

Adapting to Climate Change Induced Coastal Risk Management in Sierra Leone

ANALYSIS OF NATIONAL DEVELOPMENT PLANS AND POLICIES FOR MARINE SPATIAL PLANNING DEVELOPMENT AND IMPLEMENTATION IN SIERRA LEONE

Submitted to

The United Nations Development Programme (UNDP)

Institute of Marine Biology and Oceanography (IMBO), University of Sierra Leone

November 2020

Acknowledgement

This study was funded under the United Nations Development Programme (UNDP)/GEF Adapting to Climate Change Induced Coastal risk management project in Sierra Leone. The authors would like to extend their appreciation to UNDP project team, the Environment Protection Agency and all those who in diverse ways contributed to the successful completion of the assessment. For the support and assistance offered by staff of the Institute of Marine Biology and Oceanography, the Ministry of Fisheries and Marine Resources (MFMR) and other MDAs, the Author is indeed grateful.

ACRONYMS

| | |
|--------|--|
| AC | Abidjan Convention |
| ECOWAS | Economic Community of West African States |
| EEZ | Exclusive Economic Zone |
| GoSL | Government of Sierra Leone |
| IMBO | Institute of Marine Biology and Oceanography |
| MFMR | Ministry of Fisheries and Marine Resources |
| MSP | Marine Spatial Planning |
| NPAA | National Protected Area Authority |
| SDF | Sustainable Development Fund |
| SDG | Sustainable Development Goal |
| UNDP | United Nations Development Program |
| UNEP | United Nations Environment Program |

LIST OF TABLES

| | |
|--|----|
| Table 1 Basic Information on the Sierra Leone Exclusive Economic Zone..... | 13 |
|--|----|

TABLE OF CONTENTS

| | |
|---|----|
| ACKNOWLEDGEMENTS..... | 0 |
| ACRONYMS | 2 |
| LIST OF TABLES..... | 3 |
| TABLE OF CONTENTS..... | 4 |
| PREFACE | 6 |
| 1. BACKGROUND..... | 8 |
| 1.1 Rationale | 9 |
| 1.2 Objective of the assignment..... | 12 |
| 2. THE SIERRA LEONE COAST | 12 |
| 3. SOCIO ECONOMIC ASPECT..... | 13 |
| 3.1 Demography..... | 13 |
| 3.2 The Social Structure | 14 |
| 4. POLICY AND LEGAL BASIS FOR THE PREPARATION OF THE PLAN | 14 |
| 4.1 Scope and Purpose of Sierra Leone’s Pilot Marine Spatial Framework | 15 |
| 5. LEGAL FRAMEWORK | 15 |
| 5.1 Land Use and Spatial Planning Act..... | 15 |
| 5.2 International Best Practice | 17 |
| 6. GOVERNANCE FRAMEWORK AND GAP ANALYSIS RELATING TO DEVELOPMENT OF MARINE SPATIAL PLANNING | 19 |
| 6.1 Governance Framework..... | 19 |
| 6.1.1 Constitution Provisions for Governance..... | 19 |
| 6.1.2 The Local Governance Structure Act, 2016, (Act 936)..... | 20 |
| 6.1.3. Relevant Policies, Frameworks and Legislation..... | 20 |
| 6.1.3.1 Policies | 20 |
| 6.1.3.1.1 Environmental Policy | 20 |
| 6.1.3.1.2 Land Policy | 20 |
| 6.1.3.1.3 Water Policy..... | 21 |
| 6.1.3.1.4 Mineral and Mining Policy | 21 |
| 6.1.3.1.5 Fisheries Policy..... | 21 |
| 6.1.3.1.6 Food and Agriculture Policy..... | 22 |
| 6.1.3.1.7 Wetlands Policy..... | 22 |

| | |
|--|----|
| 6.1.3.1.8 Forestry and Wildlife Policy | 22 |
| 6.1.3.1.8.1. International Obligations on Wildlife | 22 |
| 6.1.3.1.9 Environmental Sanitation Policy | 24 |
| 6.1.3.1.10 Transport Policy | 24 |
| 6.1.3.1.11 Population Policy | 24 |
| 6.1.3.1.12 National Energy Policy, 2010 | 24 |
| 6.1.3.1.13 Petroleum Policy | 25 |
| 6.1.3.1.14 Climate Change Policy..... | 25 |
| 6.1.3.1.15 National Housing Policy | 26 |
| 6.1.3.2 Legal frameworks..... | 27 |
| 6.2 IDENTIFYING GAPS RELATING TO DEVELOPMENT OF MARINE SPATIAL PLANNING..... | 29 |
| 6.2.1 Gaps in Knowledge..... | 29 |
| 6.2.2 Sustainable Fisheries..... | 30 |
| 6.2.3 High water quality to sustain balanced ecosystem/Pollution Management Plan | 31 |
| 6.2.4 Balanced habitats for sustainable ecology and environment | 31 |
| 6.2.5 Gaps relating to tourism | 32 |
| 6.2.6 Gaps relating to maritime transport..... | 32 |
| 6.2.7 Gaps relating to the development of oil and gas | 32 |
| 6.2.8 Gaps relating to conflict resolution | 32 |
| 6.2.9 Gaps relating to Wildlife Conservation | 33 |

PREFACE

This preparation of Situational Report is in line with the preparatory stage/phase for the development of a Marine Spatial Framework for 4 coastal districts i.e Kambia, Port Loko, Moyamba, Western Area, Pujehun and Bonthe districts. This report provides the background and rationale to the sub-regional (Western Regional) marine spatial development framework, the Legal basis for implementation which shows that the passing into law of the Land- Use and Spatial Planning Act, 2016 (Act 925) provides the mandate to the Land Use and Spatial Planning Authority to lead in the process of developing a spatial framework for the marine area as well as for land. Furthermore, the Environmental Protection Agency Act, 1994 (Act 490) mandates the Agency to coordinate with Government Agencies and District Authorities in managing and protecting the environment. To give effect to Act 490, The Environmental Assessment Regulations, 1999 (LI 1652) provides the framework for regulating activities and protecting Environmentally Sensitive Areas among others and provides the legal bases for the preparation of the marine spatial framework for the plan area. The Plan Area presents a unique opportunity for piloting the development of a framework for use of both the marine space and resources within the coastal and marine environment. The situation report details the economic characteristics of the Plan Area which shows that agriculture (fishing and farming) are the major occupations of a greater percentage of inhabitants within the plan area. The natural environment consists of coastal habitats such as lagoonal/Estuarine/Depression wetlands with associated extensive mangrove stands, sandy and rocky beaches which serve as habitats for diverse flora and fauna. In addition, infrastructure such as communication, energy, health, sewerage, sanitation, transportation and water infrastructure have been provided within the plan area however there is the need to improve on the current state in order to improve the health, economy of the people which would go a long way to affect the livelihoods and the economy of the western region and in the long run that of the country as well. Population analysis shows that the population of the plan area is gradually increasing, leading to the change in the land use patterns hence the need to put measures in place to reduce the pressures on not only the natural resources but also on the built environment. Findings from this report would feed into structure of the tool i.e. marine spatial framework within which all

stakeholders would use to manage and develop the natural resources within the plan area sustainably.

1. BACKGROUND

The Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region, which came into force in 1981, is a legal instrument for cooperation in the protection and development of the marine environment and coastal areas of West, Central and Southern Africa Region. The Abidjan Convention (AC), as the convention is known, covers 22 countries bordering the Atlantic coast of West Africa from Mauritania to South Africa and is administered by the United Nations Environment Programme (UNEP) under the UNEP Regional Seas Programme. However, only 17 countries including Sierra Leone are currently parties to the Convention. The Convention lists, under its articles, issues to be addressed as: pollution from ships, pollution as a result dumping; pollution from land-based activities; pollution from exploration and exploitation of the seabed; and coastal erosion. It also identifies environmental management issues from which cooperative efforts are wetlands, and lagoons.

The area covered by the convention supports highly diverse and productive marine and coastal ecosystems. It is a home of intensive fisheries, oil exploration and production, coastal tourism, industries, mining of minerals and busy ports. However, the region's rapid development and population growth have led to unsustainable use of natural resources and pollution. As a result, living marine resources are being depleted rapidly and crucial habitats are also disappearing. These developments in the Region, call for immediate planning of the use of the vast resources in the Region in a sustainable manner.

The coastal zone of Sierra Leone is highly vulnerable to the increased frequency and severity of coastal erosion, flooding and storm surges which severely impact social wellbeing (health), livelihood security (and water resources) and major economic sectors such as fishing, tourism, water resources and agriculture. Coastal communities are already experiencing considerable repercussions of these impacts, notably on their livelihoods with reduced fishing productivity, ecosystem degradation and low farming outputs. The limited accessibility of climate-related data limits the ability of decision-makers to make informed planning and policy decisions for the coast

(in particular marine and sea parameter databases such as wave height, wave period, wind speed and direction), and to take any clear strategic actions to remedy these negative effects. This lack of adequate knowledge is contributing towards undermining social and economic development, particularly under a changing climate. In addition, weak institutional regulatory capacity coupled with the absence of a national “coastal specific” community-based information system that focuses on supporting the management of climate-related risks continue to hamper long-term coastal planning, management and early warning activities. The GEF-funded project is designed to address these problems. The intended outcome of the project is to help the Government of Sierra Leone (GoSL) to become more climate resilient while contributing towards achieving Sustainable Development Goals (SDGs).

The project focuses on three thematic components:

Component 1: Generating sound scientific knowledge and access to information;

Component 2: Climate information internalized into coastal development policy and plans;

Component 3: Awareness and alternative, innovative activities to support adaptation in the coastal zone.

Through these components, the project will work towards the update of those policies and any informational barriers that are currently preventing Sierra Leone from systematically managing coastal risks. This will contribute to reducing vulnerability of both coastal communities and ecosystems and in the process strengthen institutional capacity and adaptation planning.

The Institute of Marine Biology and Oceanography (IMBO) has been consulted by the United Nations Development Program (UNDP) under the “GEF funded project “Adapting to climate change induced coastal risk management in Sierra Leone” to provide technical support to this service.

1.1 Rationale

In recent times, intensified and uncoordinated use of the coastal zone and the marine waters of Sierra Leone for fisheries, tourism, mining transportation and petroleum necessitate planning of the use resources in the coastal zone for sustainable development. In view of that, Sierra Leone,

as a contracting party of the Abidjan Convention, undertakes to do a pilot study of marine spatial framework (MSF) of its coastal area. The MSF would lead to an eventual Marine Spatial Planning (MSP) of the country. MSP can in general terms be defined as a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process. According to UNESCO-IOC 2009 report, MSP provides the necessary tools for ensuring that maritime and temporal space is allocated to economic activities for achieving ecological and economic objectives in a sustainable manner.

The coastal zone of Sierra Leone constitutes about 6% of the total land area of the country and accounts for about 30% of the nation's population and some critical infrastructure. The concentration of population and increased human activities within the zone exert a lot of pressure on its resources.

The sea providing socio-economic benefits such as employment, food, health, cultural and recreational activities to the country, especially the coastal communities is under intense pressure from human activities.

Critical fish stock, such as the *sardinella spp.* , are currently dwindling with treats of total depletion due to over exploitation of these fisheries resources, due to the use of illegal fishing methods and practices, climate change effects, inadequate data for marine fishery management and inadequate institutional capacity for monitoring and enforcement (MFMR 2018 pers. com). Other pressures being felt by these coastal dwellers are:

- a. Increased population growth coupled with boom in economic activities in the coastal area of the country as a result of fishing, sand mining, tourism, and urbanization etc. with further envisaged increase when oil and gas discovery in the area becomes a reality.
- b. Improper land uses such as in agriculture and human settlements,
- c. Conflicts in the use of shared resources among various users,
- d. Sea level rise and increased vulnerability to flooding as a result of effects of climate change, coastal/shoreline erosion,

- e. Declining fish catch, pollution, loss of livelihood, poor quality of life, food insecurities, disease and displacement of communities. It is projected, for example, that a rise in sea level of 80 cm by 2100 will result in flooding and shoreline recession, putting coastal communities, ecosystems and some critical infrastructure at risk.
- f. Improper disposal of domestic and industrial waste and its adverse effects on coastal and marine ecosystems. These issues are a global phenomenon and attracting the world attention. In Sierra Leone, the inefficient waste disposal, coupled with bad practices within the agriculture and mining sectors and lack of political will to enforce legal regimes, result in the pollution of waterways, wetlands, degradation of coastal lagoons and marine habitats. It is estimated that about 22% of solid and 97% of liquid waste generated in major towns and cities are not properly disposed of in the country.
- g. Increased deforestation in river catchment areas, invasion of water bodies by weeds, excessive siltation of water bodies, marine algae bloom among others have had their toll on coastal and marine ecosystems.
- h. Intensified human activities in ecologically sensitive areas as a result of absence of appropriate spatial plans to guide and manage activities within the coastal and marine zone, particularly the shorefront, flood plains and the conversion of wetlands to other forms of land uses such as residential.

The challenge of marine and coastal resources management, therefore, is to reduce the pressures of human activities on the resources leading to conflicts between conservation, fisheries, maritime transport, tourism and petroleum activities. The need to prepare a comprehensive Marine Spatial Plan (MSP) to guide the effective use, protection and conservation of the coastal and marine ecosystems and ecosystem services cannot therefore be over emphasized.

There is a pressing need therefore, to prepare Marine Spatial Plans (MSPs) for the maritime waters and coastal areas of Sierra Leone to support harmonious growth and development of all activities in the marine sectors. Adopting a marine spatial planning approach will enable Sierra Leone to apply integrated management tools in an inclusive way to ensure reduction of excessive

human induced pressures on marine resources and achieve sustainable use of marine resources. This will also contribute to the achievement of Strategic Goal 14 of the Sustainable Development Goals. In addition, by developing and implementing marine spatial plan, Sierra Leone seeks to bring into effect decision CP 11/14 of the 12 Conference of Parties of the Abidjan Convention which urges contracting parties to delimit and delineate their maritime zones in accordance with UNCLOS, with particular focus on protection and preservation of the marine environment.

Thus, MSP constitutes a significant tool for ensuring integration of ecosystem services, conservation and socio-economic activities into maritime and coastal governance. It is expected that Sierra Leone under the Marine Management Project of the Abidjan Convention, would prepare its first Pilot Marine Spatial Framework (MSF) to inform the preparation of MSPs for the whole coastal and maritime waters of Ghana.

1.2 Objective of the assignment

The objective of this assignment is to review current marine use planning policies and guidelines, and do a desktop review of international best practices for implementing marine spatial planning that encompasses protected areas in other countries, and their application to the national context

2. THE SIERRA LEONE COAST

The country is divided into four (4) main relief regions: coastline interior lowland plains, interior plateau and mountains. The coastline is about 560 Km long and the shelf covers an area (to 200m depth) of 30,000Km². The Continental shelf of the coast of Sierra Leone is about 100 km wide in the north and tapers to about 13 km in the south towards Liberia. The total continental shelf area covers about 30,000 km² and it is perennially enriched by nutrients from the river networks, rendering the coastal environment a unique ecosystem, which serves not only as an important habitat for assemblages of marine organisms but also as a feeding and breeding ground for most economically targeted species. The drainage system consists of a series of rivers from north to south including Great Scarcies, Little Scarcies, Rokel, Jong, Sewa, Moa and Mano.

Table 1. Basic Information on the Sierra Leone Exclusive Economic Zone

| | |
|----------------------------|--|
| <u>EEZ area (shelf):</u> | 215,611 (28,625) km ² |
| <u>Coral Reefs:</u> | 0.03 % of world |
| <u>Sea Mounts:</u> | 0.0400 % of world |
| <u>Primary Production:</u> | 643 mgC·m ⁻² ·day ⁻¹ |

(Source: searounds.org)

3. SOCIO ECONOMIC ASPECT

3.1 Demography

The population of Sierra Leone according to the 1985 National Population Census was 3.5 million and in mid-1995 it was estimated to be about 4.5 million. The birth rate per 1000 of population is around 46 and the national growth rate is estimated at 2.5% per year. There is an overall density of approximately 58 persons per km².

Quite a large percentage of the population is found in the coastal area of Sierra Leone may be up to 55% and make substantial use of the coastal resources. As the coastal population continues to grow, these resources correspondingly experience an increasing stress. However, the degree of coastal resources exploitation is to a large extent influenced by the population of the entire country in general and by the coastal population in particular.

The coastal population is not uniformly distributed. In the north, around the Scarcies River and Lungi areas, the population is around 80,000 whilst in the Freetown Peninsula areas it is about 1,250,000. In the south around Shenge, the population is close to 9,000 inhabitants and is around 8,000 in the Bonthe-Sherbro area. The population of the coastal area is therefore approximately 1,347,000 persons. With an annual growth rate of about 2.5% it is important that a sound policy for the national exploitation of the coastal resources be pursued with the parallel development of appropriate institutional framework.

3.2 The Social Structure

As earlier indicated, the social structures of the districts where the coastal resources are located are similar except for the Western Area. In the districts, there are chiefdoms each of which is ruled locally by chiefs representing the various tribes in the chiefdom. A paramount chief is the overall local head of the chiefdom. Chiefdom councils made up of tribal authorities (chiefdom councilors) are set up to administer the chiefdoms and to advise the paramount chiefs who in turn coordinate with district councils etc. The villages are headed by headmen and village area committees administer the villages. The lowest level is the household level. For the development of proper management strategies of the coastal resources, it is necessary to take cognizance of the influence of social structures on coastal resources utilization. In the Western Area, the administration is under the supervision of the Freetown City Council, which in turn coordinates with the various village area committees, tribal headman and district councils.

Sierra Leone is a country where religious (as well as non-religious and within the context of tribal based traditional societies) traditions and customs are widely observed. The socio-economic activities of coastal communities include; boat building, handicrafts, fishing, wildlife and hunting.

4. POLICY AND LEGAL BASIS FOR THE PREPARATION OF THE PLAN

The Environmental Protection Agency Act, 1994 (Act 490) mandates the Agency to coordinate with Government agencies and District Authorities in managing and protecting the environment. To give effect to Act 490, The Environmental Assessment Regulations, 1999 (LI 1652) provides the framework for regulating activities and protecting Environmentally Sensitive Areas. However, no Spatial Planning Act to lead in the process of developing spatial framework for the country exists.

In addition to the above legal frameworks, Sierra Leone's medium-term economic development policy for 2018 – 2022, dubbed, "The New Direction Agenda envisions the creation of an optimistic, self-confident and prosperous nation, through the creative exploitation of human and natural resources, and operating within a democratic, open and fair society in which mutual trust

and economic opportunities exist for all. One of the national priorities from this policy is to safeguard the natural environment and ensure a resilient built environment.

Hence, for effective management of the coastal and marine resources, an integrated marine and coastal management framework was to be developed as well as institute an arrangement for the coordination of marine and coastal resource management.

4.1 Scope and Purpose of Sierra Leone’s Pilot Marine Spatial Framework

For the purpose of this Pilot project being implemented in the coastal area of Sierra Leone, the focus will be given to analysis and allocation of spatial and temporal space for economic activities, ecosystem services and conservation values in Sierra Leone’s maritime space, in order to achieve the economic objectives of the medium-term economic policy of Sierra Leone.. It will also give an expression to the socio- economic dimensions of human activities in the project area. Specifically, it is expected to analyze and allocate marine space for the range of activities that occur in the marine environment. These activities include; shipping, fishing, extractive activities, renewable energy, recreation, traditional use, conservation and other human settlement and upstream issues.

5. LEGAL FRAMEWORK

5.1 Land Use and Spatial Planning Act

A Land Use and Spatial Planning Act can be developed to “consolidate the laws on land use and spatial planning, provide for sustainable development of land and human settlements through a decentralized planning system, ensure judicious use of land in order to improve quality of life, promote health and safety in respect of human settlements and to regulate national, regional and district spatial planning”.

The Act can establish the Land Use and Spatial Planning Authority to replace the Town and Country Planning Department which can have the legal mandate for Marine Spatial Planning.

The Act can recommend a three-tier spatial Planning system, namely Spatial Development Frameworks, for national, regional and district levels, Structure Plans and Local Plans. The duration of each of these plans are 20 years, 15 years and 5 years respectively.

A Spatial Development Framework (SDF) is an indicative plan that provides a strategic vision (desired future) for the spatial development of the Nation, Region or District over a plan period. It is a spatial strategy for achieving defined social, economic and environmental policies. It addresses the spatial development implications of issues like economic development, employment, housing, infrastructure services (waste, water, energy, etc.), education, health care, tourism and leisure, transportation, communications, culture and nature and the environment.

Under the National Development Planning (System), an SDF can be prepared as an integrated sub-national, sub-regional and multi district plan. The proposed MSF covers four coastal districts and extends beyond the boundaries of the districts offshore up to Sierra Leone's Exclusive Economic Zone (200 nm). Given the nature and the scope of the proposed plan an appropriate approach would be to prepare it as a sub-regional Marine Spatial Development Framework (MSDF).

The sub-regional MSDF shall prescribe the spatial aspects of the national, regional and districts plans and their related human settlement as well as marine environment issues. It shall also be prepared in accordance with the scope, objectives, minimum content and methodology prescribed by regulations, guidelines and manuals as well as the MSP Framework Guidance Document jointly prepared for the Abidjan Convention Countries for that purpose.

The national Manual for the Preparation of Spatial Plan, 2011 prescribes the following as the content of a Spatial Development Framework:

1. An overall discussion of the spatial definition of the region i.e. sub-region in this case.
2. Where there was an SDF or exiting spatial plans, an evaluation of the effectiveness of the plan during the previous planning period.

3. A description and analysis of dominant development trends which influence/drive spatial development.
4. The current policy and planning responses, covering both development and spatial planning. As far as possible, these can be derived from the MTDPs.
5. A clearly stated vision for the sub-regional spatial development agreed by stakeholders who are in compliance with the national development policy and the complementary National SDF.
6. A discussion of sub-regional spatial priorities and policies on the key issues and topics for the sub-region e.g. employment location, scale and location of housing, transportation infrastructure and accessibility, infrastructure location, environment and leisure, ecologically sensitive areas etc. These spatial proposals must be backed by reasons, i.e., analysis, which can draw on the vision and the principles it encompasses.
7. A map or key diagram which illustrates the general content of the spatial strategy, and shows the physical extent of proposals but does not identify site boundaries.
8. A discussion of how the spatial strategy will be implemented, and a timescale for it.
9. An identification of clear targets or key performance indicators for monitoring purposes.

5.2 International Best Practice

This section looks at the international best practice for implementing marine spatial planning that encompasses protected areas in other countries, and their application to the national context

- a. The establishment of common measures across borders may require clear incentives to relevant parties
- b. Incentive mechanisms, both formal and informal, are necessary to establish consistent management measures across jurisdictions
- c. Determine the geographical area covered by the MSP instrument based on ecosystem considerations, as far as relevant and possible
- d. Confirm, or agree on, the legal status of the geographical area covered by the MSP instrument and acknowledge the sovereignty, sovereign rights and jurisdiction of coastal States in adjacent maritime zones

- e. Identify the overarching legal and policy framework and confirm adherence or commitment to it
- f. Agree on mechanisms to ensure as much alignment and consistency between any different governance regimes as possible
- g. Agree on the objective(s) of the MSP instrument and the competence of its principal decision-making body
- h. Ensure participation in MSP is consistent with applicable international law
- i. Cooperate and coordinate with other intergovernmental bodies and instruments
- j. Agree on overarching, guiding or key principles

Reaching agreement between stakeholders on core principles ensures a clear, common purpose but should also include the appropriate elements of international law, as well as good practices in MSP. These could include:

- Peaceful purposes
- Equity and non-discrimination; e.g. participation, resources access and allocation
- Ecosystem approach, which includes the precautionary approach, the use of best available science, and adaptive management/feedback (e.g. in context climate change)
- Transparency; both in regards to participation, decision-making and access to information
- No new activities without prior impact assessment or prior multilateral approval

- k. Acknowledge the particular needs and requirements of developing states

Multilateral efforts to understand, access, manage and monitor resources in cross-border areas are associated with significant logistical, financial, technological and governance challenges that may disproportionately affect developing states.

- l. Agree on one or more official (working) languages

6. GOVERNANCE FRAMEWORK AND GAP ANALYSIS RELATING TO DEVELOPMENT OF MARINE SPATIAL PLANNING

6.1 Governance Framework

6.1.1 Constitution Provisions for Governance

The constitution of Sierra Leone separates the state into three branches, the Executive, the Legislature and the Judiciary and indicates boundaries for the performance of their respective powers and the limitations of those powers. The constitution also prescribes a three-tier governance system, consisting of National (Cabinet), Regional Coordinating Councils and District Coordinating Councils.

At the national level, the Executive Branch of Government, headed by the President of the Republic, is responsible for ensuring the functioning of the public service. In the performance of its functions, however, the Executive both determines and implements the laws passed by the Parliament. The Executive arm consists mainly of Ministries, which are civil service organizations with the responsibility of initiating, formulating, implementing and coordinating policies and programmes of government. With respect to spatial planning in Sierra Leone, the following ministries have key roles to play:

- a. Ministry of Environment, Science, Technology and Innovation, and
- b. Ministry of Local Government and Rural Development

For environmental governance, Article 36(9) on Directive Principles of State Policy has a provision on the Environment, which states that “The State shall take appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek co- operation with other states and bodies for purposes of protecting the wider international environment for mankind”. The ultimate aim of the policy is to ensure sound management of the environment and the avoidance of exploitation of resources in ways that may result in irreparable damage to the environment.

For local governance, Article 240 (e) of the constitution provides for ensuring accountability of local government authorities to the people and affording them the opportunity to also participate effectively in local governance.

6.1.2 The Local Governance Structure Act, 2016, (Act 936)

The local governance structure is guided by the Local Governance Act 2016 (Act 936), which makes the Metropolitan, Municipal and District Assemblies (MMDAs) the direct custodians of all the natural resources within their jurisdiction. The District Assembly is responsible for formulating and executing plans, programmes and strategies for the effective development of the district. It is also mandated to charge levies, collect taxes, rates, duties and fees and also constitutes the highest political authority in the district.

6.1.3. Relevant Policies, Frameworks and Legislation

There are a broad range of policies and legislations relating to marine spatial planning. The following policies give the basis for the establishment of LUSPA and the ultimate mandate to plan the marine space in accordance with Act 925, 2016.

6.1.3.1 Policies

6.1.3.1.1 Environmental Policy

The Environmental Policy provides the basis for comprehensive management of the country's environment and natural resources. The aim of the policy is to ensure sustainable utilization and management of environmental resources and to maintain sound environmental quality to support human wellbeing and socio-economic development. It provides for comprehensive integration of environmental considerations in planning and decision making.

6.1.3.1.2 Land Policy

The Land Policy provides the basis for enhancing land management systems, land use, conservation of land resources and improving environmental quality. The policy makes provision

for smooth land administration and land use planning based on sustainable principles to support socio-economic development. Key among the objectives of the policy is an obligation to ensure that land and shared water bodies are utilized to the mutual benefit of all stakeholder.

6.1.3.1.3 Water Policy

The Water Policy provides a framework for the sustainable management and utilization of Sierra Leone's water resources. The policy cuts across all relevant sectors including, transport, energy, sanitation, environment and agriculture. There is also the related buffer zone policy, which aims at ensuring that all designated buffer zones along rivers, streams, lakes, reservoirs and other water bodies are sustainably managed. It seeks to preserve green spaces as riparian buffers along waterways.

6.1.3.1.4 Mineral and Mining Policy

The Policy seeks to establish a comprehensive and forward-looking framework for mining that catalyzes sustainable development. It intends to diversify the country's mineral production base to promote a more sustainable support base for the economy; generate adequate geo-scientific data to promote investment, generate detailed geological information in designated areas for demarcation to artisanal and small-scale miners; enhance capacity of state institutions and strengthen inter agency collaboration in the management and development of mineral resources; ensure high level of environmental stewardship in the exploitation and use of minerals; promote social harmony between the mines and adjoining communities; collaborate in the harmonization of mineral policy in ECOWAS and in Africa.

6.1.3.1.5 Fisheries Policy

The Fisheries Policy is aimed at rebuilding fish stocks, creating employment opportunities, improving food security and contributing to economic growth of the country. The objectives of the Policy are anchored on seven (7) thematic areas viz; reducing excessive pressure on fish stocks, ensuring that the exploitation of Ghanaian fish stocks is done within biologically acceptable levels, implementing and enforcing fisheries legislation, protecting marine habitats

and biodiversity, enhancing the economic gains of fisheries through export and value additions, participatory decision-making and co-management and implementing Sierra Leone's regional and international fisheries management obligations.

6.1.3.1.6 Food and Agriculture Policy

This policy seeks among other things to mainstream and support the scaling up of sustainable land management practices in addressing environmental resilience and agricultural productivity in Sierra Leone's overall development agenda.

6.1.3.1.7 Wetlands Policy

The policy promotes the conservation and sustainable use of wetlands to ensure the benefit of people, in a way compatible with the maintenance of natural properties of the ecosystem. The policy recognizes wetlands as environmental conservation areas and precludes certain activities within its boundaries.

6.1.3.1.8 Forestry and Wildlife Policy

The Forest and Wildlife Policy aims at the conservation and sustainable development of forest and wildlife resources for the maintenance of environmental stability and continuous flow of optimum benefit from the social, cultural and economic goods and services that the forest environment provides to the present and future generation.

6.1.3.1.8.1. International Obligations on Wildlife

Sierra Leone has ratified a range of international treaties and obligations that affect the wildlife sector, though in most cases national legislation does not reflect these instruments.

Sierra Leone is party to various regional and international treaties and agreements related to forestry.

International conventions include:

- The Convention on Biological Diversity;
- Convention on International Trade in endangered species of wild fauna and flora (CITES);
- Convention on Wetlands of International Importance (Ramsar Convention);
- Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention);
- United Nations Convention on the Law of the Sea;
- United Nations convention to Combat Desertification;
- United Nations Framework Convention on Climate Change;

Regional Agreements include:

- Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region;
- Convention Establishing a Permanent Inter-state Committee for the Control of Drought in the Sahel;
- African Convention on Nature and Natural Resources;
- Mano River Declaration;
- Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa;
- Memorandum of Understanding concerning Conservation Measures for the West African Populations of the African Elephant;

Sierra Leone expresses its intention to sign, ratify and implement two additional international conservation agreements relating to migratory species:

- Convention on Migratory Species (CMS or Bonn Convention)
- Agreement on the Conservation of African-Eurasian Migratory Waterbirds

As well as meeting formal international obligations, this policy will seek to apply *international best practice* in wildlife conservation.

6.1.3.1.9 Environmental Sanitation Policy

The overall goal of the Environmental Sanitation Policy is to develop a clear and nationally accepted vision of environmental sanitation as an essential social service and a major determinant for improving health and quality of life in Sierra Leone.

6.1.3.1.10 Transport Policy

The Transport Policy is the guiding document for the development of Transport in Sierra Leone. Its aim is to describe the need for transport infrastructure and services in the context of Regional, sub- Regional, national and local growth objectives in addition, it seeks to provide guidance on government priorities and strategic objectives for transport to key stakeholders and institutions involved in planning, financing, developing, providing, maintaining and regulating transport infrastructure and services. Also, it serves as guidance on priorities for investment and reform that enable and facilitate achievement of the strategic objectives for transport within the policy framework. It offers a long-term decision-making platform for the effective management and development of Transport infrastructure and Services in Sierra Leone.

6.1.3.1.11 Population Policy

The Population Policy seeks to achieve and maintain a level of population growth which is consistent with national development objectives in order to improve the quality of life for the populace. Additionally, it aims to integrate population issues into all aspects of the development planning process and educate the population on environmental conservation. Also, it is to ensure that the Law Reform Commission, Parliament and other law- making agencies are well sensitized on population issues so that the law will serve as an effective instrument for promoting the objectives of the Population Policy.

6.1.3.1.12 National Energy Policy, 2010

The Energy Policy is aimed at securing a reliable supply of high-quality energy services for all sectors of the Sierra Leonean economy and also to become a major exporter of oil and power. It

is also intended to make energy services universally accessible and readily available in an environmentally sustainable manner. The policy objectives, among others, are to:

- a. Secure long-term fuel supplies for the thermal power plants;
- b. Support the modernization and expansion of energy infrastructure to meet growing demands and ensure reliability;
- c. Increase access to modern forms of energy;
- d. Minimize the environmental impacts of energy supply and consumption through increased production and use of renewable energy and make energy delivery efficient;
- e. Ensure the productive and efficient use of energy;
- f. Promote and encourage private sector participation in the energy sector; and
- g. Diversify the national energy mix by promoting renewable energy sources, nuclear and coal.

6.1.3.1.13 Petroleum Policy

Provide ground-rules for the monitoring of operations of petroleum companies and the government's role in relation thereto. The policy goal is to make Sierra Leone a net exporter of Oil and Gas and a major player in the petroleum industry, through the development and management of the nation's petroleum resources and revenue streams in a transparent and environmentally responsible manner for the benefit of every Sierra Leone.

6.1.3.1.14 Climate Change Policy

The policy provides strategic directions for coordinating and managing the challenges of climate change implications for Sierra Leone. It incorporates the current socio-economic setting of Sierra Leone as well as the opportunities and benefits to respond to climate change. The objectives of the Policy are:

(1) effective adaptation, (2) social development and (3) mitigation.

The policy identifies four thematic areas to address the adaptation issues: (1) energy and infrastructure, (2) natural resources management, (3) agriculture and food security, and (4) disaster preparedness and response. The Policy also identifies and prioritizes five (5) actionable main areas to ensure sustainable development in: (1) Agriculture and Food Security, (2) Disaster Preparedness and Response, (3) Natural Resource Management, (4) Equitable Social Development, and (5) Energy, Industrial and Infrastructural Development.

6.1.3.1.15 National Housing Policy

This Policy envisions a country in which everyone is able to access safe, secure, decent and affordable housing either owned or rented. The goals of the housing policy include:

1. To provide adequate, decent and affordable housing that is accessible to satisfy the needs of all people living in Sierra Leone;
2. To ensure that housing is designed and built to sustainable building principles leading to the creation of green communities;
3. To ensure that there is participation of all stakeholders in decision-making on housing development and allocation in their localities; and
4. To ensure adequate and sustainable funding for the supply of diverse mix of housing in all localities.
5. The main objectives of the Policy are:
6. To promote greater private sector participation in housing delivery.
7. To create an environment conducive to investment in housing for rental purposes;
8. To promote housing schemes that maximizes land utilization.
9. To accelerate home improvement (upgrading and transformation) of the existing housing stock;
10. To promote orderly human settlement growth with physical and social infrastructure;
11. To make housing programmes more accessible to the poor (Social Housing);
12. To involve communities and other non-traditional interest groups in designing and
13. implementing low-income housing initiatives; and

14. To upgrade existing slums and prevent the occurrence of new ones.

6.1.3.2 Legal frameworks

Many laws have been promulgated to ensure orderly and sustainable development in all sectors of spatial planning. These laws are meant to guide the processes and activities undertaken to ensure sound use/management of the nation's resources in a sustainable manner. Relevant regulations, and laws identified, and which shall serve as a guide to the development of to prepare it as a Sub- Regional Marine Spatial Development Framework (MSDF) include:

- a. Land Use and Spatial Planning Act, 2016 (Act 925)
- b. Land Use and Spatial Planning Legislation LI 2384
- c. Environment Protection Agency Act, 1994 (Act 490)
- d. Environmental Standards (Air, Noise, Effluent Quality)
- e. Hazardous and Electronic Waste (Control and Management) Act 2016, (Act 917)
- f. National Climate Change Adaptation Strategy (NCCAS) (2012)
- g. Water Resources Commission Act, 1996 (Act 522)
- h. Mineral and Mining Act 2006 (Act 703)
- i. Mineral and Mining Amendment Act, 2015 (Act 703)
- j. Fisheries Resources Management and Protection (Fisheries Act 2002, Act 625)
- k. Fisheries Regulations 2010, LI 1968)
- l. Wetlands Management Regulations LI 1659
- m. Maritime Authority Act (Act 630 of 2002)
- n. Maritime Zones (Delimitation) Law, 1986 (PNDCL 159)
- o. Ghana Maritime Security Act, 2004 (Act 675) (as amended)
- p. Maritime Pollution Act, 2016 (Act 932)
- q. National Population Council 1994, (Act 485)
- r. National Building Regulations 1996, LI 1630
- s. Wildlife Preservation Act, 1961 (Act 43)
- t. Wildlife Conservation Regulations- 1971 (LI 685) Revised 1999,

- u. Wildlife Reserves Regulations 1971 (LI. 710)
- v. Forest Ordinance 1927 (Cap. 157) (Amended by Forest Protection Decree 1974 (NRCD243) Further Amendment – Forest Protection (Amendment) Law 1986(PNDCL 142).
- w. Ghana National Petroleum Corporation (GNPC) (PNDCL No. 64 of 1983)
- x. Petroleum (Exploration and Production Law, 1984 (PNDCL 84)
- y. Petroleum (Exploration and Production) Act 2016 (Act 919)
- z. The Petroleum Commission Act 2011, Act 821
- aa. The national protected area authority and conservation trust fund act, 2012

The national protected area authority and conservation trust fund act, 2012 constitutes one of key legal instruments in the MSP process. This act established The National Protected Area Authority (NPAA) with the following main functions:

1. The object for which the Authority is established is to exercise oversight authority over National Parks and Protected Areas designated for conservation purposes so as to protect the fauna and flora in its natural state, promote sustainable land use practices and environmental management.
2. Without prejudice to the generality of subsection (1) the Authority shall have responsibility to – (a) ensure the protection of natural ecosystems and threatened biodiversity in Sierra Leone including the establishment and maintenance of representative and sustainable samples; (b) oversee the management of local and private nature reserves and sanctuaries throughout Sierra Leone including zoos and wildlife rescue and rehabilitation centers; (c) supervise the management of wildlife outside conservation areas; (d) regulate wildlife conservation and management throughout Sierra Leone in accordance with the Wildlife Conservation Act, 1972 (Act No. 27 of 1972) (e) promote eco-tourism in Protected Areas; (f) collaborate with other stakeholders in developing a national REDD+ Strategy and promoting REDD+ Projects in Sierra Leone as a source of sustainable financing for Protected Area Management; (g) develop and implement wildlife conservation education and training programmes throughout Sierra Leone; (h) promote biodiversity research; (i) formulate and implement awareness

activities for local communities, schools, and local administration to promote knowledge of and participation in programs and services, relating to socioeconomic and environmental issues including, fisheries, agricultural and forestry best practices, forest management, land, soil and water conservation in Protected Areas 'and buffer zones; (j) operate, manage the National Protected Areas in line with national conservation policies and laws; (k) enter into public-private partnership agreements for the management of National Protected Areas; (l) develop management objectives, structures and mechanisms necessary for the management of the National Protected Areas; (m) sensitize local communities and address local stakeholders' interests on land conservation and socioeconomic issues;

6.2 IDENTIFYING GAPS RELATING TO DEVELOPMENT OF MARINE SPATIAL PLANNING

6.2.1 Gaps in Knowledge

Inadequate environmental information and fish stock assessments for fisheries management was also identified as a gap.

The management of ecological stability in the marine environment is vital to the fisheries. Research activities especially in fish stock assessment and systematic monitoring of environmental parameters also show inadequacies. Copies of environmental information collected by commercial fishing vessel, if any are not requested by government and there is no national research institution capable of ensuring a systematic collection of such information. IMBO is constrained by the lack of a research vessel and funds for such an operation.

Lack of an integrated approach to the management of the coastal and marine environment is also a gap. Sector plans relating to coastal and marine area development are inadequate or absent. There is also no legal or institutional framework to support the implementation of the policy on multi-sectoral or integrated approach to the management of coastal and marine environment.

An Analysis of the gaps further shows that environmental monitoring and assessment programmes relevant to the Coastal and Marine environments have been rather low keyed

restricted to research activities of the Institute of Marine Biology and Oceanography (IMBO) and the Department of Geography, Fourah Bay College.

There is a marked absence of permanent programmes for systematic monitoring and assessment of the quality of the coastal and marine environment. It is worth noting that although Sierra Leone is a member of the International Hydrographic Organization, we have not been able to set up a National Hydrographic Unit. We have not also set up an observatory for the collection and compilation of data relevant to the coastal marine environment especially for pollution, such units could be set up through collaboration between government organizations and the University of Sierra Leone.

Absence of systematic studies of the Marine and Coastal biodiversity was another identified gap. A systematic study of coastal economic resources and coastal marine flora and fauna has not been undertaken on a national basis. Here also, apart from haphazard research undertaken by interested scientists or project driven studies, there are no permanent and independent programmes. It is worth noting that such a situation will continue until a National Science and Technology Coordinating and advisory body is in place in Sierra Leone. These gaps have been summarized below for the major issues.

6.2.2 Sustainable Fisheries

- Lack of up-to-date information on the status and trends on the biodiversity of the coastal and marine biotopes;
- Over-exploitation of commercial species especially fishes through increasing pressure and poor fishing practices;
- Lack of integrated approach to management of coastal and marine areas;
- Lack of sufficient support to marine and coastal protected areas; and,
- Lack of an effective monitoring control and enforcement mechanisms against marine transgressions;
- Lack of appropriate legislation for the protection of vulnerable//endangered wetlands.

6.2.3 High water quality to sustain balanced ecosystem/Pollution Management Plan

- Lack of up-to-date information on the status and trends of the quality of Sierra Leone's coastal and marine waters to sustain balanced habitats;
- Uncontrolled introduction of pollutants, (solid waste, sewage, oils, chemicals) into coastal environment;
- Lack of integrated approach to management of coastal and marine areas;
- Lack of sufficient support to marine and coastal environmental research;
- Lack of an effective monitoring control and enforcement mechanisms against marine pollution;
- Lack of appropriate legislation for the protection of the country's coastal and marine environment against pollution.

6.2.4 Balanced habitats for sustainable ecology and environment

- Lack of measures to prevent the introduction of alien and exotic species into marine and coastal habitats;
- Lack of assessment of the impact on adjacent coastal communities on the loss of marine biodiversity;
- Lack of support educational and awareness raising programs in local communities about public policies and regulations on marine biodiversity;
- Lack of support and legal instruments for co-management systems for community fisheries management;
- Lack of analyses of gender issues and support for women in the artisanal fishing industry;
- Lack of support for the establishment of "mangrove management committee" to facilitate public education and encourage its proper management;
- Lack of activities to discourage agricultural activities along the coastal areas;

6.2.5 Gaps relating to tourism

- Lack of up-to-date information on the status and trends on the biodiversity of the coastal and marine biotopes;
- Over-exploitation of Beach sand through increasing pressure and poor sand mining practices;
- Lack of integrated approach to management of coastal and marine areas;
- Lack of a tourist development plan relating to marine space; and,
- Lack of an effective monitoring control and enforcement mechanisms against touristic resources;
- Lack of appropriate legislation for the protection of vulnerable touristic sites..

6.2.6 Gaps relating to maritime transport

- Lack of up-to-date information on the status and trends on maritime transport;
- Lack of integrated approach to the management of maritime transport;
- Lack of sufficient research for the preparation of plans for ports and other projects related to maritime transport;
- Lack of an effective monitoring control and enforcement mechanisms for maritime transport;
- Lack of appropriate legislation for the protection of shipping lines.

6.2.7 Gaps relating to the development of oil and gas

Lack of sufficient data to substantiate quantities of offshore oil and gas

6.2.8 Gaps relating to conflict resolution

Sector boundaries related activities do not necessarily coincide with ecosystem boundaries. E.g. undersea communication cables may interfere with fishing activities.

6.2.9 Gaps relating to Wildlife Conservation

Sierra Leone's poverty and recent history of conflict pose many challenges to effective wildlife conservation.

- Lack of awareness among the general population and other sectors about benefits of wildlife conservation;
- National and local poverty and its impact on availability of financial resources and concomitant priorities for budget and extra-budgetary allocations resulting in insufficient human and financial resources for effective wildlife conservation;
- Inability to meet international obligations under a range of biodiversity conservation conventions;
- Depletion of wildlife and degradation of natural ecosystems;
- Lack of up-to-date information on wildlife resources and status of ecosystem;
- Lack of a well-defined system of wildlife conservation areas consistent with international standards and which inadequately represents the national biodiversity;
- Detrimental impacts on biodiversity of poor coordination, conflicting policies, conflicting mandates and land use practices at national, sub-national, local and community levels;
- Unclear and uncertain tenure arrangements of forest reserves, including those designated primarily for wildlife conservation;
- Lack of national understanding and policy on climate-change, likely impact on wildlife, and potential to generate revenues from wildlife conservation areas