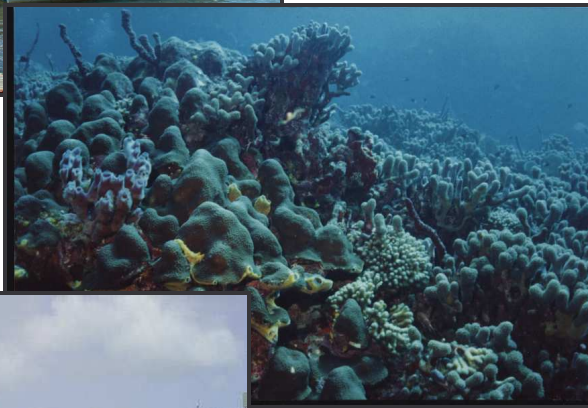


Coastal Zone Management in Saint Lucia: Policy, Guidelines and Selected Projects

April, 2004



Government of Saint Lucia



Ministry of Agriculture, Forestry and
Fisheries



Ministry of Physical Planning,
Environment and Housing

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Executive summary

Saint Lucia's coastal area is critical to its cultural, environmental, social and economic development. Consequently, it is necessary to protect and conserve the natural resource base within the coastal zone to ensure that the benefits being derived are maintained. As such, Saint Lucia must develop and adhere to environmental policies that seek to ensure that the very foundation of the natural environment, which created and sustains its society, is not destroyed.

The objectives of the island's Coastal Zone Management (CZM) policy are to maintain the integrity and productivity of the coastal zone and resources therein; optimise the contribution of the coastal zone to social and economic development through the sustainable use of resources and the equitable sharing of benefits; and harmonise uses of the coastal zone and provide a framework for the management and resolution of resource use conflicts.

The vision for the future of Saint Lucia's coastal zone encompasses a number of elements that pertain to CZM policy, legal and institutional arrangements, coastal resources, society and socio-economics.

This CZM policy is guided by a number of strategies including: equity, stewardship, collaboration and participation, multiple use, enforcement, capacity-building, coordination and integration and public awareness.

To ensure an integrated approach to CZM in Saint Lucia, the roles of regulatory and other agencies need to be comprehensive and clear, all stakeholders must be informed of, and sensitised to, CZM issues, and CZM related information must be made readily available to inform decision-making. To effectively achieve this, a coordinated approach is needed, and formal linkages must therefore be created among planning and management authorities. It is thus recommended that the CZM framework comprise both a Coastal Zone Management Advisory Committee (CZMAC) (interagency coordinating body), in keeping with the Physical Development and Planning Act No. 29 of 2001, and a Coastal

Zone Management Unit (CZMU). This framework should serve as a mechanism for co-ordination among agencies and institutions involved in coastal zone management and development; allow for the integration of coastal issues into the national planning and development framework; assist in minimising duplication of functions of management agencies, and in addressing gaps; provide a forum for conflict resolution and management; and conduct specific programmes and activities that do not currently fall within the mandate of existing organisations.

In particular, the CZMAC should be specifically responsible for identifying coastal zone management and development issues; proposing and formulating policies; facilitating communication and co-ordination among key actors; and guiding and supervising the various Programme components.

The CZMAC should comprise representatives from the public and private sectors, local government, as well as community-based organizations. Representation on this Committee should be at the decision-making level, and when necessary other agencies should be co-opted as required. Notably, the CZMAC should be assigned the task of developing a medium- to long-term strategy and action plan with set targets geared towards full implementation of this policy.

The CZMU should be specifically responsible for serving as the Secretariat of the Committee; providing technical input and advice to relevant planning and management agencies on matters pertaining to coastal development and management; collecting, managing and disseminating data and other information on coastal resources, issues and processes; creating and enhancing public awareness of coastal zone management issues and programmes; and conducting selected programmes and activities directly relevant to coastal zone management and development.

To maximise its efficiency and its effectiveness, the CZMU should be subsumed under an existing governmental agency. The Unit should also benefit from the provision of human and technical resources available within the various government agencies, and any other

expertise required to assist in carrying out specific tasks assigned to the Unit should be temporarily co-opted.

In considering which agency should take responsibility for the CZMU, three options were examined, namely the Ministry of Planning, Development, Environment and Housing (MPDEH), Water Resources Management Unit of the Ministry of Agriculture, and Department of Fisheries. A significant determining factor is that by definition, CZM is primarily an environmental issue, with specific focus on physical development, land use planning and natural resource management. Further, based on the fact that CZM is of national significance and requires umbrella legislation to be effective, it should be incorporated into the planning portfolio. As such, the preferred option is to subsume the CZMU under the MPDEH.

While a broad framework for a strategy and action plan is given, it is recommended that the CZMAC develop this into a comprehensive plan. For implementation purposes, it is recommended that a regional planning approach be taken, which considers the environment, as well as cultural, social and economic needs. This approach should be flexible, providing direction for development within regions and their components. It should incorporate, among others, the concept and practice of watershed management. All components of the approach should be considered as pieces of the same puzzle and be guided by a national vision for development, an economic development strategy and a comprehensive/national land use plan.

Some basic programme areas and projects are recommended for inclusion into the CZMU. These focus on awareness, education and sensitisation at all levels, coastal ecosystem management and waste management.

Abbreviations

CAMMA	-	Canaries/Anse la Raye Marine Management Area
CZM	-	Coastal Zone Management
CZMAC	-	Coastal Zone Management Advisory Committee
CZMU	-	Coastal Zone Management Unit
GIS	-	Geographic Information System
ICZM	-	Integrated Coastal Zone Management
MAFF	-	Ministry of Agriculture, Forestry and Fisheries
MPDEH	-	Ministry of Planning, Development, Environment and Housing
NRMU	-	Natural Resource Management Unit
NWCCP	-	North West Coastal Conservation Project
OECS	-	Organisation of Eastern Caribbean States
SMMA	-	Soufriere Marine Management Area
WRMU	-	Water Resource Management Unit

Foreword

The Government of Saint Lucia embarked on an initiative aimed at establishing institutional arrangements to facilitate the sustainable development and management of the island's coastal zone. As a part of this initiative, a Coastal Zone Management Project was established under the Ministry of Agriculture, Forestry and Fisheries and assigned the task of preparing coastal zone management related policy and guidelines.

The process used to prepare this policy involved broad based consultations and studies. Notably, over 100 persons, representing 51 different institutions, made contributions to the document (see Appendix I).

Funding for the preparation of this document was provided by the European Union through the Stabilization of Exports Project (STABEX), which was a funding instrument given to ACP countries to assist with banana export issues and diversification. This aspect of the project, i.e. development of the Coastal Zone Management Policy, was to allow better consideration of environmental issues, facilitating economic opportunities through the sustainable use of coastal as well as other resources.

On April 13, 2004, by way of Cabinet Conclusion Number 287, this policy, including the associated recommendations and guidelines, was formally adopted.

PART 1 THE POLICY

1.1 Background

Being a small island State, Saint Lucia's economy has historically depended and continues to depend heavily on its coastal resources, especially for human settlements, communications, fishers and, more recently, for tourism. The rugged interior of the island has led to a high demand for the comparatively low-lying coastal lands for commercial, housing and infrastructural developments. The Government of Saint Lucia has long recognised this heavy dependence on its coastal and marine resources and has put a number of policy, legal and institutional arrangements in place to facilitate sustainable development of the island's natural wealth. However, these arrangements are inadequate, and coastal resources remain vulnerable to over exploitation and to the impacts of natural disasters. This, in turn, has led to a slow and difficult move towards sustainable development.

The 'coastal zone' is a transition zone between the land and sea which is influenced by both, but defined as a band of varying width along the shore; however, emphasis is often placed on defining the term for legal and administrative purposes, with the result that environmental processes linking terrestrial and marine components of the coastal zone are often ignored. The width of the coastal zone is usually determined by administrative, physical and/or ecological boundaries or purely arbitrary divisions along shores.

The lack of standardisation for the term 'coastal zone' has given rise to a variety of terms in the literature, such as coastal zone management, integrated coastal zone management, coastal area management, integrated coastal area management, and integrated area development and coastal resources management. All these concepts and approaches to management recognise the interrelations and interdependent nature of ecosystems, and are a progressive move away from the traditional compartmentalisation of resource management.

More recently, the term ‘island systems management’ has been added to the terminology. The unique nature of small islands has facilitated the development of this latter concept. Small islands are influenced by their environment and themselves affect the seas around them in a much shorter period than larger landmasses; as such, concepts are now suggesting that, for small islands, the entire landmass and juridical marine area should be considered as coastal.

1.2 Policy rationale

Saint Lucia's coastal area is critical to its cultural, environmental, social and economic development. Consequently, it is necessary to protect and conserve the natural resource base within the coastal zone to ensure that the benefits being derived are maintained. While tourism and other development opportunities are necessary in support of a growing economy, steps must be taken to ensure that such growth is guided by the limits of this resource base.

In accordance with the Charter of the United Nations and the principles of international law, Saint Lucia has the right to exploit its own resources pursuant to its environmental policies. Therefore, Saint Lucia must develop and adhere to environmental policies that seek to ensure that the very foundation of the natural environment, which created and sustains its society, is not destroyed.

Consequently, the Government of Saint Lucia,

Committed to the sustainable development of the coastal zone;

Cognisant of the integrated approach to national development planning through a consultative process involving relevant stakeholders, i.e. Integrated Development Planning;

Subscribing to the concept of the ‘Island Systems Management’;

Mindful of the need for a comprehensive/national land policy and land use plan;

Recalling the Principles of the 'Saint George's Declaration of Principles for Environmental Sustainability in the OECS';

Reaffirming the policy directives outlined in 'Saint Lucia Policy and Strategy for Planning for Adaptation to Climate Change' regarding the coastal and marine resources of Saint Lucia;

Recognising its commitments under the relevant international agreements and conventions to which Saint Lucia is party;

Accepts that for administrative purposes the coastal zone for Saint Lucia lies between the 100 ft contour, or where a cliff area adjacent to the sea exceeds this, 75 ft inshore from the cliff edge, and 1 mile offshore;

Decides to establish a policy, with concurrent guidelines, strategies and actions, that will allow for an integrated approach to coastal zone planning, management and development.

1.3 Policy objectives

The objectives of this policy are to:

- Maintain the integrity and productivity of the coastal zone and resources therein.
- Optimise the contribution of the coastal zone to social and economic development through the sustainable use of resources and the equitable sharing of benefits.
- Harmonise uses of the coastal zone and provide a framework for the management and resolution of resource use conflicts.

1.4 The vision

The vision for the future of Saint Lucia's coastal zone encompasses the following elements:

Policy

- There is a national consensus on the importance of the coast, its place in the social, economic and cultural development of the country, and the need to manage its resources and to use them sustainably.
- There is an overall policy framework for coastal development and management that provides guidance to the public sector, civil society organisations and all citizens, and that contributes directly to the achievement of the objectives of this policy.
- Comprehensive policies in all related sectors, and notably in land use and management, in watershed management, in tourism and heritage tourism development, and in pollution control have been adopted and implemented.
- There are environmental guidelines and standards, particularly for the purpose of monitoring and maintaining water quality, and these are enforced.

Legal and institutional arrangements

- There are efficient forward planning and development control systems and procedures to guide physical developments that may impact on the coastal zone.
- There is adequate co-ordination among all agencies involved in coastal management and development, and these agencies are fully effective and efficient in the performance of their roles and functions.
- There are legal provisions and instruments available to govern the formal sharing of management authority and responsibility between government, civil society organisations and communities, as the basis for the establishment of co-management arrangements.
- Saint Lucia meets all its regional and international commitments, and collaborates fully in regional and international initiatives aimed at sustainable development and integrated management of the coastal zone.
- Management and enforcement activities are based on the availability of up-to-date credible information, through the conduct of suitable research and monitoring programmes, and the effective management of information, including monitoring data. Information and knowledge thus provide the basis for adaptive management.

Coastal resources

- Critical areas and ecosystems, including coastal wetlands, seagrass beds, coral reefs, beaches, river systems, forests, watersheds and coastal landscapes are conserved, restored and/or rehabilitated.
- Saint Lucia's biological diversity (ecosystems, species and genes) is maintained, and contributes fully to national development.
- The quality of coastal and fresh water resources is maintained and enhanced, and meets all relevant national, regional and international standards.
- Natural renewable resources are used sustainably and responsibly, and non-renewable resources are used conservatively.

Society

- The people of Saint Lucia have developed attitudes and perceptions that are consistent with the objectives of this policy, and they are committed to its implementation.
- Communities and their institutions are involved in the processes of coastal management and are empowered to play a meaningful and durable role in these processes.
- People and civil society organisations participate meaningfully in management, act as responsible stewards of coastal resources, and have a sense of ownership in the processes and institutions of coastal management.

Socio-economic benefits

- Coastal resources and coastal developments contribute optimally to employment creation and revenue generation at the local and national levels.
- There is equity in access to coastal resources and in the distribution of the benefits derived from the use of these resources.
- Coastal use conflicts are effectively managed, and do not contribute significantly to social fragmentation.

1.5 Guiding principles

The policy recognizes a number of fundamental principles:

- The responsibility of the State to establish and manage a policy framework for coastal zone management
- The need for fairness, transparency and accountability in the design and implementation of public policy
- The recognition of the rights associated with public property, and the critical functions of common property resources (beaches, ports, communication facilities) in the coastal zone
- The need to adopt the precautionary principle, i.e. not to proceed with significant changes within the coastal zone and environs in the absence of an adequate assessment of the potential impacts of these changes
- The need to respect regional and international obligations when formulating and implementing national policy

The formulation and implementation of a CZM policy in Saint Lucia should be guided by a number of strategies:

- *Equity*: the policy should recognise and preserve the rights of all citizens, and should ensure that benefits derived from coastal/marine resources are equitable;
- *Stewardship*: the policy should instil a sense of responsibility in all stakeholders and should lead to a sharing of management responsibility among the State, civil society, individuals and the private sector;
- *Collaboration and participation*: the policy should rely on the participation of stakeholders, and should develop collaboration and partnerships among relevant actors;
- *Multiple use*: the policy should seek to maintain and harmonise the multiplicity of uses of the coastal zone;
- *Enforcement*: the policy should provide for the effective and efficient enforcement of legislation, and for the resolution and arbitration of disputes whenever they arise;

- *Capacity-building*: the policy should contribute to building the capacity of all partners to participate in CZM, and should strengthen human resource capacity through training and technical assistance
- *Coordination and integration*: the policy should ensure that there is proper co-ordination among relevant actors, integration of management efforts, and that policy objectives and instruments remain coherent, compatible and mutually-reinforcing
- *Protection of common property*: the policy should aim at securing and enhancing the assets that are owned in common property for the benefit of all citizens
- *Provision of incentives*: the policy should aim towards the promotion of sustainable activities, using suitable financial and socio-economic incentives, as well as disincentives
- *Public awareness*: the quality and success of the policy should rest on an informed public, aware of issues and their causes, and informed of needs and requirements

1.6 Management and institutional arrangements

1.6.1 The institutional framework

It is recognised that to begin to take an integrated approach to CZM in Saint Lucia, the roles of regulatory and other agencies need to be comprehensive and clear, all stakeholders must be informed of, and sensitised to, CZM issues, and CZM related information must be made readily available to inform decision-making. To effectively achieve this, a coordinated approach is needed, and formal linkages must therefore be created among planning and management authorities.

It is recommended that the CZM framework comprise both a Coastal Zone Management Committee (interagency coordinating body), in accordance with the Physical Development and Planning Act No. 29 of 2001, and a Coastal Zone Management Unit. This framework will:

- Serve as a mechanism for co-ordination among agencies and institutions involved in coastal zone management and development.

- Allow for the integration of coastal issues into the national planning and development framework.
- Assist in minimising duplication of functions of management agencies, and in addressing gaps.
- Provide a forum for conflict resolution and management.
- Conduct specific programmes and activities that do not currently fall within the mandate of existing organisations.

1.6.2 The Coastal Zone Management Advisory Committee (CZMAC)

The Committee should be specifically responsible for:

- Identifying coastal zone management and development issues.
- Proposing and formulating policies.
- Facilitating communication and co-ordination among key actors.
- Guiding and supervising the programme components.

The Committee should comprise:

- One representative of each of the main public sector agencies directly responsible for coastal zone management and development, namely: the Ministries responsible for Physical Planning, Environment, Fisheries, Forestry, Agriculture, Works, Environmental Health and Tourism, the National Emergency Management Office, and the Saint Lucia Air and Sea Ports Authority.
- The Coordinator of the Coastal Zone Management Unit.

Representation on this Committee should be at the decision-making level, and other agencies should be co-opted as required. At the first meeting of the Committee, the members should jointly decide on who serves as the Chair and Vice-Chair, as well as determine other terms of reference for the Committee.

Notably, the CZMC should be assigned the task of developing a medium to long term strategy and action plan with set targets geared towards full implementation of this policy.

1.6.3 The Coastal Zone Management Unit

The Coastal Zone Management Unit (CZMU) should specifically:

- Serve as the Secretariat of the Committee.
- Provide technical input and advice to relevant planning and management agencies on matters pertaining to coastal development and management.
- Collect, manage and disseminate data and other information on coastal resources, issues and processes.
- Create and enhance public awareness of coastal zone management issues and programmes.
- Conduct selected programmes and activities directly relevant to coastal zone management and development.

The CZMU should include the following staffing:

- A co-ordinator, responsible for the provision of support and services to the Committee, the design and co-ordination of all the various components of the Programme, and the procurement and management of the Programme's human, technical and financial resources.
- A coastal planner, responsible for monitoring, data management, education and public relations activities.
- Two field staff responsible for assisting with data collection, as well as education and public relations activities.

Further, the CZMU should also benefit from the provision of human and technical resources available within other agencies, and any other expertise required to assist in carrying out specific tasks assigned to the CZMU should be temporarily co-opted.

1.6.4 Responsible Agency

To maximise its efficiency and its effectiveness, the CZMU should be subsumed under an existing governmental agency.

1.7 Integrated coastal zone management: an island systems approach

Many of the problems being experienced in the coastal area are as a result of land-based activities, and therefore, to effectively address these problems, an island systems approach should be taken. But, it is worth noting that while some stresses affecting resources within coastal areas occur at the national scale, some of the sources of stress differ in type and degree in various parts of the island. Further, the extent of negative impacts arising from human activities and resource sensitivity also differ in distinct regions around the island. As such, it would be prudent to invest in a regional planning approach with strategies and actions that take into consideration the environment, as well as cultural, social and economic needs. This approach should be flexible, providing direction for development within regions and their components. It should incorporate, among others, the concept and practice of watershed management. All components of the approach should be considered as pieces of the same puzzle and be guided by a national vision for development, an economic development strategy and a comprehensive/national land use plan.

It is thus proposed that the island be divided into four regions, namely the Northwest Coastal Region, Central West Coastal Region, Northeast Coastal Region and South to Southeast Coastal Region. These divisions are based on a combination of watershed boundaries, resource issues, and development and management trends. Appendix II shows the boundaries of each region, while Appendix III gives a brief description of each region.

In an effort to decentralise urbanisation and alleviate problems associated with this, the regional approach should encompass urban centres that would provide economic incentives (e.g. jobs, business opportunities, etc.) as well as social services (e.g. schools, utilities etc.).

**PART 2 FRAMEWORK FOR STRATEGIES AND ACTIONS:
TOWARDS POLICY IMPLEMENTATION**

2.1 Specific recommendations for management and institutional arrangements

2.1.1 The institutional framework

Taking into account the Sustainable Development and Environment Unit's efforts at establishing a National Environmental Commission, it is recommended that the CZM framework be considered as a subcomponent of this Commission. Further, to allow this framework to function effectively, steps should be taken in the near future to establish a legal basis for it, as well as to define its legal mandate.

2.1.2 The Coastal Zone Management Advisory Committee (CZMAC)

To facilitate continuance, the current Coastal Zone Management Project should chair the first meeting and prepare draft terms of reference.

2.1.3 The Coastal Zone Management Unit

The CZMU should benefit from the provision of human and technical resources available within other agencies, including the following:

- Additional administrative support should be provided by the responsible agency.
- Use of boats and services of a boat captain should be provided by the Department of Fisheries.
- The Ministry of Planning, the Ministry of Health, the Department of Fisheries and other specialised agencies should provide technical expertise as required.

In addition, any other expertise required to assist in carrying out specific tasks assigned to the CZMU should be temporarily co-opted.

2.1.4 Responsible Agency

According to the CZM Policy, to maximise its efficiency and its effectiveness, the CZMU should be subsumed under an existing governmental agency. As such, three options have been considered, namely the:

- Ministry of Planning, Development, Environment and Housing (MPDEH).
- Water Resources Management Unit of the Ministry of Agriculture.
- Department of Fisheries.

The advantages and disadvantages of these three options are presented in Table 1.

Table 1. Location of the CZMU: advantages and disadvantages

Advantages	Disadvantages
Located within the Ministry of MPDEH	
<ul style="list-style-type: none"> • Umbrella legislation (namely, the Physical Development and Planning act #29 of 2001) • Linkages with and experiences in international processes • Strong role in policy formulation • Focus on planning issues • Responsible for the environment (logical linkage between environmental and coastal zone management) 	<ul style="list-style-type: none"> • Environmental section operates mainly at a policy level (i.e. involved in formulation of policies and ensuring mechanisms are in place for implementation of these policies) • No field presence as it relates to CZM data collection and management capacity • Limited experience in public awareness and mobilisation
Merged with the Water Resources Management Unit of the Ministry of Agriculture	
<ul style="list-style-type: none"> • Integration of fresh water and marine resource management • Increased efficiency in the use of similar human and technical resources • Similarity of issue, allowing for effective application of the concept of Island System Management 	<ul style="list-style-type: none"> • No legal mandate • Unit currently in the project phase • No technical capacity and support facilities required to address marine issues
Placed within the Department of Fisheries	
<ul style="list-style-type: none"> • Historical involvement in coastal zone issues (institutional memory) • Legislative framework partially available • Access to human and technical resources (including field presence and support facilities) • Linkages with, and experiences in, international processes (implementing agency for several relevant international agreements) 	<ul style="list-style-type: none"> • No umbrella legislation (focus on resource management issues) • Limited experience in policy formulation as it relates to general planning issues

From this analysis, it is clear that all of these options have their strengths and weaknesses, but the two best options appear to be the Ministry of Planning and the Department of Fisheries. The risk of the CZMU functioning only at the policy level (to the exclusion of data collection and management) if the Unit is placed within the Ministry of Planning, and the excessive focus on resource management if the Unit is placed within the Department of Fisheries, have been weighed. A significant determining factor is that by definition, CZM is primarily an environmental issue, with specific focus on physical development, land use planning and natural resource management. Further, based on the fact that CZM is of national significance and requires umbrella legislation to be effective, it should be incorporated into the planning portfolio.

To facilitate this, two options have been explored. The first recommends that in an effort to avoid drastic changes within existing institutional arrangements, and based on the responsibilities (outlined earlier) of the CZMU, the Department of Fisheries could adopt this Unit. In this case the Chief Fisheries Officer should be given the authority to supervise the establishment and day-to-day operation of the Unit. However, the work and resource requirements for the Unit should be reflected in the annual budget and work programme of the MPDEH. Notably, strengthening of the human and resource capacity of the MPDEH should take place in the short to medium term to allow this Ministry to incorporate the Unit into its structure.

The second and preferred option is to place the CZMU within the MPDEH from the onset. In this case, the Department of Fisheries should continue to serve as a field presence for various aspects of coastal resource assessment and monitoring. Other relevant data and information (e.g. geo-referenced resource maps and coastal processes) could be captured through the implementation of projects, as was the case for collection of data during the Northwest Coastal Conservation Project.

2.2 Framework for strategies and actions

The subsequent subsections outline strategies and actions for region specific development and management plans. Some of these areas of focus are common to all regions, but the degree of severity of issues and their extent differ among regions and will likely require different management approaches.

2.2.1 Restoration/rehabilitation

- Restoration and/or rehabilitation of coral reefs (one of the main stress factors affecting reefs is poor water quality; once this issue is addressed, these systems should be restored and/or rehabilitated). This matter is of particular concern in the Northwest Coastal Region.
 - Enhancement of reef generation processes: supplement coral recruitment through ‘planting’ of coral colonies and transfer of keystone species such as the black spine sea urchin (*Diadema antillarum*).
 - Establishment of structures such as ‘reef balls’ and other artificial reef structures, where appropriate, to encourage coral larval settlement.
 - Protection and conservation of critical coral reef systems. This issue is of particular interest for the Central West Coastal Region.
- Rehabilitation of beaches.
 - Identification of problematic and vulnerable areas.
 - Mapping beach and sand resources.
 - Employment of soft methods (e.g. beach replenishment, dune restoration, prohibition of extractive practices) and where necessary, hard engineering methods, to address problems.
- Restoration and/or rehabilitation of dry scrub and other forested areas.
 - Declaration and/or demarcation of conservation areas and/or forest reserves.
 - Development and implementation of replanting programmes.

2.2.2 Conservation/protection

- Management of protected areas

- Revision of the current national system of marine reserves with a view to including other coral, mangrove and beach systems.
- Protection, conservation and/or enhancement of watersheds.
 - Promotion of land exchange programmes.
 - Development of a land acquisition programme with an aim of protecting critical areas within watersheds.
 - Identification, declaration and legal demarcation of reserves and buffer zones.
- Maintenance of critical wetland areas.
 - Mapping of wetland resources.
 - Introduction of incentives and disincentives scheme targeted at private landowners of wetland areas to guide development of these lands.
 - Development of a land acquisition programme with an aim of protecting critical wetland areas.
- Maintenance of the coral reef, mangrove and seagrass complexes. This issue is specific to the Pointe Sable area within the South to Southeast Coastal Region.
 - Mapping of resources.
 - Conducting of research to determine natural processes involved in maintaining these complexes.
 - Based on research, formulation of management plans to promote maintenance of these complexes.
 - Demarcation of existing protected areas.
- Management of land.
 - Development of a comprehensive land use policy and plan.
 - Development and implementation of programmes that promote sustainable use of agricultural lands, especially as they relate to soil conservation.

2.2.3 *Enhancement*

- Enhancement of watersheds.
 - Establishment of replanting programmes using species native to the area.
 - Rehabilitation of river systems by vegetating banks and recreating microhabitats within riverbeds.

- Improvement of water quality for both river and coastal systems.
 - Strengthening the capacity of regulatory agencies, especially as it relates to water quality monitoring.
 - Development and implementation of relevant guidelines and/or standards as they relate to various effluents, along with the appropriate monitoring and evaluation programme.
 - Development and implementation of a comprehensive water quality monitoring programme.
 - Establishment of appropriate sewage disposal and treatment systems to effectively service each region.
 - Improvement of solid waste management, beginning with communities located in close proximity to waterways.
 - Implementation of incentive and disincentive programmes aimed at lowering the risks of agrochemicals and sediment reaching waterways.
 - Enforcement of restrictions against illegal mining (stones and sand) in rivers and coastal areas.
- Enhancement of wetlands.
 - Demarcation of existing mangrove wetland marine reserves.
 - Preservation and/or conservation of key wetland (other than mangrove) areas.
 - Establishment of replanting projects.
- Enhancement of beaches.
 - Establishment of regular beach cleaning activities to address marine based pollution occurring along the east coast.
 - Development and enforcement of buffer zones as they relate to coastal development.
- Port and harbour management as it relates to water quality.
 - Establishment of legislation to ensure that future port and harbour developments incorporate appropriate waste disposal facilities.
 - Creation of an incentives and disincentives scheme to encourage existing ports and harbours to establish appropriate management systems.

- Promotion of adequate solid waste disposal. This matter has direct implications for water quality and degradation of riverine and coastal ecosystems.
 - Development and implementation of basic recycling and other waste management programmes – targeted at public involvement.
 - Encouragement of development and implementation of Environmental Management Systems in all business (private and government).
 - Development of an incentives and disincentives scheme to encourage composting and basic recycling practices.
 - Revision of relevant legislation with an aim to incorporating relevant regional and international agreements into national law.
- Enhancement of waterfront areas of villages with a view to maintaining their quaint village appearance. This is essential in the Central West Coastal Region as a means of enhancing the overall tourism product.
 - Development of plans that are in keeping with traditional architecture and compatible with the present environment.
 - Promotion of easy marine access to villages.

2.2.4 Physical and spatial planning

- Zonation of the nearshore area to cater to the myriad of uses and avoid conflict among users and uses. This is of particular importance in the northern section (tourism hub) of the Northwest Coastal Region and Anse de Sable in the South-southeast Coastal Region.
 - Mapping of all coastal and marine resources.
 - Creation and demarcation of recreational areas (beaches and swim areas), trap fishing areas, seine fishing areas, boating routes, jet ski areas, marine reserves etc.
 - Development and implementation of a comprehensive management system, including a fee system to support maintenance of facilities (e.g. moorings and/or anchorages) and services (e.g. area rangers).
- Promotion of residential and commercial development that is in keeping with sustainable development.

- Development of plans that are based on a national land use plan.
- Devising new and innovative ways to accommodate the expanding built environment.
- Promotion of forward planning and integrated development planning.

2.2.5 Empowerment and capacity building

- Promotion of participatory and collaborative management.
 - Establishment of a public awareness, education, and sensitisation programme relating to coastal zone management from a small island perspective.
 - Mobilisation of communities as it relates to conservation of resources and rehabilitation of degraded areas.
 - Establishment of community based and other management arrangements to facilitate effective resource conservation and sustainable use.
 - Delegation of management responsibility in selected domains of coastal management to community and local government agencies.
- Capacity-building
 - Development of information management and communication networks and mechanisms among agencies involved in coastal management and development.
 - Development of functional cooperation, promotion of joint programmes and pooling of technical resources among technical agencies.
 - Strengthening of the technical and enforcement capacity of all regulatory agencies involved in coastal zone management.
 - Strengthening of the revenue generation capacity of coastal zone management schemes and institutions, e.g. the Soufriere Marine Management Area and the Canaries-Anse la Raye Marine Management Area.

2.2.6 Socio economic benefits

- Development of business and income generation opportunities
 - Provision of technical assistance and other incentives to business ventures, especially small and micro businesses in the areas of eco and heritage tourism:

hiking trails, camping sites, small shallow glass bottom boat tours, and other sustainable uses of coastal resources. Assistance should take into account the development and marketing of these products.

- Enhancement of existing tours. For example, promotion of the mangrove tour in the Mankòtè Mangrove as an exclusive bird watching tour with overnight camping trip (to take advantage of the early morning and evening bird activity in the mangrove), and development of similar tours in other appropriate areas.
- Review of existing hiking trails with a view of creating a more effective institutional structure to manage a defined system of trails and promote revenue generation (especially at the community level) from hiking activities.
- Encourage financial institutions to support non-traditional business development in the coastal zone.
- Development of public infrastructure (e.g. jetties and public parks) to support economic activities in the coastal zone.

2.2.7 Policy and/or legislation

- Development and implementation of policy and/or legislation to address the following issues:
 - Water dependent operations
 - Large scale aquaculture establishments.
 - Aquarium ornamental trade.
 - Establishment of submarine/submersibles operations.
 - Yachting registration system.
 - Commercial aquarium establishments (including ‘swim with the dolphin’ programmes).
 - Liquid and solid waste collection and disposal systems for ports/harbours.
 - Resource management
 - Protocols for carrying out research activities in Saint Lucia, especially as it relates to genetic resources and ownership.
 - Formal co-management arrangements other than fisheries related.

- Mining on beaches, rivers and offshore.
- Land use plans.
- Rehabilitation and restoration of degraded/lost ecosystems, respectively.
- Other
 - Response to disasters in coastal areas as it relates to mass movement of people.
 - Integrating mariculture into coastal development.
 - Rights regarding public access to beaches and the physical condition of that access.
 - Coastal stabilisation and enhancement works (including creation of beaches and artificial reefs).
 - Safety and environment quality in coastal related activities and businesses.

To date, some of the recommendations discussed above are in progress, but these are mainly reactive and do not form part of an overall plan. There is thus a need to develop a national vision and set goals for the sustainable development of St Lucia; in turn, these should be translated into a national land use plan. Based on these decisions, a national development plan should be developed using regional planning. This approach would allow a national development plan to be implemented by sections and/or in phases, depending on the degree of stress being experienced by the environment, socio-economic needs of an area, and availability of financial and other resources.

PART 3 SELECTED PROGRAMMES AND PROJECTS

3.1 Selected programmes and projects with CZM implications

To effectively carry out CZM in St Lucia, there are basic programme areas and projects that should be incorporated into work programme of the CZM Unit. The following details selected programme areas and related projects:

Programme area: Education, awareness and sensitisation

The overall objective of this programme is to create awareness among, as well as to educate and sensitise, people on CZM issues. The implementation of this programme is in an effort to change attitudes and behaviours that contribute to negative impacts on coastal/marine resources.

Project #1: Mama tè di (Youth educational programme)

Objective: To target the younger audience and create awareness within this group on CZM issues as it relates to a small island.

Activities: Development and implementation of an education, awareness and sensitisation programme that targets the younger audience (4 – 18). This programme should include the following:

- School presentations/lectures/discussions to students and well as teachers;
- Exhibitions;
- Poster, essay, painting and other competitions;
- Production and dissemination of educational materials;
- Field trips and guided tours.

Project #2: Sa nou bizwen konnèt (Public awareness and sensitisation)

Objective: To target the general public and create awareness within this group on CZM issues as it relates to a small island.

Activities: Development and implementation of an education, awareness and sensitisation programme that would target the general public. This programme should include (but not be limited to) the following:

- Production and dissemination of a video on CZM issues in Saint Lucia;
- Public exhibitions;

- Media interviews/panel discussions, call-in programmes, etc.;
- Presentations to communities and discussions with these groups;
- Focused activities for selected coastal resource users.

Project #3: Pou fè bon disizyon (Decision making)

Objective: To create awareness among and sensitise policy makers, and planning and management authorities on CZM issues.

Activities: Development and implementation of a mechanism that would facilitate dissemination of available information to policy makers, and planning and management authorities.

Programme area: Coastal ecosystem management

The overall objective of this programme is to obtain updated and more accurate information on coastal/marine resources (natural and man-made) to facilitate forward planning and effective management of coastal areas.

Project #1: Sé sa nou ni (Coastal area mapping)

Objectives: To update the national Geographic Information System (GIS) located at the Ministry of Planning and to collect more accurate information on natural coastal/marine resources especially as it relates to the precise location and extent of these resources.

Activities: Activities should form a general mapping exercise and include the following:

- Selection of target themes for mapping;
- Collection of information using remote sensing;
- Ground truthing activities;
- Analysis and compilation of information generated from remote sensing activities into the national GIS at Ministry of Planning;

- Development of protocols/procedures for accessing this information by national government and non-government bodies, and foreign agencies.

Project #2: Sa nou oblijé konsèvé (Protected areas)

Objectives: To identify priorities and develop a medium-term strategy and work plan for protected area management and habitat restoration and rehabilitation in the coastal zone.

Activities: This project should establish a comprehensive system of protected areas, and thus include the following activities:

- Review of all existing coastal and marine protected areas and their management status;
- Analysis of the constraints to management of these areas;
- Development of management plans for those areas where conditions for management can be met;
- Identification of habitats that are not within the protected area system and may need protection;
- Formulation of a medium-term strategy and work plan.

Programme area: Waste management

The overall objective of this programme is to effectively deal with waste material impacting coastal/marine areas.

Project #1: Lanmè plastik (Mitigating the negative impacts of plastic materials in coastal/marine areas)

Objectives: To mitigate the impacts that plastic materials are having in coastal/marine areas.

Activities: This project should take a collaborative approach, involving the Solid waste Management Authority, and include the following:

- Public awareness and sensitisation aimed at encouraging persons to move away from the use of plastic bags to using paper bags (to be covered under the public awareness programme);
- Identification and implementation of a mechanism that would allow for the effective collection and recycling of plastic bottles;
- Cleanup campaigns.

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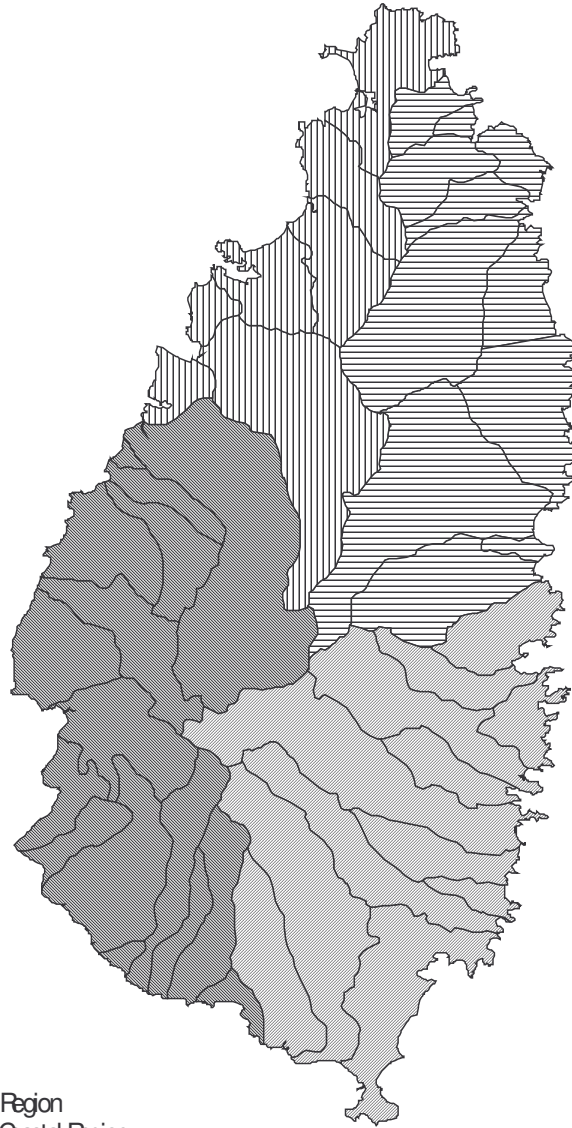
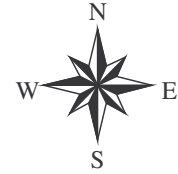
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Boundaries of Regions



-  North West Coastal Region
-  South - South East Coastal Region
-  North East Coastal Region
-  Central West Coastal Region

Note: divisions within each region represent individual watershed areas

APPENDIX III Descriptions of Regions

Northwest Coastal Region

(Point du Cap to Trou Rolland, Marigot)

This region has developed as a hub for tourism and other commercial development, and as such, has attracted a high level of residential development as well. This high level of development has not been accompanied by the necessary infrastructure needed to ensure overall environment health and this has led to poor river and coastal water quality, which in turn, has caused severe degradation of coral reefs and seagrass beds. Further, the lack of an holistic approach to planning and development has led to the destruction of many mangroves and other wetlands, and the remaining are under constant threat from the expanding built environment. Agricultural practices have also taken their toll on resources within this region. For example, the banana belt in Roseau extends directly along the lower reaches of the Roseau River and this has led to severe degradation of this river system and the surrounding watershed area. In general, the region is characterised by a high level of infrastructural, residential and commercial development, and severe degradation of coastal resources. There is an urgent need to restore and/or rehabilitate critical resources in this area in order to continue to reap benefits, and indeed to increase such benefits such as revenue from fishing and diving activities from this region.

Central West Coastal Region

(Roseau Bay to Choiseul)

The Canaries/Anse la Raye and Soufriere Marine Management Areas make up a major section of this region. This proposed region contains the island's most diverse coral reef systems, which serve as a major source of revenue for the fisheries and tourism industries. In general, the region also has good potential for sustainable tourism development. The town of Soufriere already possesses several major tourism attractions, but in addition to developing new tourism packages for neighbouring villages, existing ones need to be enhanced. It is important to note that while village waterfronts in this region must be developed, this should be carried out in a manner that would enhance their quaint village appearance as part of the overall tourism product. Presently, the potential of the region is being hampered by ad hoc residential and commercial development,

a high development focus within the Soufriere area, and limited development focus in the neighbouring villages.

Northeast Coastal Region

(Point du Cap to Mandele Point, Dennery)

This region offers good potential for the development of eco and other related tourism - the proposed Grand Anse Park, if realised, should enhance the overall tourism product. The area is high in plant endemics and, aside from a few settlements, its coastline is least impacted on by residential and commercial development as compared with other regions. However, this coastal area is being stressed by poorly controlled human activities such as sandmining, deforestation and poor agricultural practices. The region has been recognised by some as the new frontier for development and certainly holds this potential; however, development must be guided by the principles of sustainable use of natural resources and limits of acceptable change.

South and Southeast Coastal Region

(Mandele Point, Dennery to Black Bay, Vieux Fort)

The relatively rough coastal waters of the Atlantic ocean does not allow this section of the island to be effectively promoted as a 'sun, sand and sea' tourism package, but this section of the island has excellent potential for ecotourism and other related development - the proposed Praslin Protected Landscape and Point Sable National Park, if approved, should enhance the overall tourism product of the area. This section of the coast has a number of critical ecosystems, including coral reefs, seagrass beds and mangroves. The inter-connectivity of these systems has evolved over years to present what exists today: critical nursery areas (Savannes fringing mangroves) for lobsters and other reef species; a sediment trap and freshwater buffer zone (Mankote basin mangrove) that provides an ideal climate for coral reefs and seagrass beds; and a natural wave breaking system (fringing reefs), which provides a relatively calm area for the development and maintenance of seagrass beds and mangroves. Further, offshore islands provide a unique ecosystem and are home to a number of endemic reptiles. However, this coastal area is suffering from poor water quality, beach erosion and the lack of a comprehensive development plan.

Glossary

- ***Coastal zone***: a transition zone between the land and sea that is influenced by both, but defined as a band of varying width along the shore. Loosely defined, the coastal zone includes both the areas of land subject to marine influences and the areas of sea subject to land influences. The precise boundaries of a country's coastal zone are usually defined for legal and/or administrative purposes.
- ***Comprehensive/national land policy and land use plan***: guidelines and measures established to provide direction into the development and management of land.
- ***Integrated coastal zone management (ICZM)***: coastal zone management that encompasses the concepts of resource management and sustainable development. ICZM requires balancing a wide range of ecological, social, cultural, governance and economic considerations. An important concept of ICZM is co-management, where governmental and non-governmental stakeholders share aspects of governance.
- ***Integrated Development Planning***: an holistic, dynamic and participatory approach to development planning that seeks to integrate and coordinate economic, social, environmental, demographic, financial and spatial dimensions into the planning process, to ensure effective and sustainable use of the available human, financial and natural resources for common good.
- ***Island Systems Management***: an integrated process of information gathering, planning, decision-making, allocation of resources, actions and, formulation and enforcement of regulations related to the linkages in small island states among ecological systems, and between these systems and human activities, and incorporating terrestrial, aquatic and atmospheric environments.
- ***Line agency***: an agency with direct management and/or planning responsibilities as they relates to processes, functions and resources within the coastal zone.
- ***St George's Declaration of Principles for Environmental Sustainability in the OECS***: The people and governments of the Organisation of Eastern Caribbean States (OECS) came together and developed a set of principles for environmental sustainability by which human conduct affecting the environment should be guided and judged. These principles include the need to involve the public in the planning process.
- ***Stakeholders***: an individual, group or institution that affects or is affected by the outcome of management.