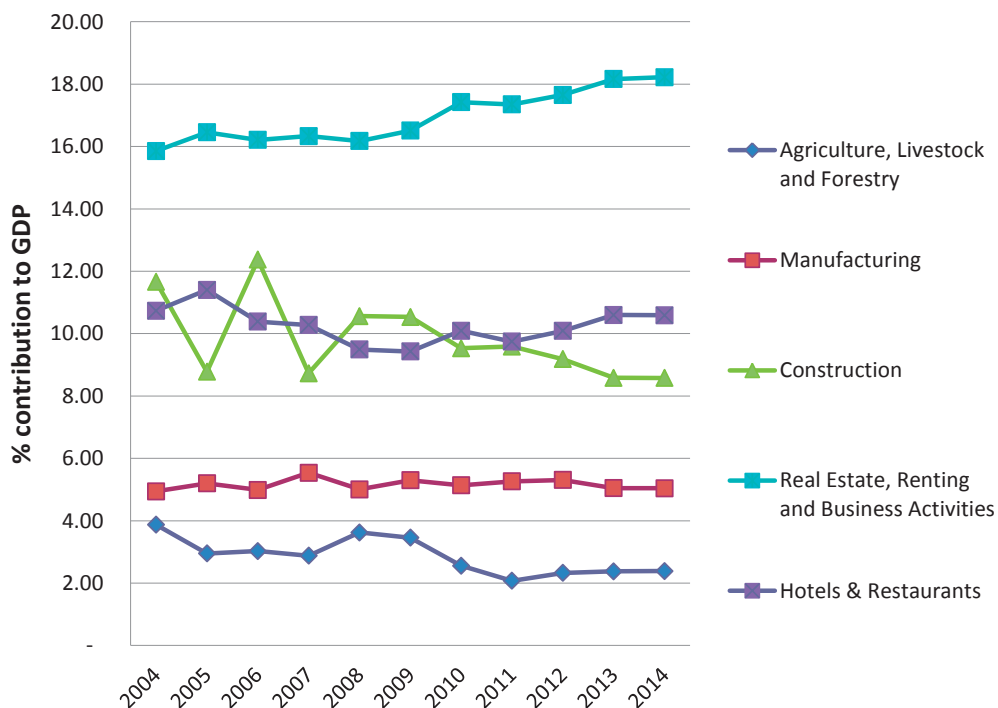
cent of merchandise exports, approximately one quarter of the labour force and more than 11 per cent of GDP”<sup>13</sup>. The export of agricultural goods was largely facilitated by preferential treatment of Caribbean bananas being exported to the EU, due to the ACP-EC Partnership Agreement signed on 23 June 2000 in Cotonou, Benin. The nature of this preferential treatment changed due to legal action against the World Trade Organization by the United States, who claimed that the sale of bananas to within the Africa, Caribbean and Pacific (ACP) region on preferential terms contravened the Most Favoured Nation Clause of the General Agreement on Tariffs and Trade (GATT). Although the legal action never fully interrupted the preferences, it caused them to decline. In addition, the EC has been moving towards greater liberalization of its banana market, which has further contributed to the decline of the Saint Lucia banana preferences. Consequently, the contribution of agriculture to the real GDP of Saint Lucia

declined considerably, to less than 3 per cent (see Figure 3).

Stimulating new areas of economic activity can be viewed as a development imperative. In this regard, the green economy paradigm can serve as a useful platform for, inter alia, transforming the existing energy base and providing incentives for investment, particularly in environmentally friendly goods and services.

In terms of social inclusion, it should be noted that the Saint Lucia Social Protection Policy (SLSP), published in January 2015, aims inter alia to alleviate “economic, social and environmental deprivation, including relief of chronic and extreme poverty” while also tackling social exclusion and equity<sup>14</sup>. Addressing the inextricable linkage between human and economic development is a vital component of advancing the green economy. One important example of this joint thrust relates to mitigating or managing labour displacement that can occur from

**Figure 3: Contribution of selected sectors to GDP of Saint Lucia**



Source: Eastern Caribbean Central Bank, 2014

technological advances or efficiency improvements to business processes. In this regard, the aforementioned policy also intends to enhance “human capital, real income, capabilities and assets...while avoiding damage to the existing natural capital in order to facilitate the transition towards a Green Economy”<sup>15</sup>.

## 7.1 THE CASE FOR A GREEN ECONOMY TRANSITION IN SAINT LUCIA

UNEP defines a green economy as one that results in increased human well-being and social equity, while considerably reducing environmental risks and ecological scarcities (United Nations Environment Programme 2011). The concept of the green economy therefore provides an overarching framework for the analysis and assessment of economic activities across all sectors within the context of environmental sustainability, economic resilience and social inclusiveness. The global thrust towards green economies can therefore be understood as an important component in achieving sustainable development. This section gives a brief justification for a transition to a green economy in Saint Lucia. Following this, current and prospective challenges and opportunities are reviewed and key considerations, particularly as they relate to necessary policy interventions, are outlined.

## 7.2 CURRENT UNDERSTANDING OF THE TERM ‘GREEN ECONOMY’ IN SAINT LUCIA

From the interviews conducted in the course of this research, one could conclude that the concept of a green economy seems to be well understood by some officials and technocrats across a wide range of government agencies. However, most stakeholders from the private sector as well as from civil society have, at most, a cursory understanding of it. The same can be said of a significant portion of the Saint Lucian populace.

A capacity assessment for the green economy that was conducted in November 2014 in Saint Lucia confirmed the notion that there was a lack of understanding of what the term means. The Knowledge, Attitudes and Practices (KAP) Survey confirmed that more than 50 per cent of the people that were involved in the exercise could be “classified as having low levels of knowledge on issues related to the green economy” while “62 per cent of respondents indicated that they had only [a] fair knowledge of green economy issues”. In this regard, more than 45 per cent of people who participated in the survey indicated that they thought the green economy was meant to replace the concept or term ‘sustainable development’. Furthermore, “over 85 per cent of



Morgan Pier Restaurant at the St. James Resort.  
Photo by Emily Kraft

participants were not aware of the linkages between the green economy and other sectors of society – particularly economic and social [aspects] – and were more inclined to link the green economy with the environmental sector”<sup>16</sup>.

Although several people may have heard terms like ‘going green’ and understand the implications to some degree, most of those surveyed were either highly educated private enterprise owners or people that represented stakeholders at consultations, workshops or presentations on the issue. Moreover, there is varied understanding of what the term ‘green economy’ means. Many people tend to define the term along the lines of or consider it an alternative to sustainable development. People associate the term ‘green economy’ with a specific focus on environmental activities rather than on economic activities or investments in infrastructure, technologies or services that support environmental sustainability, economic growth and human well-being.

This should not be interpreted to mean that ‘green’ investments are absent in the local economy or that green technologies and principles have not been embraced by local government and private business. On the contrary, in the absence of a comprehensive green economy policy or vision, both government and private sector players have made significant investments in green technologies or have taken steps to assimilate green principles and technologies into their operations. In this regard, the focus has largely been on renewable energy (RE) and energy efficiency (EE) due primarily to the high cost of energy on the island, which accounts for a high proportion of operational expenditure.

### 7.3 TOWARDS A GREEN ECONOMY TRANSITION IN SAINT LUCIA

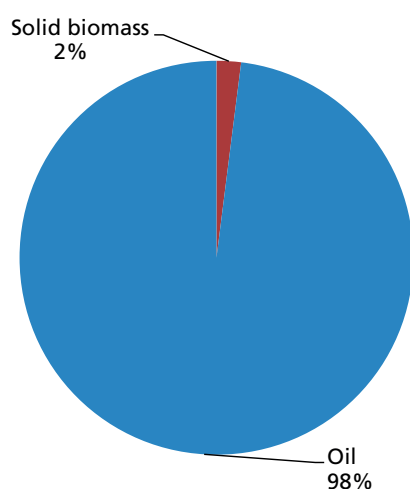
A transition to a green economy in Saint Lucia should take economic and ecological imperatives into account, particularly the economic value of ecosystems and

biodiversity (TEEB). Greening the energy sector is another important component of a green economy transition. Reducing the country’s reliance on fossil fuels and increasing the use of renewable energy sources would result in considerable foreign exchange savings and would also steer the island state towards a greater degree of energy independence. In fact, it could be argued that the threat of climate change and the dependence of Saint Lucia on fossil fuels both act as natural incentives that can serve to underscore the need for greener economic development. Not only can resources saved from substituting energy imports be redirected to health, education and other human development needs, but the introduction of cleaner technologies accompanied by reduced environmentally invasive practices can also contribute to reduced environmental degradation which, by extension, lends itself to healthier ecosystems and lifestyles.

Though they produce relatively low levels of carbon emission, SIDS like Saint Lucia are significantly affected by the impact of climate change. Thus, they may be forced to channel a considerable share of their resources into adapting to environmental changes, improving domestic efficiencies and safeguarding biodiversity<sup>17</sup>. Green economic activities, particularly those geared towards conservation (especially as it relates to safeguarding biodiversity) and increasing the engagement of the private and public sector in environmental protection, can therefore serve to increase the adaptive capacity and resilience of the island to climate change. This is particularly important as Saint Lucia is heavily reliant on imported fossil fuels for power production and transport. In 2009, renewable energy accounted for just 1.8 per cent of total primary energy supply (see Figure 4). Power production on the island is entirely based on fossil fuels. As a result, US\$145 million was spent in 2009 on oil imports, which accounted for 25.9 per cent of the country’s total import bill<sup>18</sup>. It might also be useful to note that Saint Lucia is party to the PetroCaribe Agreement created and

initiated by the Government of Venezuela, under which member countries can access petroleum under a deferred payment scheme. Depending on how it manages its payments under this agreement, Saint Lucia's dependence on fossil fuels may not only have profoundly adverse effects on the country's import bill but also on its accumulation of debt, which is already high, as mentioned above.

**Figure 4: Total primary energy supply in Saint Lucia (2009)**



Source: International Renewable Energy Agency 2014

### 7.3.1 Specific benefits and applicability to SIDS and Saint Lucia

The thrust towards a green economy within Saint Lucia was endorsed and formally initiated at the Second National Environment and Development Forum (NEDF2) which was held on Thursday, 9 June 2011 as a part of World Environment Day activities. The event was held to commence the process of developing a "national position on [the] green economy" as well as to "determine how the green economy can be used to promote green jobs and improve the overall output of businesses"<sup>19</sup>.

The applicability of the concept of the green economy to all SIDS was expounded upon within the Barbados Green Economy Synthesis Scoping Study<sup>20</sup>. Yet beyond the work undertaken within that study,

the steps required to enable such a transition have been identified as being complementary to the framework of the Barbados Programme of Action (BPOA) and the Follow-Up Mauritius Strategy for the further Implementation (MSI) of the BPOA. Indeed, it has been highlighted that many priority areas for action, including energy and tourism sectors, waste management and coastal and marine resources, straddle both agendas (i.e. the green economy and the BPOA) as part of an overall thrust to push SIDS towards sustainable development<sup>21</sup>. Moreover, the SIDS Accelerated Modalities of Action (S.A.M.O.A) pathway – which is the outcome document emanating from the Third International Small Island Developing States (SIDS) Conference, held 1-4 September 2014 in Apia, Samoa, endorsed the green economy as an important tool for achieving sustainable development and poverty reduction, and calls on the United Nations system to strengthen its support of SIDS that wish to develop and implement green economy policies.

The benefits of a greener economy apply to a number of different sectors including construction, manufacturing, agriculture and tourism. As an example, the greening of construction is likely to entail improved resource efficiency and enhanced environmental management practices that encompass the entire life cycle of structures being established: from site selection, to the design of the building, selection of building materials to the decommissioning or repurposing of buildings. Similarly, as relates to manufacturing, green investment should trigger innovations that make or redesign production processes and/or the final product to be more efficient (requiring less throughput to produce more or the same amount) or less harmful to the natural environment. Yet, in practice, if industry norms are to be reformed, intra-sectoral linkages need to be engaged and supported. In the case of the construction sector, for example, greening would involve engaging, inter alia, architects, civil engineers, quantity surveyors, land surveyors and town and country planners as well as plumbers,



masons and others with vocational and technical skills. Overall, greening usually involves the adoption of a “whole-of-sector” approach, through which industry standards can be reformed according to internationally benchmarked best practices and sectoral linkages can be strengthened in order to optimize resource efficiencies.

Furthermore, a transition to a green economy must be socially inclusive. For instance, green economic reforms not only seek to reduce the environmental impact of agriculture and tourism, but also aim to ensure that such industries become more socially inclusive. Job creation and skill transfer are therefore quintessential elements of green economic growth. Related to the issue of employment is that of community involvement. This is not merely limited to providing jobs for residents of a community where an economic venture is being undertaken (as is a common concern in the construction industry), but it also relates to the ability of community-based enterprises (including cooperatives) to invest in social and economic activities that can contribute to greening the economy. Furthermore, social inclusion also relates to the need for widespread public engagement and consultation. In addition to this, the importance of Active Labour Market Policies (ALMPs) that are well administered and actively provide skills training, job search assistance, access to microfinance and business development services to poor and vulnerable communities, as articulated in the SLSP, cannot be overstated. Hence, the process of ‘greening’, whether of a single industry or an entire economy, must be based on consensus-building, public education and broad-based stakeholder involvement and geared towards poverty alleviation.

In light of the above it should be noted that the ‘greening’ of the Saint Lucian economy also directly complements the country’s National Vision Plan and relevant national policies such as the National Environment Policy, Climate Change Adaptation Policy, Land Policy and Energy

Policy. In particular, the National Vision Plan mentions the need for mechanisms to promote sustainable development through conserving biodiversity and encouraging sustainable land use, both of which can also serve to develop the local ecotourism industry. It also acknowledges the need to strengthen various sectors and ensure that investment is spread across the country, so as to deter worsening rural-urban migration. Additionally, in 1992, the Saint Lucia National Trust (SLNT) developed a plan for a System of Protected Areas (SPA) for Saint Lucia which aims, amongst other things, to protect natural habitats and local heritage and maintain the quality of critical ecosystems. In this regard, it should be noted that the SPA was revised in 2009 and is pending Cabinet endorsement. Saint Lucia is also a party to a number of Multilateral Environmental Agreements (MEAs) that cover a broad range of matters related to conservation and protection of natural biodiversity (see Table 1).

#### Box 2: Target investment sectors

“Invest Saint Lucia has focused on three key sectors for investment promotion:

- **Tourism**, including high-end branded hotels and resorts; health and wellness facilities; specialty restaurants; art galleries; chic boutiques and shopping establishments; eco-lodges, environmental and leisure parks; animation centres; cruise ports and marinas
- **Manufacturing**, such as agro-processing; dairy production; ‘smart technology’ manufacturing; high-end furniture; high fashion; processed foods; pharmaceutical products; processing of industrial and household wastes; production of household products and light industrial tools and materials; production of packing materials; and electronic assembly
- **Sustainable natural products**, such as herbal medicines, spices and condiments
- **Other services**, including call centre operations; business and knowledge of process outsourcing operations; healthcare and medical tourism niche products; offshore financial services; reputable offshore universities; technology and hospitality training institutions; and alternative energy products.” (Andrew 2013)

**Table 1: List of MEAs to which Saint Lucia is a signatory**

Treaty Name	Year Signed	Status
Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 1995	1996	Ratification
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1993	Accession
Cartagena Protocol on Bio-Safety	2005	Accession
Convention for the Protection of the World Cultural and Natural Heritage, 1972	1991	Ratification
Convention on International Trade in Endangered Species, 1972 (CITES)	1982	Accession
Convention on Biological Diversity, 1992	2003	Accession
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as Amended	1985	Accession
Convention on the Protection and Development of the Marine Environment of the Wider Caribbean Region, 1983 (Cartagena Convention)	1994	Accession
Convention on the Protection of the Underwater Cultural Heritage	2001	Ratification
Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR)	2002	Ratification
International Convention for the Regulation of Whaling 1948 and 1959	1981	Adherence
International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC Convention), 1990	2004	Accession
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969	2004	Accession
International Plant Protection Convention, Rome, 1951	2002	Adherence
Kyoto Protocol to the United Nations Framework Convention on Climate Change	2003	Ratification
Montreal Protocol on Substances that Deplete the Ozone Layer, 1989	1993	Accession
Protocol Concerning Co-operation and Development in Combating Oil Spills in the Wider Caribbean Region, 1983	1984	Accession
Protocol Concerning Pollution for Land-Based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 1983 (LBS Protocol)	2008	Accession
Protocol Concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 1983	2000	Ratification
Protocol of 1973 to the International Convention for the Prevention of Pollution from Ships as Amended (MARPOL 1973/78)	2000	Accession
Protocol of 1992 and 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971	2004	Accession
Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT, 1992)	2004	Accession
Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973 as Amended	2004	Accession
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	1999	Signature only
Stockholm Convention on Persistent Organic Pollutants (POPs), 2001	2002	Accession
United Nations Convention on the Law of the Sea, 1982	1985	Ratification
United Nations Convention to Combat Desertification	1997	Accession
United Nations Framework Convention on Climate Change, 1992	1993	Ratification
Vienna Convention for the Protection of the Ozone Layer, Vienna, 1985	1993	Accession

Source: Adapted from Griffith and Oderson 2011

It should be noted that Saint Lucia is also party to the 2006 St. George's Declaration of Principles for Environmental Sustainability, which is aligned to and compatible with the principles and practices required to support a green economy transition.

In light of this overall thrust, it is unsurprising that investment guidelines have also been aligned to the principles that support a green economy transition. In 2012, Invest Saint Lucia, the Government's official investment arm, reformed its mandate to ensure that the 'triple bottom line' (TBL) of "economic efficiency, social equity and environmental sustainability would be used as a major yardstick in advising government on the efficacy of unsolicited investments while also being employed [in order to assess] planned investments." The organization has therefore streamlined these principles into an overall focus on attracting investments

in three target sectors; namely, tourism, manufacturing and sustainable natural products (see Box 2) (Andrew 2013). According to the organization's chief executive officer (CEO), rather than simply awaiting the submission of investment proposals to the Government, Invest Saint Lucia (ISL) has adopted a more proactive approach of seeking to find or attract investors to the island "that contribute to the economic, technological, social and environmental pillars of national development" (Andrew 2013).

Overall therefore, it is hoped that employing the use of domestic and international policy mechanisms geared towards facilitating a green economy transition in Saint Lucia will serve to strengthen efforts to diversify the economy, stimulate job creation, boost conservation efforts and support global attempts to reduce greenhouse gas emissions.



## 8. CROSS-CUTTING COMPONENTS OF A GREEN ECONOMY TRANSITION

The sections which follow focus on energy, water and waste management as vital cross-cutting components of a green economy transition. As such, the analyses found in this section, hold true in many instances for most sectors within Saint Lucia and are not unique to agriculture, tourism, construction or manufacturing. The three elements being examined are all useful inputs and/or outputs of economic activity and carry with them unique challenges related to cost management and resource efficiency.

### 8.1 ENERGY IN SAINT LUCIA: A BACKGROUND

#### 8.1.1 Key challenges:

- Saint Lucia's heavy dependence on fossil fuel imports to serve its energy needs has high cost implications for all sectors
- The institutional and regulatory framework to transition to alternative energy is at an early stage of development
- There seems to be a widespread perception that alternative sources of energy are cost prohibitive and not as reliable as fossil fuels

#### 8.1.2 Key benefits:

- Greening the energy sector will reduce dependence on costly fossil fuel imports while strengthening the thrust towards energy independence
- Reduced adverse environmental impact in relation to carbon emissions and environmental degradation
- Increased opportunities for investment as alternative energy resources and projects are explored and developed

#### 8.1.3 Required policy interventions:

- Institutional and regulatory mechanisms must be created to support new investments in alternative sources of energy
- Human resource development (particularly as it relates to capacity building) must be prioritized to support the anticipated increased deployment of renewable energy technologies
- Financing mechanisms and incentives to support investment in alternative energy technologies (in order to transition from fossil fuel dependence) should be prioritized and mainstreamed

Saint Lucia, like other OECS states, does not produce fossil fuels and is not known to have any petroleum reserves. As a result, power is produced entirely through diesel generation systems and transport is similarly fuelled by imported petroleum products. Unsurprisingly, at a regional level, very similar circumstances exist; the electricity systems of OECS Members are small, insular and, unlike continental nations, electricity cannot be imported from contiguous nations. Consequently, these countries are almost completely dependent on diesel for electricity generation. Added to this, electricity prices in OECS countries are among the highest in the world. This is in part due to the relatively limited demand for power on the island and transportation premiums levied on nations like Saint Lucia that do not straddle major transportation routes<sup>23</sup>.

In this context, high electricity rates within the last few years have propelled renewable energy (RE) and energy efficiency (EE) technologies and applications out of the

realm of peripheral interest, to perhaps the core of socioeconomic and sustainable development decision-making processes, both within the public and private sectors. There has also been widespread recognition that a shift away from heavy reliance on fossil fuels and towards renewable energy sources is needed. The latter are not only sustainable and environmentally friendly, but can also be more affordable and reliable. Thus, throughout the OECS, considerable focus has been directed towards renewable sources like wind, solar photovoltaic, geothermal and hydroelectric energy technologies.

There are several indicators, within both the public and private sectors, which give credence to this recognition. With the creation of the Ministry of Sustainable Development, Energy, Science and Technology (MSDEST), including an Energy, Science and Technology Unit (ESTU), the Government of Saint Lucia (GOSL) took institutional measures to guide and direct energy-related policy formulation and implementation. The ESTU has spearheaded and been involved in a number of EE related initiatives including a programme geared towards using Light Emitting Diode (LED) lamps for street lighting and in public buildings and a photovoltaic (PV) pilot demonstration project under which PV systems were installed on selected public buildings.

Moreover, a National Energy Policy (NEP) was officially adopted in 2010. The main thrust of the NEP is to “create an enabling environment, both regulatory and institutional, for the introduction of indigenous renewable energy to the national energy mix, thus achieving greater energy security and independence”<sup>24</sup>. To this end, the NEP was a necessary ingredient for the implementation of a National Energy Plan, which was approved by Cabinet in 2001 under Cabinet Conclusion No. 695. The core goal of the Plan was to “enhance the security of energy supply and use for all sectors of the economy”<sup>25</sup>.

The regulatory and institutional environment guiding energy policy codification and implementation is evolving. A major development in the Government’s energy policy is an ongoing review of the Electricity Supply Act (ESA) No. 10 (1994), which maintained a monopoly held by Saint Lucia Electricity Services Limited (LUCELEC) with respect to the generation, transmission, distribution and sale of electricity. The main objective of the review, which is being undertaken in consultation with a number of stakeholders, including LUCELEC, is to open the electricity market to Independent Power Producers (IPPs), but restrict such entities to supplying electricity from renewable energy rather than from fossil fuels<sup>26</sup>. This is in line with the Government’s goal of increasing by 35 per cent the amount of electricity generated from renewable energy sources by 2020, which is 15 per cent higher than the original target of 20 per cent. It is worth noting that this target has been viewed by some as being overly ambitious given that the conditions necessary to achieve this goal (such as an enabling policy framework to facilitate investments in renewable energy) are either absent or at a nascent stage of development. Table 2 provides estimates on renewable energy source outputs for various Caribbean countries. For Saint Lucia, geothermal and solar energy present the greatest prospects for achieving effective clean and alternative energy production.

The ESA will be replaced by the Electricity Supply Services (ESS) Bill, which is currently being reviewed by Cabinet. The ESS Bill will, among other things, activate the National Utilities Regulatory Commission (NURC) that will regulate both electricity and water in terms of pricing and other matters. With respect to the cost of power generation, research conducted by the International Renewable Energy Agency (IRENA), illustrated in Figure 5, highlights the fact that the levelised costs of a number of renewable energy technologies are competitive - and in the case of biomass, hydroelectricity, onshore wind and small geothermal projects - even cheaper than

**Table 2: Estimates on renewable energy resource outputs for various Caribbean countries**

Resource	Wind		Geothermal		Hydro		Solar PV		Biomass		Total	
	MW	GWH/yr	MW	GWH/yr	MW	GWH/yr	MW	GWH/yr	MW	GWH/yr	MW	GWH/yr
Antigua and Barbuda	400	870		-		-	27	30		-	427	900
Barbados	10	20		-		-	26	30		-	36	50
Dominica		-	100	700	8	50	45	50		-	153	800
Dominican Republic	3,200	7,000		-	210	1,470	2,899	3,800		-	6309	12270
Grenada	11	20	400	2,800		-	21	20	0.5	2	432.5	2842
Guadeloupe	15	30	30	210		-	98	120		-	143	360
Haiti	10	20		-	50	350	1,654	2,170		-	1714	2540
Jamaica	70	150		-	22	150	650	850	40	210	782	1360
St. Kitts and Nevis	5	10	300	2,100		-	16	20	20	100	341	2230
St. Lucia		-	25	170		-	36	40		-	61	210
St. Vincent / Grenadines	2	4		-	5	30	23	30		-	30	64
Saba Island		-	400	2,800		-	-	-		-	400	2800
Total	3,773	8,224	1,255	8,780	295	2,050	5,803	7,560	61	312	11,187	26,926

Source: Nextant 2010

**Figure 5: The levelised cost of electricity from utility scale renewable technologies worldwide.**



Source: International Renewable Energy Agency 2015

Note: the size of the diameter of the circles in the diagram represents the size of the project. In addition, the centre of each circle is the value for the cost of each project on the Y axis. Real weighted average cost of capital is 7.5 per cent% in the OECD Countries and China; 10 per cent% in the rest of the world.

fossil fuel alternatives. In light of the renewable resource estimates stated in Table 2 and the cost comparison highlighted below, it would seem prudent to suggest that geothermal energy development be explored further in Saint Lucia. Steps taken by the Government of Saint Lucia towards geothermal energy deployment will therefore be discussed further later in this section.

The Government has also devised and activated fiscal instruments aimed at encouraging the use of renewable sources of energy and EE techniques and devices. Specifically, in 1999 under Cabinet Conclusion No. 464, the concessions on renewable equipment and materials were introduced which eliminated all applicable import duties and consumption taxes. In addition, the Government had also made the installation of solar water heating systems a tax-deductible item, although this concession has lapsed because it was a time-bound initiative, requiring renewal or extension through an Act of Parliament. Even further, during the presentation of the 2013-2014 Budget, the Prime Minister announced that a decision had been taken to grant exemptions of excise tax and duty to importers of fuel-efficient vehicles such as hybrids, as well as electric vehicles.

To date, one local motor vehicle dealer now provides the option of purchasing hybrid vehicles. In addition, the first dealership for electric-powered vehicles opened its doors in Saint Lucia in June 2013, guaranteeing customers a significant decrease in fuel expenses and vehicle maintenance costs. However, transportation remains overwhelmingly dependent on imported fuels, which is the primary cause of local fluctuations in the cost of transport-related activities including air travel, shipping and ground transportation.

The GOSL is also actively pursuing investment partners in order to facilitate geothermal energy exploration. The Clinton Global Initiative (CGI) is

providing technical support in the form of Transactional Advisory Services to Government in its review of the current arrangement with geothermal energy developer. In September 2014, the GOSL announced that it had received a US\$2 million grant via the World Bank, to fund, inter alia, surface exploration and technical assistance aimed at boosting Saint Lucia's capacity to engage in commercial negotiations with developers<sup>27</sup>. In support of this project, the Government of New Zealand is providing technical assistance to undertake surface exploration of various sites in Soufrière. This component began in earnest in April 2015 and the results will be used to inform the pre-feasibility phase of geothermal energy development. It should be noted however that there are competing uses for this site, which is located within the Pitons Management Area (PMA) and contains natural sulphur springs. The site is classified as a UNESCO world heritage site and is a popular tourist destination. Other important components of the current geothermal energy exploration project include undertaking environmental and social impact assessments that should be fed into the prefeasibility study.

In light of the above, if this form of energy is harnessed successfully, it will provide an indigenous and more price-stable source of consistent energy. Such a supply could serve to supplement and could perhaps eventually replace the volume currently being generated by fossil fuels. Indigenous power generation from a renewable source would help to reduce expenditure on imported fossil fuels and also augurs well for long-term energy independence. Moreover, if geothermal resources are found in sufficient and commercially viable quantities, electricity can be exported to neighbouring islands and become a valuable source of foreign exchange.

LUCELEC (the local power utility) is also expanding its portfolio into RE through planned investment into wind and solar generated energy. The company is at the advanced stages of establishing a

**Box 3: Green economy transition already underway: waste oil recycling in Saint Lucia****The Case of Saint Lucia Linen Services Ltd**

Saint Lucia Linen Services Ltd (SLL) operates one of the largest linen rental and processing plants in the Eastern Caribbean. The plant has been operational for over 24 years, having opened its doors in 1990. The company has already begun to 'green' its practices and was the first enterprise on the island to utilize recycled oils in its operations.

The Company offers linen rental and commercial laundering services for individual, hotels, guest houses and restaurants throughout the island. After four years of operation, the firm was faced with a fuel crisis. The supply of bunker C (a heavy tar-like) fuel that the company heavily relied on ceased and the firm was forced to purchase diesel to fuel its boilers. Diesel was significantly more expensive than Bunker C fuel. When coupled with a requirement of 500-600 gallons daily, the use of diesel caused immediate financial hardship for the company.

The Management then began to experiment with and study the use of recycled oils (cooking oil and used motor oils) to fuel its boilers and eventually trucks in its daily operations. Through research and trial and error, pioneered by the company's General Manager Mr. Nicholas Barnard, the SLL was able to utilize waste products that had previously contaminated the environment to power its industrial processes.

Mr. Barnard also introduced the concept of burning used oil to the Saint Lucia Distillers Group of Companies in 1994 and that company has also successfully made use of recycled oil. This transition to using waste products was helped greatly by the cooperation and invaluable help of the Management of The Saint Lucia Solid Waste Management Authority and later by the MSDEST. Presently SLL has dedicated machinery to convert used vegetable cooking oil into biodiesel and separate machinery for recycling motor oil. The recycled cooking oil is used as fuel for delivery trucks and the recycled motor oil is used to fuel the boilers which provide steam to run the industrial-sized machinery at the operations plant. The plant has a wide variety of machinery including a fully automated tunnel washer, industrial size self-loading dryers, fully automated ironing and folding lines, industrial washers and a fully equipped dry cleaning installation. The plant runs 364 days a year on this fuel. The oil sludge is obtained from garages, industrial installations, contractors and the boating sector.

Energy usage at the company continues to be reduced as the team seeks other innovative and sometimes simple ways to use energy and resources more efficiently.

three megawatt solar photovoltaic (PV) plant in Vieux Fort and hopes to set up a one megawatt system by the end of this year. In addition, progress is being made on LUCELEC's plan to construct a twelve megawatt wind farm in Dennerly, located along the eastern coast, with the installation of a test tower/wind speed measuring station at the proposed site on 13 April 2015. The test tower will gather essential data to determine the feasibility of this project, the main aim of which is to provide low cost, sustainable energy to Saint Lucians<sup>28</sup>.

## 8.2 WATER

### 8.2.1 Key challenges:

- Inefficient water distribution network exists despite the availability of fresh water

- Watershed areas and freshwater sources are under threat from unsustainable practices

### 8.2.2 Key benefits:

- Development underpinned by green principles is likely to prevent contamination of vital water sources

### 8.2.3 Required policy interventions:

- A holistic development strategy devised on the basis of shared responsibility for the environment that is geared towards building support for greater environmental sensitivity and awareness
- There is a need to explore partnerships or institutional arrangements that would help to address water distribution challenges

particularly as they relate to physical development

- There is also a need to address institutional and regulatory gaps which lead to inefficient or unsustainable land-use practices, affecting water quality

Water is a key resource, important to all productive sectors, and has significant impacts on productivity, employment, poverty and quality of life. The major challenge associated with the provision of water in Saint Lucia is reliability of supply in response to growing demand. Over the past decade and a half, the percentage demand for pipe-borne water for domestic use has risen, (see Table 2). The rise in demand is due in part to increasing occurrences of unplanned developments. Overall the potable water supply has in recent years been severely affected by pressures of increased demand as a result of socioeconomic development, destruction of upper watersheds, increasing exploitation of the rivers and wetlands, and an inefficient, inadequate and aging water distribution network<sup>29</sup>.

Across a number of sectors, including agriculture, construction and manufacturing, the availability of water is a common challenge. Interestingly, while water rates in Saint Lucia have risen over the past five years, sector professionals and representatives who were interviewed by the authors did not indicate that this was a major impediment to conducting business. They instead lamented that the Water and Sewerage

Company (WASCO) has not found a more efficient way of distributing water, particularly in the north of the Island where population density is highest and the largest concentration of economic activity can be found.

Further, in terms of sustainability, concerns were expressed within the larger context of environmental protection/conservation. The people interviewed felt that safeguarding vital sources of fresh water, including rivers and streams, should be a priority for all Saint Lucians, not just the Government. They also believed that a collective and comprehensive strategy to prevent contamination of fresh water sources should be pursued. The Saint Lucia Manufacturers' Association (SMA) signalled that its members were already on board with initiatives which would limit or prevent water contamination and in the broader context reduce the negative impact on the environment. The organization revealed that some of its larger members have already deployed environmentally friendly water harvesting systems. More specifically, the SMA noted that some of its members - particularly those engaged in the manufacture and distribution of beverages (alcoholic and non-alcoholic), paints and chemicals - have installed recycling, re-use and wastewater treatment technologies. The SMA also indicated that it had recently introduced a new category entitled, the 'Eco-Manufacturing Award' into its annual award ceremony, as one means of inspiring members to incorporate more eco-friendly principles into their operations.

**Table 3: Comparative demand distribution among sectors over a 23-year period<sup>30</sup>**

Description	Percentage %	
	1987	2010
Domestic / Minor Commercial	48.6	53.0
Hotels	9.6	10.0
Government / Institutional	7.0	6.7
Industrial	2.5	5.3
New Commercial	0.0	2.0
Unaccounted for	32.3	23.0



## 8.3 WASTE MANAGEMENT

### 8.3.1 *Key challenges:*

- The national agency responsible for solid waste management is encountering human resource and financial constraints which has led to enforcement challenges
- Land space to situate landfills to deal with rising volumes of solid waste is becoming increasingly difficult to locate. This is partially due to the simultaneous expansion of commercial and residential developments
- Recycling of waste products exists, but is not well regulated or organized
- Enforcement challenges also exist due to gaps in the regulatory framework and ineffective coordination among agencies with overlapping responsibility for waste management

### 8.3.2 *Key benefits:*

- Green economy initiatives can create opportunities for investment in both solid and liquid waste management
- Aligning the national waste management strategy with green principles can help to safeguard critical resources and the environment as a whole

### 8.3.3 *Required policy interventions:*

- The institutional and policy framework must be reformed in order to address existing oversight and regulatory gaps while facilitating more environmentally friendly waste management practices
- An enabling policy framework could also serve to attract investment to the sector
- Institutional arrangements (such as public-private partnerships) along with regulatory and policy mechanisms should be put in place in order to address waste management challenges including the recycling of waste

Waste management in Saint Lucia is governed by the Solid Waste Management Act of 2004 and its Amendment Act No. 10 of 2007. The Saint Lucia Solid Waste Management Authority (SLSWMA) was established on the basis of the initial Act No. 8 of 2004 to oversee country-wide solid waste management, which includes but is not limited to the establishment and management of landfills and the implementation and management of an effective refuse collection system. Despite having a relatively efficient solid waste collection system, the SLSWMA is currently facing major hindrances in its ability to fulfil its mandate, including both financial and human resource challenges. Cuts in the government subsidy to the SLSWMA have hampered its ability to cope with rising operational costs, which are being driven primarily by increased fuel and electricity prices, growing demand for refuse collection services and costs associated with managing landfills more effectively. According to the general manager of the SLSWMA, waste from imported non-recyclable products accounts for 50 per cent of the waste generated in the country and this figure is growing as imports continue to rise. Moreover, finding suitable landfill space is becoming increasingly challenging as residential and commercial developments expand. The inevitable implication is that waste needs to be managed more efficiently. Greater individual/personal responsibility for recycling and reusing items that would otherwise be discarded is also necessary. However, while recycling waste presents an opportunity for solid waste investment, the overall volume remains too insignificant to attract major investment.

Recycling liquid waste has been pursued to a limited extent on the island. Wastewater management is difficult as the country's sewerage system is very limited in scope. That said, sewage is regarded as one of the most important and widespread causes of degradation of the coastal environment in the Caribbean<sup>31</sup>. According to the United Nations Environment Programme

(2004), wastewater treatment facilities are often absent or insufficient in many countries of the region. For example, in Saint Lucia only 13 per cent of the population is connected to the sewage system<sup>32</sup>. Nevertheless, Saint Lucia is a signatory to the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS) and has benefited from GEF-funded projects targeting coastal zone management issues. However, wastewater management on the whole seems to be underfunded and understaffed and does not seem to command the attention of policymakers despite its huge impact on human health, the (coastal) environment and important economic activities including tourism and agriculture and fisheries in such areas. According to the Caribbean Regional Fund for Wastewater Management (CReW), "traditional sources of revenue from taxes are not enough" and funding has not kept pace with the level of investment which is needed in the wastewater sector<sup>33</sup>.

The Water Resource Management Agency is currently managing wastewater discharge. One of its biggest challenges with enforcement is that, under the existing legislation, paying the penalties for not having a proper system in place is actually cheaper than obtaining a permit and adhering to the procedures prescribed under the permit. This significantly weakens the Agency's ability to regulate the sector effectively. Nevertheless, these infrastructural and regulatory challenges also present opportunities for investment. The primary challenge is gaining access to finance from global or domestic, private or public sources of funding along with the appropriate expertise in order to undertake the required investments. GEF CReW is currently funding at least four demonstration projects across the Caribbean intending to serve as models for, but not limited to, sustainable finance options for waste to water and other wastewater management projects.



## 9. AGRICULTURE

### 9.1 KEY MESSAGES

1. **Banana production accounts for 48 per cent of all cultivated land in Saint Lucia.** Bananas are being grown primarily for export to the European Union. However, banana exports to the United Kingdom (UK), which is the primary target market, have declined substantially in recent years. Exports are constrained by quality issues which lead to the weekly suspension of farmers for not maintaining the rigorous standards for exports to the UK.
2. **Agricultural production and fisheries have been in decline for more than a decade now, which has adversely affected employment and income for farmers and fisherfolk.** Among the chief challenges facing the sector is the reluctance of rural youth to become employed in agricultural enterprises. Other major challenges are declining amounts of acreage devoted to agriculture and the dearth of available options for financing.
3. **Climate change represents a significant threat to the agricultural sector.** Climate change is likely to result in more frequent and intense natural hazards and disasters, such as droughts and hurricanes. Recently, a slow onset drought in 2009-10 caused a decline in food production and in 2010 Hurricane Tomas resulted in serious disruption to the agricultural sector. Mainstreaming climate change adaptation is therefore a key component of a green economy transition.
4. **Greening of the agricultural sector has already begun in Saint Lucia.** Programmes are already underway that aim to increase agricultural yields through improved farming practices and appropriate technologies while using fewer natural resources through enhanced levels of efficiency. The acquisition of water and energy efficient technologies is also a critical component of reducing costs and reducing the environmental footprint/impact of economic activities in both the agricultural and fisheries sectors.
5. **Current farmer training and certification programmes represent an opportunity to green the sector and create employment.** Private sector participation in current attempts by the Ministry of Agriculture, Food Production, Fisheries, Co-operatives & Rural Development and the Saint Lucia Marketing Board to provide training has helped to strengthen the relationship between producers and purchasers. Training also represents a form of capacity building that helps to ensure that fruit and vegetables grown domestically meet the highest health and safety standards. In so doing, training programmes can also serve to enhance the exportability of locally grown crops.
6. **Aquaculture has the potential to grow significantly.** The Ministry of Agriculture, Food Production, Fisheries, Co-operatives & Rural Development with technical assistance from the Taiwan Technical Mission has embarked on an aquaculture programme which has attracted a number of banana farmers who have now moved out of banana production. It is hoped that this industry will serve to reduce dependence on natural fish stocks which have been adversely affected by overfishing and environmental changes.

7. **Priority now needs to be given to attracting private investment to the sector.** The current policy focus on training and building climate resilience is appropriate. However, equal or even greater attention needs to be paid to promoting and supporting private sector participation within both the agriculture and fisheries sectors. Part of the support to the private sector should include technology and skills transfer. In addition, policies pertaining to financing (including insurance) need to be advanced, in order to help farmers and fisherfolk cope with resource constraints, including high energy and water costs, and alleviate the risks associated with climate change and environmental degradation.

## 9.2 BACKGROUND

The agricultural sector in Saint Lucia has been in decline due to several economic, technical and institutional factors. As shown in Figure 6, agriculture's contribution to GDP has declined from 13.7 per cent in 1993 to 8.0 per cent in 2000 and 5.3 per cent in 2002. The sector's contribution declined further to 3.5 per cent in 2013.

This in turn has resulted in a decline in employment in the sector. In 2013, it was estimated that employment in the sector fell by an average of 5.5 per cent, translating into a loss of approximately 425 jobs.

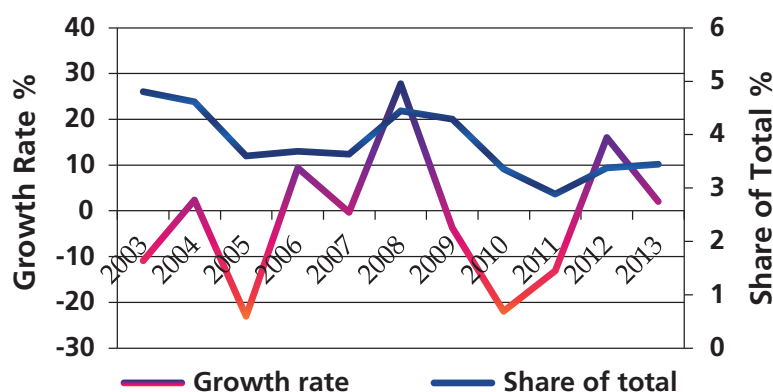
The 2007 Agricultural Census noted a 41 per cent decline in the land area in agriculture from 1996 to 2007. In addition, only 35 per cent of the land area occupied by agriculture in 1961 (87,400 acres), remained in agricultural use in 2007 - a reduction of 65 per cent. The agricultural sector is further constrained by, inter alia, the rising costs of inputs, limited access to financing, natural phenomena like hurricanes, droughts and invasive species, the conversion of agricultural land for housing and commercial enterprises, and other structural and cultural constraints, such as the age of farmers, the reluctance of the rural youth to be employed in agricultural enterprises and high levels of rural unemployment. Commercial bank credit to the agricultural sector accounts for a negligible share of the total credit available to farmers.

Despite the decline in agricultural production, the decline in the number of farms, and the decrease in the land area used for agriculture, local supermarkets and hotels have increased their purchase of



Beach Palm Tree at St. James Resort.  
Photo by Emily Kraft

**Figure 6: Agricultural growth rate and contribution to GDP**



Source: Government of Saint Lucia, 2014

crops not traditionally grown commercially in Saint Lucia – herbs and spices, roots and tubers, vegetables and fruit, and *Musa* species (bananas, plantain, mocambo). Increased production in this subsector is attributed to the post-Hurricane Tomas vegetable crop rehabilitation programme aimed at boosting cultivation and enhancing disaster risk management in order to increase the resilience of the sector, along with private sector interventions geared towards supporting local vegetable cultivation. One example of this is the Roots and Tubers programme which is a public-private partnership that provides incentives to farmers in order to increase their production of vegetable crops, including but not limited to, sweet potatoes, yams, cassava, dasheen,

banja, carrots, onions, radishes, ginger, cush cush and turmeric. The volume of these crops purchased by supermarkets has increased. The higher quantity of produce supplied to the supermarkets can be linked to the Consolidated Foods Limited (CFL) support programme for farmers, which has contributed to an increased number of farmers supplying produce to the supermarket chain. Hotel purchases have also risen as a result of improved farmer relations with the hotels and supermarkets.

Cocoa is a crop that is cultivated in Saint Lucia, primarily for export as dried cocoa beans. Despite access to international markets where Saint Lucian beans are able to fetch above-market prices, the production of cocoa beans recorded its third year of decline. This has occurred as a result of the “conversion of traditional estates into smaller banana farms during the prime banana producing period and the deterioration of existing plantations on account of age and increased pests and diseases attacks”<sup>34</sup>. In light of this, the Ministry with responsibility for agriculture embarked on a Cocoa Revitalization Project geared towards enhancing the production of cocoa. This programme is at least partially responsible for an expansion of the area under cocoa production in Saint Lucia by 300 acres, particularly in Soufrière, Errad, Anse la Raye, Canaries, Micoud, Castries Rural and Vieux Fort Rural. In addition, the Cocoa Agro Forestry Project was

**Figure 7: Crops not traditionally grown commercially in Saint Lucia**



Source: Ministry of Agriculture, Food Production, Fisheries, Co-operatives and Rural Development

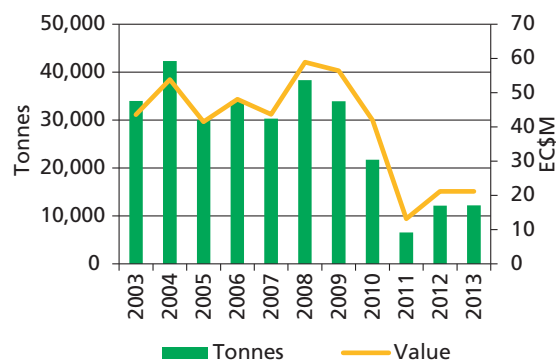


initiated in order to implement sustainable adaptation activities related to cocoa cultivation. Through this initiative, which was funded by the European Union Global Climate Change Alliance (GCCA) through the Caribbean Community Climate Change Centre and implemented by the Ministry of Sustainable Development, Energy, Science and Technology,<sup>35</sup> cocoa, mango and citrus plants were used for slope stabilization and to replace non-productive banana fields with cocoa plants.

Breadfruit and plantain remain the dominant export crops. However, in 2013, both crops posted production declines of 6.2 per cent and 0.03 per cent respectively. Bananas still remain the mainstay of the agricultural sector although the decline in banana production has been substantial. Banana production remains central to the sector, occupying 48 per cent of the cultivated land and accounting for 41.4 per cent of gross agricultural output<sup>36</sup>. Be that as it may, as shown in Figure 8, banana exports to the UK market have declined substantially. Exports are constrained by quality issues which lead to the weekly suspension of farmers whose products do not meet the rigorous standards for exports to the UK. This resulted in the number of actively trading farmers falling from 576 in 2012 to 529 in 2013<sup>37</sup>.

Output in the fisheries subsector has also declined steadily in the recent past.

**Figure 8: Banana exports to the UK**



Source: Saint Lucia Economic and Social Review, 2013

The continuous decline in fish landings may be attributed to unusual sea conditions; climate change effects such as oceanic acidification, warmer waters, the destruction of coral reefs; the large quantities of sargassum seaweed, which lessens the oxygen level and creates inconducive conditions for marine life<sup>38</sup> in the region's seas; as well as overfishing by fisherfolk. Furthermore, the fisheries sector has been posting increases in the level of fish imports. The rise in total fish imports is mainly attributable to the significant increase in the importation of frozen and chilled fish, which grew by 41.8 per cent in 2012.

### 9.3 CHALLENGES FACING THE AGRICULTURAL SECTOR

Notwithstanding the existence of a National Food Production Action Plan, a Food and Nutrition Security Policy and a National Agricultural Policy (2009 – 2015), a major policy challenge that still exists is how to transform risk averse, resource-deficient farmers into efficient and competitive entrepreneurs. Indeed if agriculture, forestry and fisheries are to operate as the true engines of economic growth and social stability then a strategy that addresses enterprise development, concerns relating to biodiversity, natural resource and risk management and climate change effects is necessary. Another remaining challenge relates to attracting young and appropriately skilled technical and professional labour in the production and marketing of goods and services from these sectors. Declining preferences in the traditional markets, coupled with increased competition from an ever-widening array of countries in the major export markets of Europe and the Americas, signals the urgent need to diversify the agricultural production and export base. The fundamental question arising, however, relates to the country's capacity to effect the necessary adjustments in time.

In addition to the challenges identified above, there are a number of other

challenges that affect the Saint Lucian agricultural sector:

- i. Conversion of agricultural land for housing and commercial purposes. It is estimated that between 1980 and 2008 available agricultural land fell by 45 per cent<sup>39</sup>
- i. Unsustainable land management leading to land degradation, riverbank erosion and landslides
- i. Inadequate water for irrigation resulting in many of the small farmers being dependent on rain-fed agriculture
- i. Poor agricultural practices because of the high cost of farm inputs, including labour
- i. Poor disposal of agricultural waste including disposal of chemicals and chemical containers
- i. Limited access to financing
- i. Limited public and private sector investment in agricultural research and development in the agricultural sector
- i. Lacking producer confidence and motivation to enhance production and productivity because of:
  - The lending policies of commercial and development banks, which do not support or stimulate the growth of the agriculture sector
  - The inability of small farmers, who are in the majority, to provide the necessary collateral to secure commercial bank loans
  - The absence of disaster risk transfer measures including insurance for agricultural loans which in turn contributes to the low confidence of the private sector to invest

Agricultural practices also affect biodiversity in Saint Lucia, including, inter alia:

- i. Land clearing for agriculture and charcoal production resulting in the

loss or degradation of ecosystem functions

- i. Poor agrochemical use and agrochemical pollution resulting in pollution of soil, water sources and courses and marine ecosystems
- i. Erosion from poor soil and land management practices in agriculture, including the cultivation of subsistence crops, tubers and bananas on hill slopes, which is quite common and has adversely affected soil integrity and water retention
- i. Over-harvesting of commercially important fish species
- i. Illegal, unsustainable and destructive fishing methods

Climate change and climate variability are also having an impact in the agricultural sector. There is evidence of increased temperatures, precipitation variability and more intense storm events. The slow onset drought of 2009-2010 caused a decline in food production and serious damage to the agricultural sector. Rains immediately following the drought caused major landslides and landslips in important agricultural areas around the island. Hurricane Tomas of 2010 and the trough of December 2013, causing severe rains and high winds, also caused very significant damage to the agricultural sector. The damage to the sector from Hurricane Tomas alone was estimated at \$151.75 million Eastern Caribbean Dollars (XCD)<sup>40</sup>. This is particularly worrying as hurricanes and other extreme weather events are expected to become more frequent and intense as a result of climate change.

#### 9.4 GREENING THE AGRICULTURAL SECTOR

Greening of the agricultural sector in Saint Lucia has to be based on the use of improved farming practices and appropriate technologies that enhance farm production and productivity; reduce negative externalities and conserve/rebuild

ecosystems and biodiversity. Conventional farming practices have contributed to significant environmental impacts, are high in energy use, have resulted in intensive fishing and animal farming systems, and sometimes produced foods that are potentially hazardous to health.

#### **Box 4: Five year strategic management and action plan**

The plan is guided by seven policy objectives:

1. Increase efficiency and competitiveness in agriculture
2. Promote appropriate technology
3. Expand and diversify production of value added goods and services
4. Rationalize land use through planning
5. Enhance food security
6. Generate economic opportunities to ensure sustainable livelihoods and
7. Promote environmental conservation.

Saint Lucian producers and consumers alike are beginning to see the value of organic farming as a solution to the negative externalities caused by conventional farming methods. It should however be noted that the rigorous standards and stipulations that must be met for agricultural products to be classified as 'organic' constitutes a significant challenge for a number of farmers in Saint Lucia. The standards that must be met include regulations that cover production standards for growing, storage, processing, packaging and the shipping of agricultural goods. Although the regulations in different export markets vary, they often include prohibitions on the use of chemical inputs over a number of years, detailed record-keeping requirements as well as periodic inspections. Unsurprisingly therefore, during an interview at the Ministry of Agriculture, Food Production, Fisheries, Co-operatives and Rural Development (MAFPFCRD), officials indicated that they were in the process of exploring alternative certification schemes that farmers could make use of to access export markets due to the difficulties being faced by farmers in meeting 'organic' certification stipulations.

#### **Box 5: Greening the agricultural sector**

"Greening the agricultural sector refers to increasing food security (in terms of availability, access, stability and utilization) while using fewer natural resources, through improved efficiencies throughout the food value chain. This includes management of agriculture, forestry, fisheries in a manner that addresses the multiplicity of societal needs and desires, without jeopardizing the options for future generations to benefit from a full range of goods and services provided by terrestrial and marine ecosystems within ecologically meaningful boundaries."

Adapted from the FAO (Food and Agriculture Organization of the United Nations 2012)

Demand for sustainably produced products is increasing in Saint Lucia but is concentrated among higher income groups. Indeed, this is likely to be a worldwide reality, as decision-making on the part of low-income consumers is often greatly influenced by the price of the product in question. A major challenge is consumer demand for less expensive food and high demand elasticities associated with premium prices for organic food and other products. Saint Lucian consumers therefore need to be made aware on a continuous basis of the nutritional and other benefits of sustainably produced products.

Over the last few years Saint Lucia has benefitted from a number of initiatives that have contributed to creating the enabling environment for greening the agricultural sector. Indeed, it can be said that the transition to a greener agricultural sector has already begun in Saint Lucia. In 2010, the MAFPCRD formulated a Five Year Strategic Management and Action Plan for the Ministry (see Box 5). The vision of this Plan is, "a vibrant agri-food chain or system that provides adequate food supplies of safe high quality nutritious food and non-food products and services at stable and affordable prices that assure financial security to producers and is socially and environmentally responsible, thereby promoting development in rural areas and conservation of resources".

Each of the objectives will be delivered through a compendium of activities,

all of which are geared towards, inter alia increasing the efficiency and competitiveness of agriculture and fisheries, enhancing the national food security status, and protecting, conserving and ensuring sustainable use of natural resources.

#### **Box 6: Good agricultural practices**

Good agricultural practices are “practices that address environmental, economic and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products” (FAO COAG 2003 GAP paper)

(Source: [www.fao.org/docrep/meeting/006/y8704e..htm](http://www.fao.org/docrep/meeting/006/y8704e..htm)).

The policies formulated in the Five Year Strategic Plan could establish a strong framework for greening the sector if they are implemented effectively. Agricultural certification schemes such as the Good Agricultural Practices (GAP) (see Box 6) and the Farmer Certification Programme (see Box 7) are also tools that can be used to help green the agricultural sector in Saint Lucia.

#### **Box 7: The Farmer Certification Programme**

is a public-private sector initiative between the Ministry of Agriculture, Consolidated Foods Ltd. and the Saint Lucia Marketing Board. It was established to strengthen the relationship between producers and purchasers, by improving production and marketing linkages, better defining market requirements and developing production plans to manage the supply of fresh produce.

Consolidated Foods Limited (CFL), a food distribution and retail company, is lending support to ongoing farmer training efforts and is one of the collaborators on the Ministry of Agriculture’s Farmer Certification Programme. The farmers who participate in the six-week training programme receive instruction on Good Agricultural Practice (GAP) standards on the farm, data collection, record-keeping, food safety, post-harvest handling and variety selection. The GAP standards assure purchasers that fruit and vegetables grown domestically meet the highest health and safety standards. In this regard, there are more than 1,000 farmers who are

#### **Box 8: Backyard gardening**

“Part of the whole backyard gardening idea is to have as a ready supply the herbs and vegetables that are recommended as part of the process, and for combating our poor nutrition habits”

Kemuel Jean Baptiste, Chief Extension Officer

GAP-certified in Saint Lucia. Farmers who maintain GAP standards receive incentives such as preferential pricing and favourable market access from CFL.

The backyard gardening programme which was introduced by the Ministry’s Extension Division also provides a good avenue for greening the agricultural sector. To date, at least 1,000 homeowners and students in approximately 55 primary and secondary schools have been trained in backyard farming techniques. The programme encourages composting, integrated pest management, organic farming and recycling. In some instances, vegetable production is integrated with livestock farming – particularly chicken – and aquaculture. Measures such as the aforementioned, which seek to promote modern and sustainable agricultural practices, also serve to boost the capacity of farmers to enhance water, energy and soil conservation practices.

The Government of Saint Lucia is also investing XCD 6.7 million to encourage and equip young people to become involved in agriculture through the “Agri-Enterprise Youth Programme.” This Programme will establish a strong partnership between the Ministry of Agriculture and the National Skills Development Centre and the Division of Agriculture of the Sir Arthur Lewis Community College. It is envisaged that this programme will create sustainable livelihoods in rural communities while improving reliability of production particularly for export and domestic use in the hotel industry. Young people participating in the programme will be provided with access to land and farm machinery.



### Box 9: Enabling Saint Lucia women farmers' participation in the green economy

Women involved in agriculture in Saint Lucia are important contributors to national development. Women farmers, many of whom are older women, are primarily engaged in crop farming, namely vegetables and bananas, tree crops and fruit. Some of these farmers supply local hotel chains and supermarkets while others produce for local markets as well as for vendors.

In light of the critical role played by women in agriculture in St. Lucia, in 2014, the Caribbean Policy Development Centre (CPDC) in collaboration with the St. Lucia National Fair Trade Organization (SLNFTO) – with the support of the Commonwealth Foundation - carried out research on the structure of the production enterprises of rural women farmers and agro-processors. The study focused on their resource endowments, their placement along the agriculture value chain along with their perceptions of challenges and opportunities in agriculture within the context of national efforts to move to a green economy. The studies have resulted in a two-fold Manifesto Framework and Advocacy document that is expected to act as a guide for social mobilization and policy design in transitioning to a green economy in Saint Lucia.

The goal of the women farmers engaged in the study was stated as working towards a green economy where:

*"...all citizens work together to manage natural resources, especially lands and water, to improve the quality of life for all families and communities, by fostering equitable access to the use of appropriate and affordable technologies that are less polluting and wasteful."* - Manifesto Framework 2014

In balancing their roles as producers as well as primary caregivers for their dependents, women farmers also face a number of challenges that could hinder their ability to benefit fully in a green economy. Factors that adversely affect woman farmers include limited access to finance, poor market access and/or demand for goods, sensitivity to climate variability and for some, praedial larceny - particularly for farmers whose properties are not close to their homes.

At the level of policy therefore, there is a need for a coherent gender-sensitive policy framework that complements the Saint Lucia National Social Protection Policy (NSPP) which provides an enabling environment that includes provisions related to, inter alia: Policy and Institutional Reform, Financial Prudence, Human Capacity Development, Production/Productivity Enhancement, Land and Water Resources Management and Marketing

The MSDEST has committed to continuing to work with and support the efforts designed to enhance women's participation in the green economy as they move towards embracing a more sustainable approach to farming in Saint Lucia.

The Ministry, with technical assistance provided by the Taiwan Technical Mission in Saint Lucia has also embarked on an aquaculture programme which has been attracting a number of banana farmers who have now moved out of banana production.

#### Figure 9: Aquaculture centre



Source: Taiwan International Cooperation and Development Fund (ICDF)

Aquaculture has the potential to grow significantly in Saint Lucia. The Ministry of Agriculture is therefore conducting investigations on new aquaculture products and processes that: (i) demonstrate a high potential for commercialization, (ii) have high market potential and (iii) have a strong potential to create employment opportunities. It is noteworthy that some farmers also practise aquaponics together with more traditional forms of aquaculture.

While aquaculture can have a negative impact on health and the environment, it is possible to operate within a more environmentally sustainable manner. In this regard, aquaculture can actually serve to mitigate the decline of fish stocks decimated by overfishing and environmental changes currently being experienced in the Caribbean. In addition to decreasing the dependence on natural

**Box 10: Honey production: an opportunity for greening?**

Apiculture has significant potential in Saint Lucia. With annual yields ranging from 3 to 8 gallons of honey/colony, the potential value of the Saint Lucian honey crop is US\$ 6.5 to 17.5 million. In sharp contrast however, the estimated current value of the industry is US\$ 112,000 and 300,000 annually.

Beekeepers in Saint Lucia have identified the lack of markets as a major constraint to honey production. Honey production is also being affected by a mite, which has reduced the number of colonies on the island.

Nonetheless, efforts are being made both by the private and public sector to promote and advance a honey production industry. For example, the Mille Fleurs Honey Cooperative became a registered entity in 1986 and after a temporary lull in operations the group was revitalized in 2006. The group is still engaged in honey production but struggles to access foreign markets and developmental support in order to meet industry standards in export markets (such as Martinique). The group still hopes to improve production of honey, beeswax, royal jelly, queen bees and other by-products. That said, training has been made available via the Ministry of Agriculture along with initiatives geared towards providing supplies to farmers such as hives, frames, smokers, gloves and other tools used in honey production.

Expansion of the honey industry may not only serve to stimulate economic activity that has a low impact upon the environment but it can also contribute to job creation. In this regard, it should be noted that honey production can facilitate investment on the part of community cooperatives (such as the aforementioned group) and other forms of micro, small and medium-sized enterprises, which could contribute to socially inclusive economic growth.

stocks, aquaculture may help to restock populations through the release of cultured larvae or juveniles into the wild to bolster natural populations.

Many of the fishing pirogues in Saint Lucia use motors that are old and/or not compatible with the boats. Fuel consumption is therefore very high, even after government fuel subsidies are applied. This, coupled with declining fish stocks in coastal waters, has resulted in a highly energy-inefficient fishing sector. In this regard it should be noted that the Government of Japan is providing fishing cooperatives with more energy-efficient refrigeration facilities and engines.

Another programme which will assist in the greening of the agricultural sector is a proposed programme to support climate-resilient investment in the agricultural sector through the provision of small to medium-sized loans to farmers, farmer associations, distributors/wholesalers and processing companies. The project is to be financed by the Climate Investment Fund (CIF) and will support private actors in the agricultural sector to build the climate resilience of their businesses, encourage the formation of new agricultural niche markets in Saint Lucia and strengthen the

current capacity and reliability of national production systems.

Finally, it should be noted that there is some, albeit limited use of renewable energy in the agricultural sector, primarily in the form of biogas from pig production. This biogas is used by a small number of farmers in various forms of agro-processing, such as for cooking black pudding and coconut cakes for sale. However, there is considerable scope for renewable energy to be utilized in agricultural production on the island. To this end, proposals have been made by the Ministry with responsibility for agriculture that aim to encourage the use of solar-powered devices on farms for water pumps and for irrigation (both of which can also help to improve water efficiency in the sector).

## 9.5 MOBILIZING INVESTMENT FOR GREENING THE AGRICULTURAL SECTOR

As mentioned in the section immediately above, there is a new wave of investment in the agricultural sector. Given the present economic situation in Saint Lucia, much of the investment for the greening of the sector has to come from the private

sector and from the international donor community. Some new investments are already in operation. The previously mentioned Farmer Certification Programme is a good example of the type of investment that is taking place in Saint Lucia. It is a public private partnership between the Ministry of Agriculture, CFL and the Saint Lucia Marketing Board to certify farmers in good agricultural practices and then purchase produce from them at preferential prices. Another example is the Backyard Gardening Programme which makes a tax rebate available to homeowners involved in backyard gardening. In this regard, backyard gardeners who are certified by their respective extension officer as being bona fide can apply for tax exemption up to XCD 5,000 on their annual tax returns.

Other examples of current investments include the previously mentioned support from the Government of Taiwan in providing technical assistance and supplies for the aquaculture production of tilapia and prawns. The European Union, through the Banana Accompanying Measures, is providing funding to conduct of a number of initiatives, including the provision of water tanks to farmers for rainwater harvesting. It is envisaged that such water harvesting will alleviate problems related to irrigation including the cost attributable to using pipe-borne water for irrigation.

These investments alone are not enough. Saint Lucia will require a mix of appropriate policies and capital to green its agricultural sector in order to cope with resource scarcity and alleviate risks from climate change and environmental degradation. Given the scale of investment required, the lion's share has to come from the private sector, including the banking sector. Loans provided to the agricultural sector by commercial banks need to be reassessed and redesigned to take into consideration all the externalities that the sector faces, including trade liberalization resulting in increased food importation, concerns of food quality and food security, and rising food prices in

Saint Lucia. Provisions need to be made within the loans for parametric insurance for climate change and climate variability, disaster risks, etc. For this to happen the banks need to integrate environmental and social (E&S) considerations into mainstream banking practices. One mechanism that can be used to accomplish this is the promotion and eventual adoption of green and sustainable guidelines by financial institutions that operate in Saint Lucia. Examples include the Principles for Responsible Investment, Principles for Sustainable Insurance, the Equator Principles, and other approaches developed by the UNEP Finance Initiative and other sustainable finance initiatives. These provide risk management and positive sustainability approaches that can be adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and identifying potential positive impacts to support responsible financial decision-making. The application of these frameworks and approaches by financial institutions in Saint Lucia could serve to reduce both reputational and credit risk in banks' lending portfolios. It could also open up new lending opportunities that can benefit the agricultural sector and the farming population. Moreover, the application of these approaches is likely to provide benefits that go beyond the agricultural sector, including but not limited to enhanced natural resource and risk management, as well as more frequent and consistent environmental and social impact assessments for new or existing projects or economic activities.

The Government of Saint Lucia also has a role to play in stimulating investment in the greening of the agricultural sector. Tax exemptions, where feasible, for various investments, such as in bio-control integrated pest management products along with effective and sustainable management of agricultural land can prove effective in improving the after-tax revenues for farmers who practise sustainable land management.

Greater development of the linkages between tourism and agriculture can also serve to stimulate economic activity and investment. In this regard, it should be noted that the Saint Lucia Medium-Term Development Strategy (MTDSP) underscores the importance of focus measures aimed at linking “hotel establishments to the farming community with the objective of ensuring a higher domestic input in the food and beverage...available to tourists”<sup>41</sup>. In congruence with this fact, in April 2014 the OECS Secretariat convened a regional validation workshop which brought together sellers (farmers/producers/suppliers) of agricultural products and buyers from the hospitality sector to discuss and validate the preliminary findings emerging from an Agro-Tourism Demand Study (Mitchell 2014). The study found that farmers supplying the hospitality industry encountered challenges related to, inter alia, inadequate information pertaining to demand, addressing trade related issues such as sanitary and phytosanitary (SPS) measures to manage pests and diseases, late payment and the return or rejection of produce by the buyer<sup>42</sup>.

Conversely, representatives from the tourism and hospitality industry expressed frustration over, among other things, the lack of consistent, year-round supply from farmers, particularly when crops are out of season, and the lack of information, especially about product availability and barriers related to transporting and importing produce from farmers within OECS states<sup>43</sup>. In order to resolve the concerns of farmers and hoteliers alike, the need for enhanced data collection and information sharing was underscored, particularly in relation to demand levels within the hospitality sector, especially hotels and restaurants, and production levels among farmers. In addition, long-term contractual relationships accompanied by a consistent platform geared towards facilitating dialogue between suppliers (farmers) and buyers (hotels and restaurants) could support the growth and development of local agriculture<sup>44</sup>.

In this regard, there is significant scope for the government to become “actively involved in guiding the interaction between the hotel and foodservice sector and the farming sector, given the national and long-term benefits on rural farm incomes, rural poverty, reduction of rural to urban migration, greater participation of rural communities leading to improvements in the GDP”<sup>45</sup>.

In this vein, it is important to underscore the important linkage between the fishing industry and tourism that already exists, but can be developed further in Saint Lucia. One example of this is in Anse La Raye Saint Lucia in the form of a Seafood Festival which has been able to attract a significant number of tourists as customers. A recent study recorded not only that the average visitor spent US\$73 at the festival, but also that 83 per cent of the vendors that take part in the festival depend on ‘Seafood Friday’ activity as their primary source of income and that 94 per cent of the vendors that participate experienced an increase in their income<sup>46</sup>.

Furthermore, the adoption of new financing models such as invoice discounting and crop lien-loans can also facilitate growth of the sector<sup>47</sup>. Invoice discounting is a practice whereby a third party agrees to buy unpaid invoices for a fee. Crop lien-loans allow farmers to receive commodities such as food, supplies and seeds on loan or credit and pay this debt back after their crop was harvested and sold. To add to this, the integration of local and regional crops into the menus offered to international visitors can help to diversify the national tourism product and make the sector more competitive. This is supported by the OECS Common Tourism Policy which makes it clear that “a critical differentiator [of the Caribbean tourism experience/product] is our food, which historically, has not featured on the menu that is offered to guests”<sup>48</sup>.

A specific focus on non-traditional crops might also be beneficial. An example, in Saint Lucia local brooms are made from the



leaves of the Latanye palm (*Coccothrinax barbadensis*) and are used primarily to sweep and clean houses and other buildings. The Latanye plant has many advantages: it can be grown on marginal lands and harvestable leaves can be obtained within two years of planting. The plant is also native to Saint Lucia with a low incidence of pests and disease and is resistant to wind damage. The Forestry Department in Saint Lucia has been successful in the propagation of plants and their establishment in plantations. The potential of utilizing this broom-making tradition in order to create economic opportunities can be explored, particularly in rural communities. It should be noted that these brooms have traditionally also been exported to Barbados, St. Maarten, St. Vincent and the Grenadines, USA, Venezuela and Martinique. To add to this, one private sector entity has also used the Latanye plant to produce dry and sweet wines.

Similarly, the lansan tree (*Protium attenuatum*) is both culturally and economically important. A significant number of Saint Lucians use lansan resin, principally as a slow-burning incense. It is used chiefly by Roman Catholic churches, in household shrines and is also traded internationally. The white resin is extracted from the tree by slashing the bark, typically once every one-to-two weeks. The production of this resin has in the past been threatened by unregulated extraction, however, with support from the Global Trees Campaign, an international programme dedicated to saving the world's threatened tree species,<sup>49</sup> the Saint Lucia Forestry Department has developed a ground-breaking harvesting technique that causes no harm to the trees but still allows high yield of the culturally important resin. The Forestry Department is now developing a management plan for the species and is training licensed resin tappers to use this sustainable method and monitor progressive impact on the trees.

With respect to greening, climate change adaptation strategies applied to forestry and agriculture such as changes in types

of crops and livestock breeds or changes in cropping systems and cropping patterns can automatically provide for increased carbon storage in agroecosystems. It is, however, acknowledged that while carbon financing may be a new source of finance for the food and agriculture sector in other nations, this financing method may be inappropriate for Saint Lucia as it will be difficult to sell carbon credits from agriculture and forests in volumes sufficient to generate significant revenue. Nevertheless, climate change adaptation strategies in the agricultural sector will undoubtedly contribute to creating more resilient and productive production systems.

Sustainable forest management can also serve to facilitate improved land management that can help to reduce deforestation and exposure to natural hazards and risks. Proper management of forests can also advance or deepen already established linkages with the tourism sector and with agriculture in the form of agroforestry. In this regard, ecotourism activities such as hiking, zip-lining and bird-watching, can be integrated into forest management plans, particularly as they tend to have a low-impact and also foster an appreciation for the environment. Overall, a green economy approach could facilitate sustainable forest management in Saint Lucia, particularly by ensuring that the Economics of Ecosystems and Biodiversity (TEEB) are taken into account. Such an approach could serve to highlight the value of preserving forest cover, including but not limited to carbon sequestration, providing clean water sources and soil conservation. To this end, the Iyanola Natural Resource Management project, which is currently being implemented in Saint Lucia, is particularly valuable as it seeks to improve the effective management and sustainable use of the natural resource base of the north-east coast as part of the broader objective of contributing to global environmental security. Projects of this nature can serve to ensure economic activities related to agriculture, forest management, tourism and construction,

among others, preserve biodiversity and place value on the services provided by natural ecosystems.

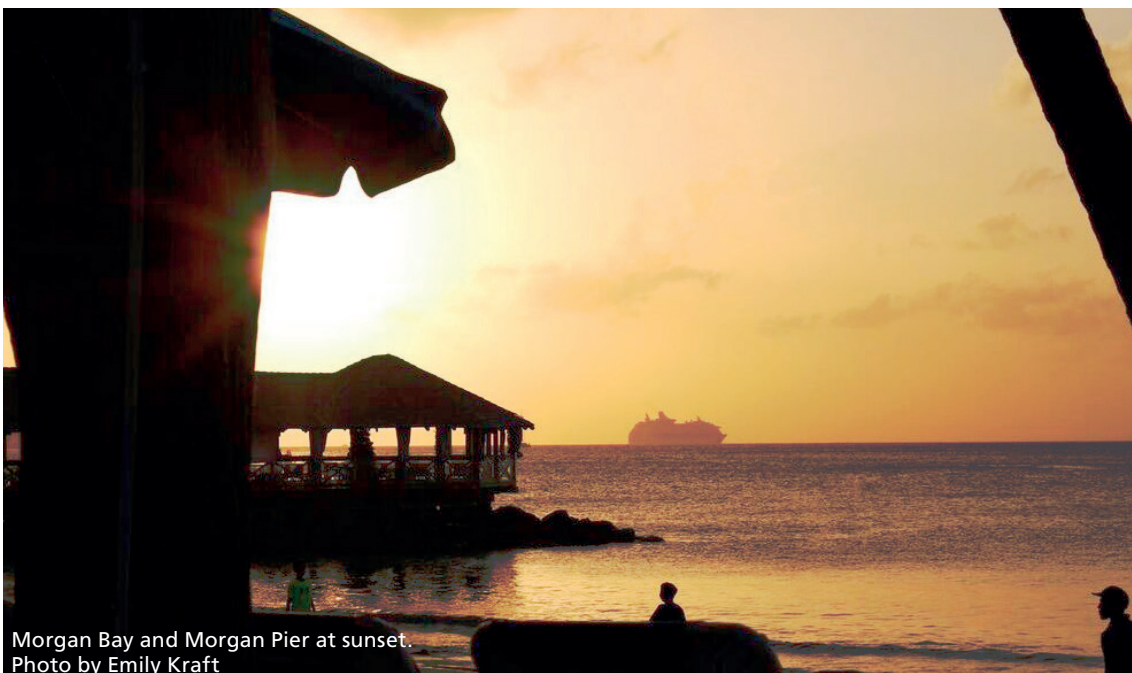
Overall, greening agriculture, fisheries and forestry sectors in Saint Lucia should not only be based on the environmental impact of economic activities in these sectors. Rather, land use planning and programmes should consider TEEB principles in order to build resilience and capacity. In this regard it should be noted that the Saint Lucia National Adaptation Strategy, which is mentioned within the MTDSP, highlights one of the Government's development priorities towards agricultural diversification, namely to manage land resources sustainably

through "stricter planning controls, on the one hand, to avoid alienation [of farmers] without careful assessment of the net benefits of alternative uses, and by undertaking agroecological zoning studies and soil and nutrient testing to help guide the types of agricultural production [that should be advanced or encouraged]"<sup>50</sup>. Mainstreaming considerations related to biodiversity can boost conservation efforts, including efforts to combat deforestation and enhance soil conservation. An approach of this nature can also act as a vehicle to increase the involvement of local communities in economic activities that create revenue earning opportunities while simultaneously enhancing environmental sustainability.

# 10. TOURISM

## 10.1 KEY MESSAGES

1. **Tourism is the largest single driver of economic growth in Saint Lucia.** In terms of income, employment creation and foreign exchange earnings, tourism makes a direct contribution of approximately 12 per cent to GDP annually. The sector accounted for 60 per cent of Saint Lucia's total tax revenues in 2012<sup>51</sup>.
2. **High input costs (primarily for energy, water and waste management), competing uses for environmentally sensitive areas accompanied by inadequate land use policies (particularly in coastal areas) as well as the need to diversify Saint Lucian tourism** beyond "sun, sea and sand" vacations constitute some of the most significant challenges facing the sector.
3. **Green tourism must be acknowledged and mainstreamed by the Government of Saint Lucia as a crucial part of its drive towards sustainability.** The benefits of greening tourism include enhancing visitor experience, adding value to local businesses, supporting biodiversity and reducing the negative impact on the environment. The overall focus should therefore be on establishing an appropriate and supportive policy framework aimed at creating a Saint Lucian tourism product that is internationally recognized as being economically viable, environmentally sustainable and socially inclusive.
4. **Emphasis must be placed on marketing and promoting sustainable, local, small to medium-sized tourism enterprises and initiatives.** Smaller, less resource-intensive, community-based tourism service providers have limited access to domestic and international markets. Reversing this trend not only represents an opportunity for communities to become engines of job creation but it also opens the door for green tourism products to be developed in an economically



Morgan Bay and Morgan Pier at sunset.  
Photo by Emily Kraft



viable, environmentally friendly and socially inclusive manner and should therefore be prioritized.

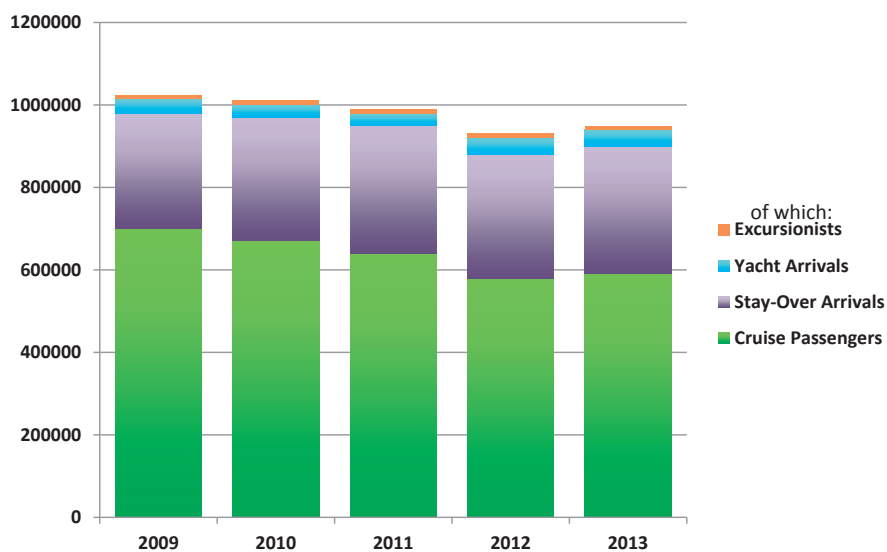
5. **Involvement of communities and reliance on scientific monitoring of effects (e.g. carrying capacities) should be mainstreamed into land and resource use plans as well as management decision-making.** Policymaking should be based on sound quantitative and qualitative analysis and should include affected stakeholders. Scientific tools and methods can indeed support policy design and business strategy.
6. **Measurable targets, predicated on credible baselines, should be set with regard to short, medium and long-term performance of sustainable tourism.** Tourist arrivals remain the sole proxy for evaluating the performance of Saint Lucia as a destination. Broader economic, social and environmental factors, including the impact of the sector on the economy and the environment, should be included as a component of the mechanism used to evaluate the sector.

7. **In order to gain an appreciation of the economic activities that give the greatest return on investment in the tourism sector, more quantitative studies are needed.** It is necessary to expand data collection based on sound indicators that address, inter alia, local employment, procurement, poverty and environmental effects, in order to propel data-driven strategies that will support and facilitate the greening of the tourism sector.

## 10.2 BACKGROUND

The tourism sector is the primary source of livelihood for the majority of the Saint Lucian population, in terms of income, employment creation and foreign exchange earnings. The tourism sector directly contributes approximately 12 per cent of GDP annually and accounts for 60 per cent of Saint Lucia’s total tax revenues<sup>52</sup>. The tourism sector is the largest single driver of economic growth. This has prompted the recognition that such a high dependence on one sector for earning foreign exchange coupled with the failure to diversify exports, leaves the economy vulnerable to shocks. In this regard, the MTDSP makes

**Figure 10: Tourist visitor arrivals in Saint Lucia**



Source: Saint Lucia Tourist Board/ Government of Saint Lucia Statistics Department

\* The term ‘Excursionists’ refers primarily to ferry arrivals for short stays

clear the Government's intention to increase the value added from the sector by 7 per cent per annum in order to boost tourism's contribution to the development of communities and the national economy<sup>53</sup>.

The 'tourist/visitor arrivals' indicator is a proxy utilized to estimate overall sector performance, chosen by virtue of the fact that arrivals bear a consistent, positive correlation with sector growth. In the above table, Saint Lucia's tourism sector performance showed some recovery in 2013 following a varied but poorer performance in the preceding two years. This period, however, saw an increase in concentration of the main source of business (North America and the UK). All other sources have witnessed a drop in market share.

### 10.3 KEY CHALLENGES FACING THE SECTOR

From a competitiveness standpoint, Saint Lucia is globally recognized for signature luxury and romantic hotels. In this regard some properties have received coveted awards and international recognition, including the Global Traveler Award for "Best Island in the Caribbean" in 2013 and nine World Traveler Awards as the world's leading honeymoon destination. Notwithstanding this, tour operators often consider the island's tourism product as expensive with inconsistent quality in terms of services outside the luxury hotels, local retail options including food and beverages and transportation<sup>54</sup>.

Saint Lucia has not been attracting the level and type of new investment needed to retain competitiveness in the sector<sup>55</sup>. This, coupled with a number of tourism projects that have been stymied, delayed or aborted due to financial difficulty, has damaged the country's reputation as an attractive destination for investment and has negatively affected Saint Lucia's tourism product.

Tourism investment and earnings for Saint Lucia were significantly challenged by

the international financial crisis and the destruction caused by Hurricane Tomas in 2010. Overall, declines in private investment in the sector and worker remittances (which has traditionally been a significant source of foreign exchange) continue to feature among the macroeconomic challenges faced by Saint Lucia.

Other challenges include<sup>56</sup>:

- High public debt:
  - Debt as percentage of GDP is above 75 per cent, which heightens fiscal pressure on the state and can constrain spending on the maintenance of public infrastructure along with other development programmes. A high rate of indebtedness **also limits the Government's ability to share risk in new hotel or tourism projects.**
- A slow rate of economic growth:
  - Between 2002 and 2012, the Saint Lucian economy grew by an average of 2.5 per cent and a negative rate of -0.6 per cent was registered in 2012. Slow rates of growth can increase dependence on debt finance and/or may oblige governments to resort to increased taxes to fund development projects.
- High unemployment – particularly youth unemployment:
  - This has adverse implications for poverty and crime. In recent times, there have been increasing incidents of deviant behaviour targeted at visitors. The MTDSP makes specific reference to this issue and notes that "the assurance of personal security of the ordinary citizen in general and of tourists in particular, is a sine qua non of successful tourism"<sup>57</sup>.
- High energy and other input costs:
  - These negatively impact on the cost of doing business within the sector which can reduce the appeal for potential investors.

- Mono-cultural nature of tourism in Saint Lucia:
  - The bulk of the island’s tourism product can be described as one-dimensional, i.e. it focuses on the maintenance and development of traditional accommodation facilities. This challenge is compounded by market seasonality of stay-over and cruise visitor inflows, and the dependence on only a few tour operators to attract these visitors to the island.
- Multiple stresses on the environment:
  - Stresses on the environment from tourism include beach overcrowding and the misuse of natural resources. This ranges from instances of visitors removing live coral as ornamental souvenirs to the construction of buildings and infrastructure in environmentally sensitive habitats, such as beach bluffs and mangroves. The adverse impact on biodiversity is obvious, and indicates a need for stronger regulatory oversight.
- Limited exploitation of synergies with other sectors and economic activities, such as agriculture, culture and handicraft production:
  - There is scope for the formalization of linkages between tourism enterprises and other sectors, such as agriculture (to boost consumption of locally grown crops) and construction (to improve the standard of infrastructure and facilities).
- Limited data collection:
  - In terms of reporting on the impact of tourism on the economy, vulnerability of the sector is worsened by the fact that very little information is collected on revenue inflows from yacht visitors and excursionists that predominate the ‘off-peak’ tourism season.

As tourism is the primary economic driver of Saint Lucia, a competitive and robust

tourism sector is critical for growth, especially in light of its aforementioned linkages to other areas of economic activity, including construction, agriculture and financial services.

## 10.4 CURRENT POLICIES/ ENABLING CONDITIONS AIMED AT ADDRESSING KEY CHALLENGES

### 10.4.1 The Tourism Strategy and Action Plan

The Tourism Strategy and Action Plan (TSAP) 2013-2018, which is the latest expression of national destination management strategy, aims to increase the competitiveness of the sector. The vision outlined in the TSAP is ***“that Saint Lucia will be recognized internationally as having unique competitive and high value products that meet the expectations of visitors who will be sustained by a well-trained and customer focused workforce and where the benefits generated by tourism are widely shared”***.

The TSAP identifies the following themes as it proposes a strategy where Saint Lucia, as a destination, will;

- Be more energy efficient and more climate sound (for example by using renewable energy)
- Make tourism businesses more sustainable, increase benefits to local communities and raise awareness and support for the sustainable use of natural resources
- Consume less water and minimize waste
- Conserve biodiversity, cultural heritage and traditional values
- Support intercultural understanding and tolerance,
- Generate local income and
- Integrate local communities with a view to improving livelihoods and reducing poverty

A Tourism Value Chain (TVC) analysis, undertaken as part of the aforementioned exercise, identified gaps and opportunities which would build competitiveness in Saint Lucia and green the tourism sector. To this end, a budget allocation of XCD 1 million was made for the fiscal period 2014/2015 with the priorities outlined in Table 4.

With the support of the World Bank, the European Union and other international funding agencies, the Government of Saint Lucia has sought to develop sound, coherent, socioeconomic policies, accompanied by appropriate economic and fiscal instruments, that seek to fight poverty in conjunction with the aforementioned SLSP, which could simultaneously foster green economic growth. Examples of such initiatives are outlined in sections 10.4.2-10.4.5.

**10.4.2 The National Investment Policy**

The focus of the National Investment Policy is twofold:

- a. Reducing the regulatory and bureaucratic density of investing in sustainable initiatives. Using the Ease of Doing Business Index as a benchmark, Saint Lucia has targeted

an improvement in its ranking (64 in 2013) on The World Bank Ease of Doing Business Index.

- b. Attracting Foreign Direct Investment (FDI) – Invest Saint Lucia Inc. (ISL), a public sector entity, has a refocused mandate of investment promotion and business facilitation. Specifically, one mandate of ISL is to “seek out and generate new investments in strategic sectors with high value-added and employment generating potential”.

**10.4.3 Making administrative arrangements for the implementation of the National Land Policy**

- a. This policy and the associated action plan prioritizes:
- b. Developing appropriately designated areas, which are defined and zoned for economic activity (with emphasis on tourism) within streamlined planning frameworks

Developing stable land tenure arrangements, which is critical for tourism investment and long-term viability

**Table 4: Tourism products strategy<sup>58</sup>**

Core Tourism Products	Complementary Tourism Products
<p>Nature tourism, wellness tourism and luxury tourism are core products of the destination in the introductory phase with a high potential to increase volume.</p> <p>Strategies for developing new core tourism products:</p> <ul style="list-style-type: none"> <li>• Wellness tourism: increase the offer of spa and wellness and develop an iconic attraction through the sulphur springs linked with wellness. Upgrade the existing offer, increase the quality of spa experiences (trained therapists) and iconic branded destination spas</li> <li>• Nature and ecotourism: match existing natural resources of the destination with the development of competitive tourism products (agriculture, adventure tourism, nature-based attractions, hiking, trekking, touring). Focus on nature-based experiences: agri-tourism initiatives (plantations tours), ecotourism and adventure tourism</li> </ul>	<p>Nautical tourism: further develop new marinas<sup>59</sup> and develop technical skills for people to provide the necessary services. Increase the number of yacht arrivals as a result of the upgrade of marina facilities. Develop nautical tourism events</p> <ul style="list-style-type: none"> <li>• Culture and heritage tourism: develop a competitive and authentic cultural offer. Develop the art of story-telling and link this to living cultural expressions (carnival, rum, iconic architecture and local markets), military history and colonization (French, British, Amerindian and Indian influences)</li> <li>• Community and village tourism: develop specific products aimed at exposing local culture, heritage and lifestyles, with a view to providing true authentic wholesome experiences</li> </ul>



#### 10.4.4 *Strengthening value chain linkages*

As previously mentioned initiatives undertaken by the Ministry of Agriculture and the Saint Lucia Hotel and Tourism Association (SLHTA) have sought to strengthen linkages between agriculture and tourism by supporting and intermediating demand (including tourism sector demand) and supply for local agricultural produce, giving farmers access to working capital, factoring facilities, training and technology.

#### 10.4.5 *Developing human resources and increasing the availability of qualified and trained workers in the tourism industry*

The Ministry of Education in collaboration with private educational entities has sought to enhance the access of the local workforce to training in specific technical and soft skills with specific emphasis on the tourism sector, for both marine (with a view to improving cruise ship employment opportunities) and residential resort properties.

### 10.5 GREENING THE TOURISM SECTOR

An overall enabling policy environment that would buttress a green economy is vital for the success of sector specific green initiatives and investments. Policy interventions should therefore include reducing activities that exceed carrying-capacity in favour of ecologically sound practices, which take full account of current and future economic, social and environmental impacts. Such policies should simultaneously address the needs of visitors, the industry, host communities and the environment. The prevailing institutional and policy development processes, regulations, standards, financial resources and fiscal instruments that support the transition of Saint Lucia to a green economy are also important components of the overall strategy. While the regulatory framework and standards have already been established, the elements in the following sections remain imperative.



Morgan Bay at sunset.  
Photo by Emily Kraft

### 10.5.1 Institutional and policy processes that encourage or support reform

Green and sustainable tourism initiatives tend to be multi-sectoral, and require broad-based stakeholder participation. A coordinated and strategic green economy approach that is geared towards policy coherence and stakeholder buy-in is critical. This approach would include:

- **Main-streaming community consultation** into the policy and strategy development processes, for example, in the formulation of a green economy policy and widespread stakeholder engagement
- **Instituting a data collection framework and information dissemination** mechanism for issues related to the green economy; such as:
  - Biodiversity inventories
  - Greenhouse gas emission inventories
  - Environmental satellite accounts
  - Resource efficiency issues including:
    - Use of natural capital
    - Water efficiency
    - Energy efficiency
    - Waste management
- **Preserving cultural integrity, essential ecological processes and biological diversity at community levels** including cultural patterns, local community identity, livelihoods, sustainable farming practices
- **Reducing negative impacts of development** by instituting proper development control
- **Confronting issues of economic viability, sociocultural sensitivity and environmental sustainability** in the impact assessment of proposals for the development of tourism accommodation facilities, sites and attractions

- **Supporting practical efforts of Non-Governmental Organizations** in the preservation and enhancement of the natural environment and the conservation of biodiversity

### 10.5.2 Financing

Participation in international climate financing mechanisms and engaging other mechanisms such as the Green Climate Fund (GCF), National Appropriate Mitigation Actions (NAMAs) and Reducing Emissions from Deforestation and Forest Degradation (REDD) can support state initiatives and attract private sector investment. Another option is to encourage a green economy transition by facilitating the participation of the private sector through Public-Private Partnerships (PPPs).

### 10.5.3 Fiscal policy instruments

Saint Lucia should continue the review of the Tourism Incentives Act and other stimulus packages in order to identify areas where incentives could support resource efficiency standards (e.g. environmental management systems, or ISO 14000 certification) and increased employment. Research of this nature could align fiscal policy instruments, such as import duty waivers, tax exemptions and credits to the green economy transition mandate. In this regard, fiscal instruments can encourage green investments while simultaneously discouraging environmentally invasive economic activities.

### 10.5.4 Programming green economy initiatives

The following green initiatives would assure greater sustainability of the tourism sector and address sustainability gaps in the development of that industry:

- i. Ecotourism development programmes

As a niche tourist market segment, ecotourism has a high growth potential worldwide, due to its environmental, responsible, sustainable and conscientious

qualities. This niche sector demonstrates huge potential for Saint Lucia; a factor which is just starting to gain momentum in the marketing efforts and destination management initiatives.

- ii. Occupational health & safety and environmental management systems (ISO 14000 compliance)

International best practice in the tourism sector recommends instituting a systematic approach to identifying hazards, and then either eliminating them or reducing their risks. An occupational health & safety and environmental management systems approach promotes safe and healthy working environments by providing a framework that allows organizations to consistently identify and control health and safety risks, reduce the potential for accidents, aid regulatory compliance and improve overall performance.

- iii. Energy efficiency as it relates to power consumption

The accommodation subsector of tourism in Saint Lucia has practised energy efficiency as it relates to power consumption as a means of reducing operating costs, by switching to lower energy consuming devices. Devices that allow for power conservation (such as motion-sensor lighting fixtures in common areas) and renewable energy alternatives such as solar water heaters have also been utilized.

In a few instances, when considerations of energy efficiency and resource conservation were taken into account during the planning and designing of hotel facilities, the cost of operations have also reflected greater efficiencies.

These considerations must become prominent features of the state tourism planning framework which should guide and monitor the development of the sector.

Sustainability assessments of a specific site need to integrate considerations of energy efficiency and conservation at the planning/designing stage; including<sup>61</sup>:

- Appropriate site selection
  - Availability and use of local building materials and (renewable) energy resources
  - Implications for branding and impact on customer expectations and behaviour, the quality of services provided and the overall cost
  - Design considerations that allow for, inter alia, natural lighting as well as passive heating and cooling
- iv. Research

Assessing the economic impact of a green tourism sector in Saint Lucia would be critical to sustaining the national budget commitment to the pursuit of green initiatives. Research on the impact on real contribution to GDP, employment and personal income across multiple scenarios for greening the tourism industry in Saint Lucia must be undertaken.

## 10.6 CONCLUDING RECOMMENDATIONS

The major challenge to the adoption of the green economy approach for the tourism sector will be convincing both the public and the private sector that it can deliver critical benefits, such as high long-term economic growth, a cleaner environment and greater productivity. As with other transition processes, the key rests in decisive leadership, accompanied by checks and balances to ensure that Saint Lucia is resilient in the face of the vagaries of the international tourism market and that the sectoral policies are informed by enhanced data collection and data quality that support policy formulation, monitoring and evaluation of the transition to a green economy.

Ensuring that the principles of sustainable development are taken into account within its planning processes requires government leadership. Needless to say (and as articulated earlier), the Government does have a responsibility to set an overarching policy and framework advocating and supporting a green economy transition.



One component of such a framework is ensuring that the roles and responsibilities of all relevant public sector institutions are clearly articulated and coordinated to optimize the use of limited resources and eliminate competing mandates. Another component of such a framework rests in ensuring that land use planning is guided by the EIAs and or TEEB-based research in order to minimize harm to the environment – particularly as it pertains to the development of new marinas.

The roles of the private sector, civil society and other stakeholders are equally important. In order to facilitate investment and sound operational management within the sector, there must be effective collaboration between the Government and relevant stakeholders to implement a strategy that is geared towards creating an economically vibrant, environmentally friendly and socially inclusive sector.

## 10.7 TOURISM CASE STUDY: GREENING SAINT LUCIA'S SOUTH-WEST COAST

### 10.7.1 Introduction

The south-west coast of Saint Lucia is an area of great ecological diversity, where well-developed coral reefs, scenic landscapes, sandy beaches, rocky headlands, mangroves, wetlands, estuaries, lagoons and lush sea-grasses are typical. The interdependence of those ecosystems makes the coastal zone one of the most sensitive geographic areas that attracts tourists and ultimately augments the traditional extractive industries of agriculture and fishing.

As far as tourism is concerned, there are many types of leisure activities attracting tourists to the south-west coast, including scuba diving, snorkelling, fishing and whale-watching, which have created various local enterprise opportunities. These include jet skis, mono-hull and catamaran operations, scuba, 'snuba'<sup>62</sup> and snorkel dive operations, 'boat boys'<sup>63</sup>, beach vendors, water taxis and

other entities that benefit from the induced impact of the tourism sector.

As the sector has grown, so has the impact of population pressures associated with coastal tourism expansion in the area. These pressures have led to deteriorating coastal ecosystem, health and water quality. In turn, the loss of ecological integrity on the south-west coast has directly affected coastal livelihoods and development, especially in communities traditionally dependent on ecosystem-based economic activities such as fishing, tourism and harvesting<sup>64</sup>.

The pressures within that coastal region are not solely tourism-related, and result in significant user conflicts among the following players:

- fishers (pot, line and seine)
- yachtsoersons
- recreational divers
- hotel guests
- day cruisers
- hoteliers (developers and operators) and
- the wider community for other recreational purposes

Figure 11: Map of Saint Lucia



In response to a range of environmental and developmental issues, management systems were established in the area as early as the 1980s, with the legal declaration of marine reserves and fishing priority areas. These efforts however met with limited success due to poor supervision, non-compliance and the fact that **most marine reserves were never formally demarcated**. It was then recognized that an institutional and technical framework for the management of the area’s coastal resources and its conflicts was required.

### 10.7.2 The Soufrière Marine Management Area (SMMA)

The SMMA was established in 1994 following an 18-month long process of participatory planning and comprises:

- A framework for the management of the area’s coastal resources

- The creation of a marine management area comprising 11 km of coastline and the adjacent marine area, to include marine reserves, fishing priority areas, multiple use areas, recreational areas and yacht moorings
- The promotion of sustainable development through the maintenance of environmental, social and economic balance<sup>65</sup>

The institutions involved in the management structure include:

- **The Department of Fisheries**, which is authorized by the Fisheries Act of 1984 to establish and manage Fishing Priority Areas and marine reserves
- **Soufrière Regional Development Foundation (SRDF)** which has the mandate, among others, of developing and managing the coastal area of the town of Soufrière and
- **The Soufrière Marine Management Authority**, which is responsible for coordinating management activities and guiding the formulation of a comprehensive management plan

Figure 12: The SMMA and the CAMMA



These organizations oversee activities relating to tourism in the marine area by devising management plans and issuing permits stipulating what can and cannot be done in certain areas.

The Canaries Anse la Raye Marine Management Area (CAMMA) was annexed to the SMMA in 2004, extending the geographic remit managed area from Marigot Bay in the north to Anse L’lvrogne in the south.

### 10.7.3 Challenges

The tourism sector has been touted as the panacea for reversing economic decline in many SIDS, and policy statements to that effect seemed to be oblivious to the negative externalities associated with the development of that sector<sup>66</sup>. Tourism can have positive impacts depending on how

well it is planned, developed and managed. Conversely, in the absence of planning and managed development, negative effects will persist.

Criticisms, such as the uneven distribution of the benefits of the sector and the economic enclaves of all-inclusive and high-end resort development are among the more common assertions which challenge the idea of tourism as a sustainability panacea<sup>67</sup>.

Additionally, unplanned tourism development is often associated with or characterized by:

- Being a substantial contributor to environmental change and degradation
- Cultural commodification
- Accommodating the ‘leakage’ of revenue, due to profit repatriation by foreign investors and a high marginal propensity to import food commodities
- Relatively low wages and underemployment because of seasonal demand

Major challenges specific to the south-west coastal region will be outlined in the following section.

#### **10.7.3.1 *Burgeoning tourism sector demand***

Between 2002 and 2013 tourist arrivals to Saint Lucia grew by 42.55 per cent from 673,880 to 960,917 arrivals annually<sup>68</sup>.

Yachting arrivals went up by 55 per cent in that time period.

The unplanned and unmanaged growth of this emerging sector has posed many challenges for the national government. These include<sup>69</sup>:

- The capacity of the authority to manage the area given a decline in collected user fees and the increased pressure on existing human resources to monitor and police the area
- Unregulated activity, such as speeding and exceeding carrying capacity - on

the part of water vessel operators, leading to unsafe practices

- Limitation in monitoring the impact on reefs and recreational water quality
- Lack of environmental training and sensitization for operators of tourism enterprises
- Overlapping authority and inadequate institutional arrangements and organization to foster structured growth of the sector and its ancillaries, such as the ‘day-boat’ charter sector and hotel operators
- Lack of amenities (including a lack of access, parking, life guard services and beach safety advisors and other amenities such as changing rooms and washrooms) at beaches to promote growth in day boat charters
- The absence of a communications strategy including a lack of information pertaining to the sector in terms of the number of participants, size of local market, economic impact, for example
- Increased risk posed to the region by pollution

#### **10.7.3.2 *Sustained degradation of coastal resources with negative trajectories***

Current literature states that virtually all the reefs of the Lesser Antilles are at risk. This risk is a result of sedimentation from upland deforestation, pollution, poor agricultural practices, coastal development and added fishing pressures<sup>70</sup>. In addition, Saint Lucia lies in the path of tropical storms and hurricanes, which play a significant role in the destruction of reefs. With the almost yearly passage of hurricanes and tropical storms, the incidence of coral bleaching around the island has increased. In fact, this phenomenon has been observed worldwide and is reported as a possible response to

natural factors such as changes in water temperature, salinity levels and ultraviolet light. Additionally, climate change is expected to result in more frequent and intense hurricanes which is likely to exacerbate the aforementioned state of affairs<sup>71</sup>.

### **10.7.3.3 Unsustainability of coastal zone management framework**

The SMMA model has received accolades for its achievements in sustainable coastal resource management, after generating much-needed revenue to fund conservation efforts and quelling many user conflicts. However, the absence of a mechanism focused on periodic review, stakeholder consultation and public education has led to the erosion of many of the principles that founded the success of the SMMA.

A number of problems now plague the operation of the SMMA, which include<sup>72</sup>:

- i. **The re-emergence of user conflicts:** An influx of new marine resource users have faster boats to provide day trips that include swimming and snorkelling within the marine managed area. These new entrants lack traditional attachment to the resource, instead seeing speed and high passenger numbers as a key business strategy and ignore the safety of other resource users as well as the carrying capacity of a few popular recreational areas within the marine managed area
- ii. **Non-compliance with zone management arrangements:** The breakdown in the protocols is apparent and is the subject of complaints by users. The reasons speculated are that new operators (fisherfolk and water taxi operators in particular) who are legitimate but have not been sufficiently briefed on the SMMA protocols or are unauthorized and are therefore ignorant of and/or indifferent to SMMA protocols.
- iii. **Inadequate stakeholder involvement:** The emphasis placed on the stakeholder analysis and consultation at the inception of the SMMA declined during the operation of the authority. This led to serious communication gaps<sup>73</sup>. The key to the SMMA's success in managing conflicts on an on-going basis is the intricate interaction between stakeholders, which includes user groups and SMMA management

### **10.7.4 Factors critical to maintaining sustainability of the coastal resource management framework within the SMMA**

#### **10.7.4.1 Participatory planning**

The Integrated Coastal Zone Management (ICZM) approach offers a good framework within which the principles of sustainable tourism development can be applied together with those relating to all the other relevant sectors including water, soil, energy, fishing, transportation, etc. Tools such as Strategic Environmental Assessments (SEAs), Carrying Capacity Analysis (CCA), Environmental Impact Assessments (EIAs) can be used to develop appropriate sustainability indicators that can guide development planning and management in order to ensure that all physical development, and tourism development in particular, is properly integrated holistically into coastal development.

Participation and consultation of all relevant actors is also critical to effective coastal zone management as well as for the conservation of the coastal environment. Guidelines for best practice should therefore address the participatory process so as to ensure that such a process leads to the delivery of outcomes that support a green economy transition.



#### 10.7.4.2 Regulatory framework

One definition of ICZM refers to “...a process of achieving goals and objectives of sustainable development in coastal areas, within the constraints of physical, social and economic conditions, and within the constraints of legal, financial and administrative systems and institutions”<sup>74</sup>.

The regulatory framework operating within the SMMA is authorized by the Fisheries Act and includes delegated authority and declarations of marine reserves and fisheries priority areas. In this regard, the monitoring of marine reserves has proven to be a difficult task due to the remoteness of some of these areas, low enforcement capacity of the Authority and because boundaries for most of these reserves have not been legally demarcated<sup>75</sup>.

There is therefore a need to broaden the range and mix of regulatory tools and techniques by using:

- Coordination of initiatives by non-statutory and non-governmental agencies such as the Day Boat Charterers’ Association
- Voluntary agreements with relevant operators/actors
- Land use planning systems
- Legal and economic incentives
- Scientific assessments that provide insight into the Economics of Ecosystems and Biodiversity (TEEB), such as Environmental Impact Assessments (EIA), Carrying Capacity Analysis (CCA)<sup>76</sup>, Cost Benefit Analysis and other instruments can perhaps highlight issues and help to engage stakeholders in order to mitigate harmful practices

#### 10.7.4.3 Diversification of tourism products and integration of peripheral areas in sustainable itineraries

Carrying Capacity Analyses (CCA) that have been undertaken for beaches and dive sites in the area suggest the presence of social

conflicts with other users and congestion especially during the months of November and April. The establishment of sustainable alternatives should be prioritized to alleviate the burden on those sites. This could include promoting the use of other beaches and the creation of other dive (wrecks) sites within the SMMA to tour operators.

Additionally, special emphasis should be placed on boosting local community participation in dive-tourism activities, in order to foster opportunities for job creation and social inclusion. Moreover, studies that focus on the ecosystem services provided by current marine parks should be conducted alongside an analysis of tourists’ willingness to pay for access to marine parks. Such analyses are able not only to regulate the use of environmentally sensitive areas but can also help to establish tariffs that allow for the integrity of the existing ecosystems to be preserved. Taking TEEB into account along with surveys of user willingness to pay could also resolve concerns related to the commercial viability of establishing additional dive sites or beach park developments.

#### 10.7.4.4 Information management

Insufficient and inappropriate information remains a challenge to the management of the SMMA specifically as it pertains to the state of the coastal zone and the impact of human activities. Information management relates not only to the nature of information required for coastal zone management, but also to the way this information is presented to policymakers. The application of objective assessments must do more than just provide information on the state of the coastal environment; it must also identify indicators for assessing environmental change and develop mechanisms for monitoring and predicting the effect of policy and management options.

This has important implications for statisticians, research institutions and those attempting to define indicators and develop management tools. The specific challenges that relate to information management are as follows:

- Identification and assessment of data
- Need for integrated information
- Diffusion of information
- The acquisition and appropriate use of information management technology platforms

There is therefore a need to invest in the development of local capacity to collect, analyse and disseminate data to appropriate stakeholders. Moreover, a broad view of relevant tourism stakeholders should be adopted, in order to ensure that, inter alia, tour operators, dive operators, water taxi and mono-hull boat operators, marine police as well as government agencies are included and involved in regulating marine-based tourism in Saint Lucia. A wide stakeholder base of that nature should allow not only for the monitoring of goods, ecosystem services and professional services associated with marine-based tourism but should also allow for threats to coastal resources and end-user conflicts to be reported and addressed.

### 10.7.5 Conclusion

Harmonizing economic activity and ecological interests is a challenge which has largely been ignored within the SMMA where the focus seems to have been on conflict resolution and/or management. Yet, persistent environmental pressures including pollution, overcrowding sensitive marine habitat and overharvesting of fisheries, continue to be driven by growing visitor numbers and the increasing output these populations demand.

The activities which comprise coastal tourism seem to distinguish themselves from other types of tourism. However, although this niche creates local employment and business opportunities, poorer members of the community are excluded from decision-making processes and the socioeconomic benefits of tourism. Additionally, there are high economic barriers to local involvement due to the high cost of vessels, dive training, equipment, along with the cost of marketing.

As a sector, tourism can have positive or negative impacts depending on how it is planned, developed and managed. A set of enabling conditions must be antecedents to a green tourism sector that contributes to the social and economic development of communities within the carrying capacities of coastal ecosystems.



# 11. CONSTRUCTION AND MANUFACTURING

## 11.1 KEY MESSAGES

1. **Construction has traditionally had a significant impact on socioeconomic development in Saint Lucia.** The local economy has traditionally been supported by robust public and private investment in construction. Government infrastructure projects, public housing programmes and private investment, particularly FDI for hotel construction and improvements, often have spillover effects which include employment creation, increased demand for construction-related goods and services and increased revenue collection. Contribution to GDP by the sector has hovered at around 10 per cent for the last 10 years.
2. **The construction sector is currently in decline.** Government data shows that the sector has been in persistent decline since 2009, when its contribution to GDP dipped below 10 per cent. In this regard, construction's contribution to GDP fell from 9.6 per cent in 2012 to 8.8 per cent in 2013 and circumstances do not indicate an improvement in performance for the next annual review period. Although the official figures for 2014 were not available at the time of publication, it is not anticipated that there will be a marked difference in the performance of the sectors and the Ministry of Finance has indicated that the inflation rate has also increased to 3.5 per cent for 2014. Expenditure in both public and private sector construction has waned, along with investment and imports of related construction materials. The introduction of VAT and inflation have had a negative impact on domestic consumption of goods and services within the sector. Employment within the sector has also fallen. That said, there has been a notable improvement in the performance of private home construction and ownership between 2012 and 2013.
3. **Manufacturing is currently experiencing negative growth.** The sector's contribution to GDP has hovered at about 5 per cent for the past decade. Low competitiveness due to diseconomies of scale and dependence on high-cost, imported inputs has restricted growth. In addition, the unabated rise in operational costs (labour, energy and materials) along with weak local and international demand has also resulted in overall poor performance of the sector. Wider economic problems such as rising unemployment, inflation and the introduction of VAT have also had adverse impacts on the sector.
4. **Rising costs and regulatory shortcomings have hindered the growth of construction and manufacturing.** The rising cost of inputs (such as construction materials and energy), limited access to credit due to complex and disqualifying application conditions accompanied by shortfalls in both public and private investment (especially FDI), have stymied the recovery of both sectors. As it pertains to construction, the demand for private dwelling space is high but associated costs have dampened the supply of low-cost housing. The sector is also not well regulated and institutional

strengthening is required to boost enforcement capacity. Other related challenges include a lack of proper waste and water management practices, particularly in the case of unplanned developments.

5. **Interest in green technologies and practices already exist.** There is growing recognition among construction and manufacturing enterprises that investments in green technologies can lower cost and help to increase resource efficiencies, particularly with regard to water and energy use. However, cost is a major barrier to green investment. Green alternatives to conventional options are often viewed as being too costly or simply a luxury. Even further, financial support to encourage the installation and/or use of green technologies within both sectors has been slow in coming.
6. **Policy should be used to enhance accountability for environmental degradation.** Large investments in new projects, particularly in the construction sector should as a minimum be climate proofed to ensure that adaptation to climate change is taken into account and be subject to environmental and social impact assessments. Indeed, a regulatory framework, which can be both punitive and incentive-based, can help to promote economic activities within construction and manufacturing that take into full consideration the impact of these sectors on biodiversity, natural resources and environmental degradation/pollution. Most importantly, there is an urgent need to undertake an economic valuation of major natural resources and the critical ecosystem services they provide. Information about how nature should be included in measuring the economic costs linked to loss of biodiversity and environmental degradation can help

create mechanisms that hold both the Government and the private sector more accountable.

## 11.2 MACROECONOMIC PROFILE OF THE CONSTRUCTION AND MANUFACTURING SECTORS IN SAINT LUCIA

The Saint Lucian economy is buoyed by a number of economic activities. Major ones include tourism and related services, agriculture, construction, manufacturing and a wide ranging services sector. Tourism and agriculture are the two primary activities which have propelled socioeconomic development and have therefore been significant contributors to the country's GDP over the last three decades. While not as significant a driver of economic development as tourism and agriculture, construction and manufacturing have become important components of the island's economic portfolio. This section will focus on the macroeconomic significance of the construction and manufacturing sectors and the factors relevant to a green economy transition. Across both sectors, there seems to be an awareness and application of green principles and some relevant environmentally benign technologies, but there remains a huge deficit in the uptake of green practices within the two sectors.

### 11.3 CONSTRUCTION

As in other CARICOM states, the construction sector in Saint Lucia is driven by both public and private investments. Public investments usually comprise government expenditure on infrastructural projects, including investment in new capital projects, post-disaster rehabilitation programmes and repair and maintenance of existing infrastructure. Private investment often consists of FDI into other sectors, such as the construction of new hotels or extension of existing properties. It should also be noted that private individuals constitute a significant segment of

the demand for services in this sector, particularly with respect to the construction of residential and commercial buildings. The demand for construction services as a component of different economic activities means that the construction sector can be considered cross-cutting. Over the past five years, the level of both public and private investment in the construction sector has been in decline. This may be due in part to the fact that demand for construction services was significantly bolstered in the lead-up to the 2007 Cricket World Cup. The decline can also be attributed to the lingering effects of the international financial crisis of 2008, which resulted in limited access to credit for small developers and entrepreneurs for expansion and for new development at affordable rates. The increased costs of shipping and energy during this period also significantly raised the costs of both production inputs (for manufacturing) and materials (for construction).

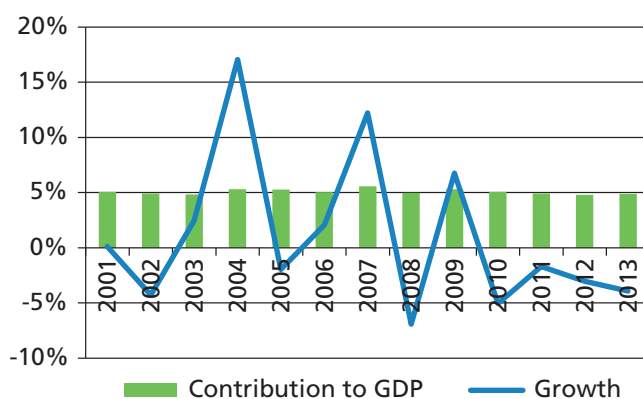
According to the Caribbean Development Bank's (CDB) 2013 annual report, five CDB Borrowing Member Countries (BMCs) experienced a decline in activity in the

construction sector as well as in overall growth<sup>77</sup>. In these BMCs, which included Saint Lucia, declining FDI for tourism-related projects, lower domestic demand and fiscal constraints on government capital investment had a dampening effect on construction activity<sup>78</sup>. Figures from the Government of Saint Lucia's (GOSL) Economic and Social Review 2013 Report provide evidence of the trend of downward performance in the sector, brought about in large measure by a continual decrease in both public and private sector activity. In particular, value added in the sector is estimated to have declined by 10.6 per cent, resulting in a lower contribution to GDP from 9.6 per cent in 2012 to 8.8 per cent in 2013<sup>79</sup> (see Figure 13).

Activity within the construction sector was supported by a government stimulus package, which according to the Prime Minister of Saint Lucia in his 2012-2013 budget address, was "the fastest way of stimulating economic activity which in turn, generates employment and growth" Nonetheless, employment in the construction sector fell by 6.8 per cent<sup>80</sup>. The construction stimulus package, being



Hillside houses near Castries.  
Photo by Emily Kraft

**Figure 13: Construction real growth and contribution to GDP**

Source: Government of Saint Lucia 2014

part of the three pronged approach to spur economic recovery (the others being job creation and fiscal consolidation), was designed to stimulate activity both in the public and private sector, ideally to support infrastructural rehabilitation projects and enhance the ability of local firms and individuals to build homes and commercial spaces. It was to be implemented within a time frame of 18 months. The package was composed primarily of incentives which reduced the cost of construction, such as the removal of all duties and taxes on construction-related goods and materials. Additionally, the package included greater access to credit or loans by suspending a 0.25 per cent stamp duty on loans for residential and commercial mortgages. To add to this, the banking sector and legal fraternity were engaged to explore the possibility of reducing the cost of their services pertaining to the mortgage categories mentioned above. The GOSL also sought to advance the process by making available serviced lots through the National Housing Corporation with access to credit being facilitated by the Saint Lucia Development Bank, a GOSL owned bank commissioned to support local investment. The stimulus package programme expired in February 2014, however the GOSL sought parliamentary approval to waive VAT on building materials to 28 February, which is also the expiry date for exemptions on building materials granted to Saint Lucia by

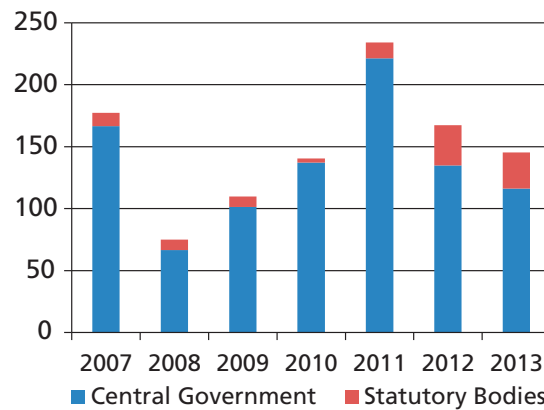
CARICOM. The full cost of the construction stimulus programme was estimated to be at 56.3 million XCD, which included 43.7 million XCD in revenue forgone by the GOSL and a further 12.6 million XCD to cover the mortgage subsidy for the programme.

According to GOSL statistics, owing mostly to the implementation of the various components of the stimulus package, there was a slight improvement in construction activity in 2013. This was highlighted by the following indicators:

- An increase in credit to the construction sector, mainly for residential construction activity for new homes or extensions to existing houses. Loans disbursed under the construction stimulus package totalled roughly 28.7 million XCD in 2013, 17.4 million XCD of which were for residential properties and 11.3 million XCD for commercial projects
- An increase of 21.7 per cent in the number of building applications submitted to the Development Control Authority in Saint Lucia

Overall, public sector construction activity, including on the part of the central government and statutory bodies, declined in 2012 and into 2013, after undergoing a steady increase from 2008 to 2011, the year in which it peaked to almost 240 million XCD (see Figure 14).

**Figure 14: Public sector construction expenditure**



Source: Government of Saint Lucia 2014

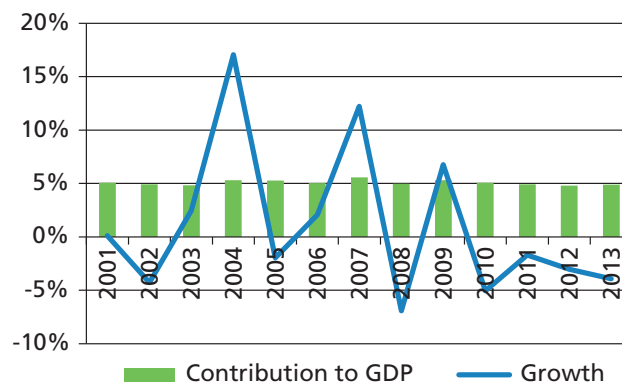
### 11.4 MANUFACTURING

In the last decade up to 2013, the manufacturing sector experienced a gradual decline in performance highlighted by a downward trend in growth figures and a rather stagnated contribution to GDP averaging at a rate of approximately 5 per cent annually (Figure 15). The sector's competitiveness has been restricted by rising operational costs associated with labour, energy and materials.

Additionally, the combined impact of a myriad of factors in both domestic and external markets have dampened production levels in the sector, the output value of which declined to 11.4 per cent in

2013. These factors included weak demand due to unfavourable economic conditions in key markets, competition from other suppliers and cuts in expenditure on new investments, which limited market expansion options such as introducing new products. Local demand was also tempered by rising unemployment and general inflation in prices. Further, interdependence within the local economy also meant that poor performance in related sectors or activities negatively affected demand for goods emanating from the sector. For instance, a notable decline of 38.5 per cent in prefabricated metals products, related to lower construction activity contributed to the drop in the value of total production<sup>81</sup>. Nonetheless, production figures for some

**Figure 15: Manufacturing real growth and contribution to GDP**



Source: Economic and Social Review, Government of Saint Lucia, 2013



subsectors did show signs of improvement in 2013. This included among others, food, non-alcoholic beverages and chemicals, due to an increase in the demand for these products<sup>82</sup>. Another significant variable is the flow of credit to the private sector from commercial banks. Several private sector firms experienced noticeable declines in credit (loans and advances), including a number from the manufacturing sector, which fell by almost 10 per cent.

## 11.5 CHALLENGES TO GREENING THE CONSTRUCTION AND MANUFACTURING SECTORS

### 11.5.1 *No national green economy development strategy*

Across both sectors, there appeared to be consensus on some prevailing conditions which act as barriers to greening the sectors and the economy at large. A main impediment identified is the lack of a comprehensive plan for greening the economy. According to the Sustainable Development and Environment Division of the Ministry of Sustainable Development, Energy, Science and Technology, “a green transition must be guided by a national GE developmental policy that maps out the necessary institutional framework that would facilitate this transition”. While there may be green ideas and principles that are currently practised or promoted by a few, this is generally done in isolation as there is no unifying vision or strategy from which the public or private sector could draw. In essence, a policy framework and/or regulations that could guide both public and private sector investment in green technologies or steer interest in a singular direction, aligned with wider, national strategic developmental objectives is non-existent but very necessary. One senior civil servant also opined that sustainable development, which has essentially been repackaged in the green economy thrust, is still being viewed as essentially an environmental issue and not a developmental issue. This must now change.

A major goal for the GOSL under its MTDSP 2012 - 2016 is “a revamped manufacturing sector, differentiated on the basis of unique attributes”. The strategies formulated to achieve this goal emphasize closer collaboration between the Government and the manufacturing sector in order to focus on consolidation of comparative advantage areas, achieving competitive advantage in new areas of investment and improving conditions for trade-related activities to spur growth and investment in the sector. Such a joint approach to developing the sector provides the opportunity to initialize actions that would facilitate greening of the sector. The added benefit is that there is an increased likelihood that the transition process would evolve within a framework that is sector-specific but would also be attuned to a national developmental strategy for green economy transition. In this regard, it is expected and hoped that green economy principles will be integrated as a central component of the National Development Plan that is being prepared at present.

### 11.5.2 *Lack of understanding of ‘green economy’*

It was the general opinion of the people interviewed that the Saint Lucian populace are not fully aware of what the term green economy means or what its implications for them and the country are. This is supported by the results of a Knowledge Attitudes Practices (KAP) survey on the Capacity Assessment for the green economy conducted in Saint Lucia in November 2014. The survey revealed that 57.5 per cent of respondents were not aware of the concepts associated with a green economy, namely green growth, low-carbon development and the circular economy<sup>83</sup> (refer to Appendix II for full report). It was determined that this lack of awareness or interest spans all strata of society and extends across all sectors. Some individuals that were interviewed felt that there was no clear leadership to champion the “green movement” effectively and gain greater support from the general



population. Others propounded that leadership was more of a government role and responsibility, and that the state should lead by example (through its procurement practices, for example). One practical application of this would be for the Government to replace its current stock of government vehicles with energy efficient ones. Some interviewees espoused a view that the private sector should be the main driver of the green economy, ultimately both private and public sector entities play key roles in promoting green economic activities in practice.

### **11.5.3 Misconceptions about going green**

There was also a general misconception that going green is expensive and cost-prohibitive. As alluded to earlier, while it is true that the initial investment in environmentally friendly technologies can at times be relatively high compared to conventional alternatives, there seems to be a lack of understanding of the long-term benefits of such investments including, for example, buying a fuel-efficient vehicle or solar powered air conditioning unit. Manufacturers and architects lamented that clients are often more concerned with stretching their finances rather than investing in green technologies and cannot yet foresee the tremendous benefits to them in the future.

### **11.5.4 Uncertainty regarding green technologies**

Another consideration that adds to the reluctance of locals to invest in green technologies relates to uncertainty about the reliability of using new products or building designs, accompanied by the fact that people may find it difficult to detach themselves from more traditional methods.

### **11.5.5 Lack of institutional capacity**

Necessary steps to institutionalize supportive or enabling measures for a green economy to prosper have not yet been taken. There is a considerable lack of

capacity to support a transition to a green economy. For instance, there are not many trained energy auditors who could assist a manufacturer or developer in determining energy requirements and advising on how best to match this with available technologies. Also, a number of public service engineers who were interviewed communicated limitations in their ability to evaluate environmental impact assessments (EIAs) when they have been submitted by either government procured contractors or developers. This limitation has wider implications. For instance, it would suggest that the government approval mechanism for large scale construction projects is currently unable to effectively assess the quality of EIAs presented for these projects and more importantly, the environmental impact of these projects might only be realized either during the course of construction or subsequent to project completion. Insufficient capacity might also limit the ability of government officials to adequately assess or forecast the impact of construction and manufacturing activities on natural resources, biodiversity and local ecosystems.

### **11.5.6 Regulatory challenges**

Generally regulations that help to ensure that infrastructural development and construction occurs in a manner that safeguards the environment, supports climate resilience or requires the incorporation of green principles, are either in draft form waiting to be enacted into policy<sup>84</sup> or exist but are not being effectively enforced due to a lack of proper monitoring and enforcement. The Building Code of Saint Lucia (2002)<sup>85</sup> is the principal legislative instrument which guides construction across all sectors in Saint Lucia. In spite of this, the construction sector is not very well regulated. This is not wholly due to the absence of pertinent legislation or policy but is also related to enforcement. According to senior officers from the Ministry of Infrastructure, Port Services and Transport and from the Ministry of Physical Development, Housing and Urban Renewal

(MPDHUR), there are many unlicensed contractors within the sector whose substandard skills and expertise lead to questionable decisions that put both human life and the environment at risk.

It is also the case that some unsustainable practices are still pervasive within the construction and manufacturing sectors. For example, improper disposal of waste remains an important issue in the construction sector that needs to be addressed. According to both the SLWMA and the Physical Planning Section of the MPDHUR, construction waste is often indiscriminately dumped on roadsides, near rivers, waterways and other environmentally sensitive areas, due in part to a lack of effective monitoring and enforcement. In addition, unplanned developments or informal housing developments present great challenges related to access to electricity, water distribution, proper solid waste and wastewater management. The quality of life in these areas is usually poor, as the individuals who occupy these spaces are either unemployed or underemployed. Such structures and dwellings are often not built to code and are vulnerable to natural disasters or other catastrophic events. Simultaneously, unregulated and unplanned development also amplifies the environment's susceptibility to natural disasters. The Project for the Rationalization of Unplanned Development (PROUD) is an attempt by the Government to address access to better quality living within unplanned settlements. The programme, which was launched in the year 2000, provides an opportunity for residents to gain lawful title to the lands that they occupy while simultaneously providing basic amenities such as roads, water and electricity.

The lack of monitoring and enforcement of existing construction regulations or guidelines has been attributed to several factors. One is that there are human resource and financial constraints that hinder effective implementation of existing

regulations. For example the Development Control Authority (DCA), which reviews plans for construction to determine compliance with the building code and other applicable legislation and provides final approval has had its ability to function competently and proficiently hampered by resource and capacity challenges. Another factor is ineffectual collaboration and lack of cooperation among agencies whose enforcement authority overlap, contributing to regulatory implementation inefficiencies. For instance, the MOA and MPDHUR both have mandates governing land use and development. In some cases existing legislation is ambiguous and inadequate to address emerging issues such as land ownership and development in coastal areas experiencing coastal erosion and a rise in sea level. All these are indicative of a need to review existing institutional arrangements, strengthen existing legislation or create new laws to address current gaps. Moreover, the importance of adopting a participatory approach to overcome frictions which may arise from competing goals of development and conservation management cannot be overstated. Mechanisms geared towards instilling a greater ownership and responsibility for disaster mitigation, resilience to natural hazards and climate change adaptation on the part of private commercial interests and citizens can also contribute to a strong regulatory framework.

#### **11.5.7 Limited access to finance**

Financing mechanisms for supporting a green economy transition are inadequate to meet the demand, despite the recognition that opportunities for investment exist. There appears to be a pervasive element of reluctance by private sector firms and lending institutions to invest. This may in part be due to a lack of engagement with such entities geared towards devising innovative financing mechanisms as well as the absence of a national green economy development policy or framework that would inform the creation of a legal

and institutional framework to facilitate investment. A lack of awareness on the part of decision makers within the private and public sector of the opportunities presented by a green economy transition may also be contributing to an unwillingness to invest. Coincidentally, according to the earlier cited KAP Capacity Assessment Survey, limited financial resources along with a lack of political will was identified as the two main barriers to transitioning to a green economy.

### 11.6 CASE STUDY: A CLOSER LOOK AT ENERGY WITH RESPECT TO MANUFACTURING AND CONSTRUCTION

According to executive members of the Saint Lucia Manufacturers' Association (SLMA), the highest operational costs for local manufacturers are energy consumption and shipping, which are a direct result of worldwide increases in the cost of fossil fuels. Unsurprisingly, the SLMA has encouraged members to invest in EE technologies that could help to curb operational costs. Some of their suggestions have been to install LED lighting, use solar powered air conditioning systems as well as materials and construction methods that take advantage of natural resources such as wind, air, water and sunlight. The SLMA has also made an effort to expose members to the concept of 'green theory', a sub-field of international relations theory that concerns international environmental cooperation,<sup>86</sup> through participating in various fora that address its underpinning principles and practices. One significant step was the SLMA's participation in the 'OECS Green Growth Investment Forum'<sup>87</sup> organized by the Mission of the Eastern Caribbean in Brussels in 2011. There has also been important dialogue between the GOSL and the SLMA on challenges facing members and the private sector in general, including discussions on the rising costs of energy.

The challenges associated with the cost of energy within the construction and housing sectors are not unlike those in the

manufacturing sector. It is important to again make a distinction between public/government construction and private sector activity. Public sector programmes primarily comprise the repair and maintenance of public buildings and infrastructure, new infrastructure and increasing housing stock for low-to-middle-income earners. As has been indicated, the GOSL has made a commitment to incorporate EE within its programme of activities, both through refurbishment of existing structures and new construction. However, its housing programme has not been given similar consideration. While it is the desire of the state to do so, the cost implications would be too overwhelming for the target group. Specifically, installing RE and EE technologies such as solar water heaters, LED bulbs (for example) would drive the final price of 'low-cost' housing beyond the reach of the intended consumer. The housing authority therefore made the decision to provide a basic physical structure and leave all decisions related to the installation of RE and EE systems to the homeowners themselves. Indeed, in lieu of absorbing the cost of installing such devices, the state, as aforementioned, opted to utilize fiscal incentives, such as the removal of import duties, to encourage consumers to acquire such technologies.

In the private sector, architects, contractors, developers and prospective homeowners seem to be driven primarily by cost. Rent and revenue therefore seems to trump other concerns. As such, EE as well as other practices and principles that lend themselves to the greening of the construction sector, tend to be regarded as luxuries due to the high cost of such investments. In addition, the limited demand for EE technologies and building materials creates diseconomies of scale and contributes to higher prices for consumers. Several hardware retailers that service the construction sector carry and have even considered specializing in the provision of certain EE products but have been discouraged both by demand levels for such technologies and by the

wider economic decline in Saint Lucia. One business owner who supplies solar-powered air conditioning units openly lamented that “not even the government officials who speak openly about these technologies buy the products”. The same sentiment may hold true for a number of large property developers on the island who have not shown much interest in acquiring EE technologies or applying eco-friendly building principles that could potentially result in considerable savings in terms of electricity consumption.

In sum, there is awareness that ‘greening’ represents an opportunity for expansion of economic activities, the acquisition of new skills, potential investment opportunities and the creation of employment. However, if current economic activities are to be made more commercially viable, socially inclusive and environmentally friendly, capacity constraints need to be addressed. In addition, policy mechanisms may be necessary in order to reduce the cost of such investments. Finally, several private sector representatives that were interviewed indicated that “greening is a relatively new and unknown process.” As a result, active engagement and education of the private sector and the wider society is likely to be a critical component of any transition to a green economy. Interestingly, the KAP Capacity Assessment Survey revealed that a majority of respondents had a positive attitude towards going green and that 85 per cent of respondents would opt to purchase a ‘green/environmentally friendly product’ even if it cost more than the alternative<sup>88</sup>.

## 11.7 CONCLUDING RECOMMENDATIONS

Propagating the necessary institutional framework for a GE transition in construction as well as manufacturing (and other sectors) requires a number of deliberate policy actions among both

public and private sector players. This will include retraining and retooling personnel. Furthermore, the institutional framework must be accompanied by an appropriate legislative framework that, among other things, establishes and/or enforces industry standards, facilitates investment, enhances monitoring and enforcement as well as defining and operationalizing the parameters within which GE activities can be initiated, sustained or promoted.

Additionally, incentives that aim to energize and sustain investment in activities or technologies that support a GE transition in construction and manufacturing are essential. Some of these already exist in the form of tax concessions. These incentives, however conceived, should not be dependent on the level of investment or its origin but by the nature of the activity i.e. furtherance of GE development. Government procurement could also serve to stimulate and generate demand for green products or services – particularly through the construction of new facilities.

Private-Public Partnerships (PPPs) can be utilized as mechanisms that invigorate or drive the GE transition particularly in the interim as investment capital is low and risk aversion is high. Indeed, arrangements such as government loan guarantees for green construction and manufacturing initiatives can provide the opportunity for niche economic activities to flourish. Nevertheless, even beyond access to finance, closer cooperation between private enterprises and the Government can also help to establish new industry standards in construction and manufacturing. As an example, collaboration between local contractors and government officials could help to implement standards similar to the Leadership in Energy & Environmental Design (LEED) programme<sup>89</sup> to help guide the design, construction, operation and maintenance of buildings in Saint Lucia.

# 12. A GREEN ECONOMY TRANSITION: POLICY AND INVESTMENT IMPERATIVES

## 12.1 KEY COMPONENTS

### 12.1.1 *Government budgeting and investment*

The desire to green economic activities and energy production and use in Saint Lucia must be reflected in planning and policy decisions related to government budgeting, procurement and investment. It is imperative that priority areas be clearly identified and that the Government's intentions to support and lead in the 'greening' of various sectors is reflected in the allocations made to the relevant agencies and authorities. Budgetary allocations could be channelled towards, inter alia, public education and engagement, building capacity to ensure adherence to international best practice, including international treaty obligations, and providing a clear regulatory framework for the operation of private sector entities and civil society and to public education and engagement.

It is also vital for the Government to determine what proportion of planned investment will be directed towards protecting and building natural capital. As an example, one component of 'greening' the local tourism sector relates to the conservation of biodiversity as well as the conservation of coastal and marine resources. In this regard, clearly demarcated and coded allotments for the preservation and development of natural capital would serve to aid the formulation and development of the necessary conservation activities. Enhancing conservation activities could serve to boost and support ecotourism and help ensure that initial investments made to develop new (and strengthen existing) services are recovered or surpassed.

It is also important that the Government's purchase and utilization of goods and services (i.e. public procurement) play an important role in the promotion of environmentally and/or socially responsible goods and services. The state should play an active role in supporting the proliferation of products that are able not only to support efforts to transition to a green economy but can also encourage greater resource and energy efficiency. This should apply to every area of the economy; from the construction and repair of buildings and homes to the purchase and use of stationery for government offices. Notably, budgetary support accompanied by investment incentives focused on greater water and energy efficiency as well as enhanced waste management could serve to reform industry practices and standards in agriculture, construction, manufacturing and tourism (as examples). However, it should be noted that decisions to invest in green technologies must be backed by high-level political support and must be integrated into all the financial planning processes for public expenditure. This is in part due to the fact that green technologies can at times be more costly (at least initially) than more conventional alternatives. However, such technologies often carry lower environmental costs and result in greater medium- to long-term benefits for the environment, the economy and society as a whole.

Government agencies should also be encouraged to make use of renewable energy and energy efficient technologies as well as other lesser known green technologies. As an example, in 2013, through the assistance of the Organization of American States, the Government of Saint Lucia retrofitted the lighting



fixtures (from compact fluorescent light bulbs [CFLs] to more efficient LED lights) on one floor at the headquarters of the Ministry of Infrastructure, Port Services and Transport. Additionally, in April 2014, the Minister with responsibility for Sustainable Development, Energy, Science and Technology, Senator the Honourable Dr James Fletcher, indicated that the Government was also in the process of replacing high pressure sodium light bulbs used for street lighting with appropriate LED lights, which were more efficient and expected to result in considerable public savings<sup>90</sup>.

### **12.1.2 Fiscal systems and incentives**

Fiscal incentives can be important not only in terms of sending accurate signals to the market, but also in terms of stimulating demand for 'green' technologies, products and services. Conversely, the Government's support (particularly through subsidies) of fossil fuels such as diesel for transport can serve to deepen dependence on conventional fuels. In the case of the energy sector, incentives geared towards diversifying the existing energy mix are vital, particularly within the context of long-term energy security. Unsurprisingly therefore, a key objective of the Saint Lucia National Energy Policy (NEP) is to create an enabling environment "for the introduction of indigenous renewable energy". Similar incentives could also be targeted towards transforming the use of transportation within specific industries, such as tourism, fisheries, construction and manufacturing.

In addition, if a green economy is to be realized, the internalization of 'external' costs related to fossil fuel use and other environmentally harmful practices is important. Taxation regimes and subsidies should reflect the true social and environmental costs of economic activities to society. Economic activities that pollute the environment and result in the loss of biodiversity or the unplanned displacement of communities, as examples, should not receive government support through

subsidies or any other mechanism. This of course, does not apply to cases where government support is being channelled towards greening such economic activities. Moreover, the proprietors of such activities should be made to finance the cost of any harm caused to local ecosystems or communities. In this way, fiscal mechanisms are able not only to help account for environmental costs but can also serve to level the playing field for environmentally benign technologies. To this end, all government incentive legislation should be reviewed to ensure that the Government is not presently supporting any form of development that is harmful to the environment or socially exclusive (i.e. "brown development") and current incentives are indeed encouraging green development.

In sum, particularly in light of the fiscal constraints presented by the current economic climate, any incentives offered by GOSL should be used to stimulate the demand for sustainably produced goods and services. Fiscal incentives can therefore be used to encourage construction, agriculture and tourism enterprises to acquire technologies and capacity that allow for improved water and energy efficiency and waste management. In this regard, as alluded to earlier, if a green economy transition is to occur and be sustained, training and capacity building of individuals and organizations to provide goods and services in a way that is ecologically sustainable and socially inclusive at internationally recognized standards is vital.

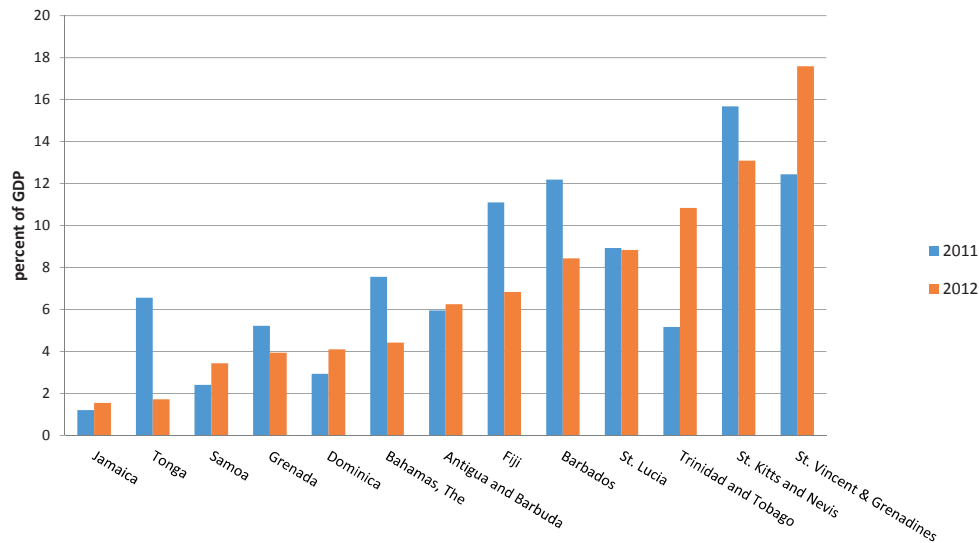
### **12.1.3 Investment mechanisms**

In the recent past, Saint Lucia has been able to attract Foreign Direct Investment (FDI) accounting for more than eight per cent of GDP, which can be considered relatively high when compared to other SIDS (see Figure 16).

With regard to the relative ease of conducting business in the Saint Lucia economy, the World Bank estimates the



**Figure 16: Net inflows of FDI (per cent of GDP) in selected SIDS**

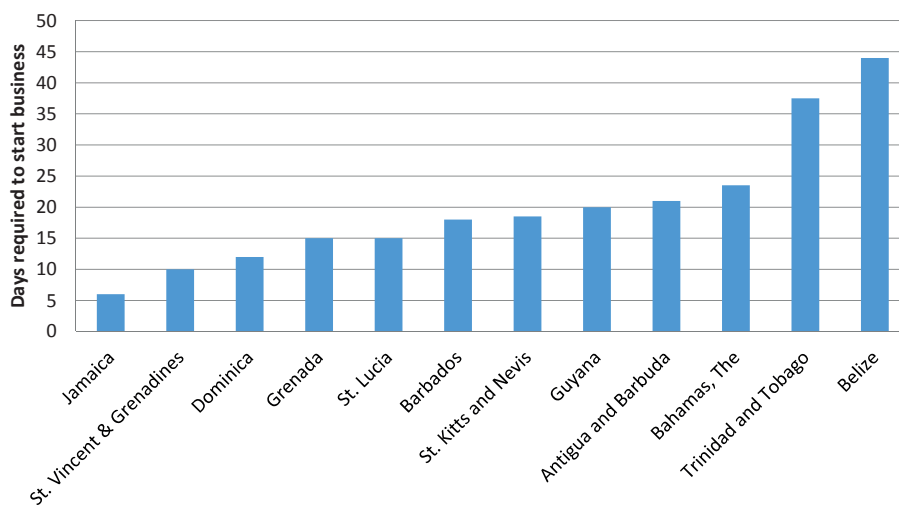


Source: World Bank 2015

time it takes to start a business in Saint Lucia – that is, the time it takes to complete the relevant state procedures required to legally operate a business - is approximately 15 calendar days which is fairly competitive when compared with other territories in the region (see Figure 17). If Saint Lucia wished to market itself as being even more investor friendly to green enterprises, one simple procedural change could be the fast-tracking of applications to register and

operate green businesses at no extra cost to the entrepreneur or enterprise. More elaborate measures specifically geared towards attracting local and foreign green investments could involve the greening of standards used to make and confirm investment and banking decisions. This could include climate proofing investments, which involves a detailed assessment of the potential threats, risks and damage costs brought about by climate change effects

**Figure 17: Days required to start a business among CARICOM Member States (2013)**



Source: World Bank 2015

and takes into account the existing adaptive capacities of the country or location being examined<sup>91</sup>. Partnerships which seek to include the public and private sector as well as civil society can also promote the proliferation of sustainably produced goods and services in Saint Lucia. Finally, state authorities may wish to make special considerations for green enterprises in the granting of government guarantees. Regardless of the policy mechanism chosen, state agencies should seek to encourage investments and projects that promote social inclusion, optimize resource efficiency, ensure environmental sustainability and meet or surpass international best practice. It is worth noting that in the absence of an overarching policy and regulatory framework that allows for continuous monitoring and evaluation, incentives of this nature can be misused by entities claiming (at times erroneously) to be engaged in environmentally benign and socially inclusive economic activity.

#### **12.1.4 Mainstreaming greening: the role of the media**

Responsibility for public education and engagement on issues related to a green economy transition should not rest solely with the state. Civil society, and the media, has a key role to play as a source of general information about the green economy and more specifically about the global green economy movement and its applicability to and implications for Saint Lucia. However, the GOSL has a responsibility to disseminate information that seeks to engage and involve the general populace in the thrust towards a green economy and ensure that public policy and processes are environmentally sustainable, economically viable and socially inclusive. Yet still, the responsibility for public education on the subject of the green economy does not end with the state. As ably articulated by one commentator: “the media has a crucial role to play in the sensitization process and this could begin with every media establishment in Saint Lucia, whether print or electronic, donating a weekly slot for

highlighting good environmental practices and cementing the thrust towards greening the island in the minds of all and sundry”<sup>92</sup>.

#### **12.1.5 Research & development on the economics of ecosystems and biodiversity**

In seeking out new investment opportunities and in order to screen or assess existing opportunities, resources must be allocated to research and development into the economics of ecosystems and biodiversity (TEEB). Such research can help to better assess the value and contribution of natural capital and environmental goods and services. Such an approach could seek to properly value ecosystem services and biodiversity through a TEEB methodology. This kind of approach could include, but not be limited to Environmental and Social Impact Assessments. Investments in data gathering and analysis, including Geographic Information System (GIS) information could inform planning decisions, particularly as it relates to land use and zoning. Moreover, such information could also help to map vital ecosystem services, local resources and even endangered species of flora and fauna.

One crucial ingredient for the transition to a green economy is a ready supply of human capital sufficiently skilled to service the requirements of a reoriented and competitive manufacturing sector. This will require changes in the institutional arrangements for human resource development, curriculum development for specialized training and certification and also increased access to affordable and high quality education. Note that the education system needs to be repositioned not only to accommodate the demands of a transitioning sector but must also be responsive to global trends and challenges. Providing incentives to motivate young people especially to go into sciences is necessary in order to create a culture of innovation. It is well understood that innovation through research and development is key to gaining and

maintaining competitive advantage in any industry.

Finally, resource allocation to research and development should also consider institutional strengthening and capacity building of laboratories and testing facilities used to conduct research.

#### **12.1.6 Use local materials - in an environmentally benign manner**

In addition to the existing focus on acquiring green technologies, considerable emphasis should also be placed on using locally available resources and materials, particularly for construction and manufacturing - in an environmentally sensitive manner. As mentioned earlier, the integration of studies based on EIAs and TEEB into land use planning decisions could serve to optimize the use of local resources while simultaneously addressing concerns related to environmental harm, loss of biodiversity and resource depletion. It has also been noted that effectively monitoring increased use of natural resources is likely to require the strengthening of local capacity to effectively ensure that international best practices are observed. Even further, utilizing greater quantities of local lumber and native herbs and plants will also necessitate quality and materials testing in order to ensure that relevant standards are observed, where they exist.

Additionally, with respect to making use of ecosystem services and local materials, there is an abundant supply of herbs and other plants that can be used to produce beverages, medicines and even pesticides. Moreover, some locally available wood stems have become very popular as raw material in home construction due to their durability e.g. white cedar wood and bamboo. Research, though costly at times, can help to inform the development of sustainable management plans to help ensure that natural resources are not unsustainably exploited, as occurred in the case of the use of resin from the 'lansan' tree in Saint Lucia (see section 9.5). Discovering and unlocking the value

and multiple uses of local materials and ecosystems can be an effective way of promoting conservation and can also serve to reduce imports of materials – not only for firms in the construction and manufacturing sectors, but also for enterprises and individuals involved in social and economic activities related to agro-processing and/or agroforestry.

#### **12.1.7 Equality of opportunity: involve local communities (economically)**

Small and/or community-based enterprises should be afforded equal opportunities to participate in economic/investment activities in their neighbourhoods, towns and cities. As an example (as noted earlier), community-based tourism service providers in Saint Lucia have limited access to domestic and international markets. Greater effort should therefore be made to strengthen community-based enterprises and to link such entities to international business opportunities. In the case of the tourism sector, for example, this may include establishing linkages between community-based service providers and international tour operators. Local community-based investment may not generate as much revenue as large FDI projects, at least in the short term, but they do serve to stimulate economic activity and create a sense of local ownership. Moreover, creating opportunities for small or community-based enterprises to access international markets can not only help create opportunities for wealth and job creation, but it also promotes social inclusion and equality of opportunity.

#### **12.1.8 Access to finance**

Financial support for both public and private investment in GE activities and technologies will assist in overcoming a key barrier: the initial cost of investment. Lending institutions and government agencies could, either individually or in collaboration, set up financing mechanisms which target, for instance, green investment in green construction/

engineering and associated services; wastewater management, retraining or retooling, retrofitting of buildings or homes to be more energy efficient and renewable energy.

The Government can also promote or join existing programmes that facilitate access to finance. One such programme is the Caribbean Climate Innovation Center (CCIC). One of eight such centres worldwide, the CCIC<sup>93</sup> offers among other things, funding that is meant to transition innovative ideas to the stage of 'Proof of Concept', or in other words, a stage where the commercial viability of the idea has been tested and shown to be feasible. Funding is available for ideas that represent climate solutions within the following thematic areas: resource use efficiency (which includes waste-to-energy, materials recovery, reuse and recycling), water management, sustainable agribusiness, solar energy and energy efficiency<sup>94</sup>. The organization also hosts several incubators for new or small businesses.

#### **12.1.9 Formulate and integrate green economy development strategy**

Articulation of a comprehensive national green economy development strategy which cuts across all sectors of the Saint Lucian economy is necessary. One key step in formulating such a strategy is to conduct a green economy readiness assessments for all sectors (public and private) to determine the current level of preparedness for this transition and to assess and assist the necessary channelling of resources. This Green Economy Scoping Study is an example of such an assessment and can be a base for further, more detailed studies. The process of formulating this strategy should engage all major stakeholders, particularly the private sector so that the end result encompasses a broad spectrum of ideas and has broad up-take.

Most importantly, once formulated, this strategy must be mainstreamed and integrated into national policies, especially the National Development Plan that is

currently being prepared by the National Development Unit within the Ministry of Finance and Economic Affairs. The MTDSP developed in 2012 already speaks about incorporating environmental issues and mitigation measures into physical development plans and interventions. This is certainly an ideal opportunity to ensure that green economy principles are central to development policy and to decisions pertaining to resource allocation and budgetary and financial planning processes. The mandate of the National Vision Commission should also incorporate the promotion and integration of a green economy development strategy into its work.

## **12.2 KEY RECOMMENDATIONS**

1. **Increasing investment in green economy opportunities and an enabling policy framework go hand in hand.** If a green economy transition is to occur then hindrances and obstacles to investment need to be addressed. This does not only apply to FDI. If the transition is to be socially inclusive, Saint Lucian entrepreneurs and enterprises must be able to take advantage of local investment opportunities, which would help to stimulate economic growth and job creation.
2. **Green economy policy and business opportunities should be mainstreamed, prioritized and well communicated.** This study has confirmed that there are misconceptions about what the term green economy actually means. In order to tackle this, clear messages from those in leadership positions are necessary. The message of marrying environmental sustainability, economic viability and social inclusiveness also needs to be translated into clear and enforceable policy. A key component of mainstreaming green economy principles would be engaging civil servants, members of the Cabinet of

Ministers, business leaders and others, who are able influence and drive the policymaking process.

3. **Greening represents a real opportunity to diversify the agricultural sector.** Greening can increase food security via more efficient, less resource-intensive production of non-traditional crops. In tandem, this study confirms that aquaculture and aquaponics constitute a real investment opportunity that can stimulate job creation, particularly for young persons and re-employment opportunities for former banana farmers.
4. **Environmental regulation mechanisms need to do more than simply exist. They need to be strengthened and/or better enforced.** If economic activity is going to be environmentally sustainable, rules pertaining to land use need to be clear and enforceable. Regulations must also take TEEB into account and should include the conduct of EIAs and SIAs in the approval and monitoring process for economic activities and projects. Nevertheless, this is not simply a matter of passing legislation or approving news plans. Checks and balances need to be in place so that rules cannot be easily overridden. Institutional strengthening of state agencies with responsibility for environmental regulation is also necessary. Moreover, public education needs to be bolstered so that all Saint Lucians not only have a greater understanding of why the relevant regulations exist but can also participate in enforcement.
5. **Conflicting uses, especially in coastal areas, need to be resolved and continually monitored.** Strong regulations, accompanied by the engagement of tourism service providers based on objective and empirical Carrying Capacity and Environmental/Social Impact Assessments are necessary to ensure that the regulatory framework is based on scientific evidence and data, rather than political or economic interests. Cost benefit analyses and thorough resource mapping of tourism attractions can also help support prudent site management. In short, monitoring that is limited to the environmental impact is insufficient. The impact on different interest groups (including consumers and local communities) of multiple uses of local ecosystems for different economic activities also needs to be taken into account.
6. **Empirical, evidence-based, cross-sectoral indicators are necessary for prudent monitoring and evaluation of a green economy transition.** Qualitative and quantitative measures can help to identify key issues related to socially inclusive and environmentally sustainable economic transformation. Such indicators can assist in monitoring investment patterns and trends and can also support policy formulation and evaluation. Carefully selected indicators are also able to help identify policy gaps that need to be addressed and investment-ready market opportunities in order to propel the green economy forward.
7. **Blue economy opportunities can also serve to advance the transition to a green economy<sup>95</sup>.** The term Blue Economy is meant to complement Green Economic Development and endorses the same principles of low carbon, resource efficiency and social inclusion, but it is grounded in a developing world context and fashioned to reflect the circumstances and needs of countries whose future resource base is marine. Fundamental to this approach is the principle of equity, ensuring that developing countries optimize the benefits received from the development



of their marine environments; promote national equity, including gender equality, and in particular the generation of inclusive growth and decent jobs for all; and have their concerns and interests properly reflected in the development of seas beyond national jurisdiction, including the refinement of international governance mechanisms and their concerns as states proximate to seabed development.

8. Clear opportunities exist for diversification of the tourism product and for investment. Shipwreck dive tourism is one such opportunity that can be explored. Such investments are in keeping not only with a green economy transition, but also with the international thrust for SIDS to consider themselves as “Large Ocean States”, in order to highlight the opportunities presented by marine-based activities.
9. **There is already significant economic interest in green business opportunities across all sectors.** Driven primarily by a desire to reduce costs, rather than by environmental ideals, entrepreneurs and private enterprises have already begun to bring to market goods and services from green architecture to hybrid or electric vehicles, which reduce both costs and negative environmental impacts. However, this research has also shown that such enterprises lack the opportunity to showcase their products or services locally at trade shows or expositions. One consequence of this lack of exposure is that there is insufficient information about green technologies and there seems an abundance of misinformation and misperceptions surrounding the reliability of such products.
10. **Specific emphasis needs to be placed on mobilizing local and foreign entrepreneurs and enterprises that are interested in green investment and business opportunities in Saint Lucia.** This can be initiated through the facilitation of networking events and seminars by investment authorities (like Invest Saint Lucia). A cross-sectoral green economy business directory might also be a simple way of raising awareness and highlighting enterprises and individuals that offer services that can support the transition towards more environmentally sustainable and socially inclusive economic growth.
11. **International development organizations should seek to assist the GOSL to boost their procurement of green goods and services.** Regional and international governmental and Non-Governmental Organizations (NGOs) are ideally placed to render technical assistance and facilitate transfers of knowledge, skill and technology from global industry leaders. Such institutions (including donor organizations) can also help state agencies (and NGOs) to source financial support to assist with the acquisition and deployment of environmentally benign technologies and services. As an example, with respect to the acquisition and installation of renewable energy devices for new housing developments – international organizations can and perhaps should help to find innovative solutions for sourcing technical and financial support to boost the state’s procurement of green technologies.
12. A key next step would be to **conduct in-depth research in order to ascertain what types of investment or economic activities have the most potential to stimulate economic growth while simultaneously contributing to a green economy transition.** This is likely to require location and/or sector-specific cluster mapping studies that should, at the very least, identify primary



economic drivers in order to highlight potential areas for investment and/or greening. In addition to economic cluster mapping, value chain analyses should also be undertaken in order to increase the value added within specific sectors and economic activities. Value chain analyses can also provide valuable insight into supply side and trade related challenges.

- 13. Pilot projects can help to verify the findings of research (such as the aforementioned cluster mapping studies) and to assess the commercial viability of various economic activities while reducing their environmental impact.** Pilot projects can be location-specific and focused on economic activities within

a unique environment or geographic area, such as the Soufrière region. Projects of this nature may also be sector-specific and may focus on a specific economic activity within a given sector, such as ship-wreck dive tourism or aquaculture (both of which were mentioned in this study). Finally, a green economy pilot project can also be procedure-based (i.e. related to an existing process) and within the context of Saint Lucia might relate to revisions to procurement or public budget allocation procedures. Pilot projects, guided by the strategic supervision of an inter-agency steering committee or working group is certainly one mechanism that can help to implement green economy activities in Saint Lucia.

# ENDNOTES

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6. Figure in PPP, current international dollars, per year. For the sake of clarity, an international dollar is a "hypothetical currency that is used as a means of translating and comparing costs from one country to the other using a common reference point, the US dollar". Put simply therefore, an "international dollar has the same purchasing power as the US dollar has in the United States". Source: World Health Organization, Purchasing Power Parity 2005, <http://www.who.int/choice/costs/ppp/en/>. Retrieved on 7 February 2015.
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42. Mitchell, 2014
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44. Ibid
45. Harvey, 2010
46. Ibid
47. Mitchell, 2014
48. Organisation of Eastern Caribbean States, 2011
49. For more information see: <http://globaltrees.org/about-global-trees-campaign/>
50. Government of Saint Lucia, 2012b
51. Government of Saint Lucia, 2014
52. Ibid
53. Government of Saint Lucia, 2012b
54. IFC, 2012.
55. Ministry of Tourism, Heritage and Creative Industries , 2013
56. Government of Saint Lucia, 2012b
57. Government of Saint Lucia, 2012b
58. It should be noted that in the past marinas have been developed at the expense of coastal mangrove swamps. This occurred in the case of at least the two largest marinas on the island, Rodney Bay (completely destroyed the mangroves) and Marigot Bay where some still remain. For more information see: Orr, T. (2007). Saint Lucia, Marshall Cavendish Benchmark. Future land use planning within a green economy framework should be guided by environmental impact assessments in order to ensure that future coastal developments are less environmentally invasive.
59. Invest Saint Lucia, 2012
60. Bohdanowicz, 2001
61. Snuba is a form of surface-supplied diving using an underwater breathing system developed by Snuba International.
62. A boat boy is the name given to an itinerant peddler of goods and services to yachtsmen and visitors.
63. Lotze, 2006, p. 1806-1809
64. Halpern, 2008 p. 948-952
65. Soufrière Marine Management Association, 2004
66. Momsen, 1994
67. Telfer, 2008
68. Government of Saint Lucia 2014, p. 6
69. Mitchell, 2009
70. CIS Limited, 2008
71. Mimura, 2007
72. Cazaubon, 2012
73. Nichols, 1999

74. United Nations Environment Programme, 1995
75. CIS Limited, 2008
76. O'Reilly, 1986 p. 254-258
77. McCool, 2001 p. 372-388
78. Castellani, 2012
79. Caribbean Development Bank, 2014
80. Ibid
81. Government of Saint Lucia, 2014
82. Ibid
83. Ibid
84. Ibid
85. Emmanuel, 2014
86. Government of Saint Lucia, 2003
87. Organisation of Eastern Caribbean States, 2015
88. Jeong, 2014
89. Emmanuel, 2014
90. Kentish, 2014
91. For examples see: <http://www.ecologic.eu/8665> and/or <http://www.adb.org/sites/default/files/guidelines-climate-proofing-investment-energy-sector.pdf>
92. Andrew, 2013
93. The Caribbean Climate Innovation Center (CCIC) is jointly managed by the Scientific Research Council (SRC) ([www.src.gov.jm](http://www.src.gov.jm)) based in Kingston, Jamaica and the Caribbean Industrial Research Institute (CARIRI) ([www.cariri.com](http://www.cariri.com)) based in Trinidad and Tobago. The other seven institutions that exist are based in Kenya, Ethiopia, India, South Africa, Vietnam, Morocco, the Caribbean and Ghana.
94. For further information on the thematic areas of the CCIC see: <http://caribbeancic.org/node/118>. Accessed on 19 April 2015.
95. United Nations, 2014

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## 14. APPENDICES

### 14.1 Appendix I: List of interviewees and list of guidance questions for semi-structured interview

#### 14.1 List of interviewees

Name	Designation
Crispin d'Auvergne	Chief Sustainable Development and Environment Officer - Ministry of Sustainable Development, Energy, Science and Technology
Caroline Eugene	Sustainable Development and Environment Officer - Ministry of Sustainable Development, Energy, Science and Technology
Judith Schmidt	Chief Energy Officer – Ministry of Sustainable Development, Energy, Science and Technology
Verne Emmanuel	Director – Engineering Consultants & Project Managers
Dunley Auguste	Manager – Saint Lucia Solid Waste Management Authority
Joanna Raynold Arhturton	Permanent Secretary – Ministry of Physical Development Housing and Urban Renewal
Debra Tobiere	Proprietor – True Value Building and Hardware Supplies
Eaton Jn Baptiste	CEO- Brice and Company Ltd.
Paula James	Vice President – Saint Lucia Manufacturers' Association
Lenita Joseph	Chief Transport Officer - Ministry of Infrastructure, Port Services and Transport
Benise Joseph	Energy Officer - Ministry of Sustainable Development, Energy, Science and Technology
Jenny Daniel	Chief Housing Officer- Ministry of Physical Development, Housing and Urban Renewal
Paula Calderon	Proprietor – Saint Lucia Awnings Ltd.
Graham Mills	Frinsted Consultancy Services Ltd.
Len Leon	Deputy Chief Engineer - Ministry of Infrastructure, Port Services and Transport
Karen Augustin	Engineer – Ministry of Infrastructure, Port Services and Transport
Bishnu Tulsie	Director – Saint Lucia National Trust

### 14.1.2 Research guidance questions for GESSSL – private sector

#### Definition

1. What, in your view, does the term 'green economy' mean?

#### Challenges and opportunities

2. What, in your view, are the major challenges facing your sector?
3. What, do you view/see as major opportunities to grow the sector?
4. What in your view are the primary means of expansion for the sector – is there scope for growth regionally/internationally?
5. What does the sector need to facilitate or stimulate growth?
6. In practice, in your view, is 'greening' a costly challenge or a real opportunity for increased returns and investment (in your sector)?
7. What do you believe the term "green economy" means for your sector?
8. Describe any challenges facing your sector related to the cost and management of energy
9. Describe any challenges facing your sector related to the cost and management of water
10. Describe any challenges facing your sector related to the cost and management of waste

#### The green economy applied: practical implications

11. Kindly list (if any) unsustainable or environmentally harmful practices that occur in your sector.
12. What can the private sector do (independent of government) to help green the sector?
13. What policy mechanisms should the government utilize to help 'green' the sector? Specific attention should be paid to:

- a. Budgeting
  - b. Fiscal systems and incentives
  - c. Procurement and tendering practices
  - d. Industry regulation
  - e. Planning and environmental management
14. What pieces of legislation do you believe are relevant to 'greening' St Lucia and in particular your sector?
  15. Are there any pieces of legislation or policies currently in existence that, in your view, run counter to or inhibit the greening of St Lucia/your sector?
  16. What can/should be done to encourage 'greener' investment in St Lucia/your sector?
  17. What, in your view, is the role of civil society in advancing the 'greening' of St Lucia and in particular your sector?
  18. Do attitudes of the general public encourage, hinder or have no effect on efforts to 'green' St. Lucia/your sector? (Another way of asking this – what attitudes, perceptions and even practices of the general public hinder or encourage the greening of St Lucia/your sector? A key aim of this question is to find out what needs to change on the part of the general public)

### 14.1.3 Research guidance questions for GESSSL – public sector

1. What in your view is a green economy?
2. How do current procurement practices support the acquisition of environmentally friendly goods and services?
3. How should procurement practices be reformed?
4. Do current government budgeting practices cater for the greening of the economy?

5. Do budgeting practices reflect a desire to diversify economic activities and energy production? If so, how?
  6. Does St. Lucia currently have policy instruments geared towards encouraging private investment (local or foreign) that would naturally support a transition to a green economy?
  7. What government programmes or policies currently exist that serve to encourage innovation? Is there innovation policy that focuses specifically on environmentally friendly goods and services?
  8. Data shows that in recent years, foreign direct investment (FDI) has accounted for more than eight per cent of GDP? Which sectors, to your knowledge, are the ones that have been most able to attract such investments?
  9. What fiscal incentives are in place at present to support the greening of the economy? (This can include but is not limited to increasing energy and water efficiency, improving waste management, acquiring environmentally friendly goods including renewable energy technologies, social policies and programmes).
  10. Kindly indicate any subsidies that currently exist that, in your opinion, would serve to support a transition to a green economy. Can you quantify the loss of revenue (if any) due to such subsidies?
  11. When and in what form did explicit commitment to sustainable development come from the Government of St Lucia?
  12. What opportunities exist (in your sector or otherwise) for developing new enterprises that could contribute to the development of a green economy?
  13. What, in your view, are the major barriers to a transition to a green economy?
  14. What are the main steps you would take to overcome these barriers?
  15. Who should drive a green economy transition in Saint Lucia?
- 14.2 Appendix II: Capacity assessment for the green economy – in Saint Lucia and Jamaica. Report on the Knowledge, Attitudes and Practices (KAP) Survey
- URL: [http://www.unep.org/greeneconomy/KAP\\_Saint\\_Lucia\\_Jamaica.pdf](http://www.unep.org/greeneconomy/KAP_Saint_Lucia_Jamaica.pdf)
- 14.3 Appendix III: Report on the National Consultation on the Green Economy Assessment for Saint Lucia – Draft Scoping Study
- URL: [http://www.unep.org/greeneconomy/Saint\\_Lucia\\_National\\_Consultation.pdf](http://www.unep.org/greeneconomy/Saint_Lucia_National_Consultation.pdf)







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This study identifies key challenges, opportunities, benefits and imperative investments as well as enabling conditions necessary to facilitate the greening of important economic activities in Saint Lucia. It features in-depth analysis of the tourism and agriculture sectors, contains valuable insight into the construction and manufacturing sectors, and it addresses the critical cross-cutting sectors of water, energy and waste. Through examining the potential for greening of these sectors, the study illustrates the importance of policy and regulatory reforms, investment facilitation and influencing industry practices and standards, along with a political leadership committed to a green economy transition.

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