GOVERNMENT OF SIERRA LEONE

THE ENVIRONMENT PROTECTION AGENCY SIERRA LEONE

NATIONAL CLIMATE CHANGE POLICY FRAMEWORK DOCUMENT

FOREWARD

The Government of Sierra Leone has recognized that Global climate is changing and has become one of the biggest challenges of our generation, which threatening the existence of humankind. The recent Fifth Assessment Report of the Inter-Governmental Panel on Climate change (AR5) has made it clearer that the world's climate is unequivocally warming and that human activity is primarily responsible. Without immediate and concerted efforts, it will be impossible for the present and future generations to achieve sustainable development.

For Sierra Leone, Climate change is indeed a challenge. Despite registering strong economic growth in recent years, the Sierra Leone economy relies on climate-sensitive sectors highly exposed to climate variability, drought, and flooding. We are experiencing the adverse impacts of climate change, threatening our food security and undermining efforts to eradicate poverty and achieve sustainable development. Any delay in combating climate change will come at a great cost to us all.

Sierra Leone has been ranked as the third most vulnerable after Bangladesh and Guinea Bissau to adverse effects of climate change. Our vulnerable population has low capacity to adapt to climate change and the rural populations will be the most affected because of their high dependence on rain-fed agriculture and natural resource-based livelihoods. Over the years and quite recently, we have witnessed the loss of life and property as a result of landslides and surface flooding in our towns, city, islands, and low-lying areas are gradually sinking due to climate variability and change. Climate change also affect our socio-economic sectors and the need for climate change mainstreaming at the national, sector and local levels is vital to move the country toward a low emission and climate resilient development pathway.

As a nation, we know very well that if Sierra Leone focuses on smart choices through various efforts and initiatives, it can win investments in the next few decades in low emission and climate resilient development pathways for a sustainable future. We therefore need to make sure Sierra Leone takes necessary actions to adapt and mitigate the adverse effects of climate change without compromising her development agenda. Therefore, the Government of Sierra Leone has undertaken the bold intervention to develop a national climate change policy, which covers key areas on adaptation, mitigation, cross-cutting actions and participation, international cooperation as well as institutional mechanism for follow up that we believe are of our intermediate and long-term interest in our effort to save our people and contribute to the global efforts to address climate change. There are a number of strategies we can pursue now to lead to climate-resilient pathways while improving livelihoods, sustaining economic growth and environmental integrity.

My government remains committed to providing the political leadership towards addressing climate change as we adopt and implement the national climate change policy.

Signed: H.E the President

Preface

Sierra Leone ratified the United Nations Framework Convention on Climate Change (UNFCCC) on the 22 of April, 1995 and its Kyoto Protocol in June, 2005. The Government has to meet its obligation towards contributing to the effective implementation of the UNFCCC ultimate objective of which is to stabilize greenhouse gas (GHG) concentrations at a level that would prevent dangerous human interference with the climate system.

Government of Sierra Leone recognizes that, Climate Change is real, and the country is increasingly vulnerable to climate related and man-made hazards, as clearly indicated in the 2008 Sierra Leone's national adaptation and programme of action (NAPA) and the national communications on climate change. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (AR5 IPPC) also indicates that Sierra Leone is among the highly vulnerable African countries to the increasing frequency of climate change impacts. The country has been ranked as the third most vulnerable after Bangladesh and Guinea Bissau to impacts of climate change. We are increasingly experiencing the adverse effects of climate change related hazards in almost all sectors including agriculture, fisheries, tourism, forestry, water and infrastructure. These changes affect the lives and livelihoods of our rural communities in particular, which have the lowest capacity to adapt and depend on rain-fed agriculture and natural resource-based livelihoods.

Sierra Leone lacks a Climate Change policy. Delaying the response to climate change impact is likely to be more costly than starting to act now. Failure to integrate vulnerability and adaptation considerations in national and local development strategies, programmes and projects and budget may indeed result in wasted investment and increased future vulnerability of our vulnerable communities, while failure to take action on mitigation is likely to result in much more severe climate change and therefore greater damage and much higher adaption costs in future.

Sierra Leone's Government is committed towards addressing the challenges of climate change and ensuring that climate change becomes an integral part of the national development policy and process. The need for a policy is clearly underpinned by the fact that climate change is a truly cross cutting issue that can affect the entire economy as well as many specific sectors including energy, transport, agriculture, forestry, water resources management and provision of water services and health. A national climate change policy will promote integration between the programmes of the various government departments involved to maximize the benefits to the country, while minimizing negative impacts. Further, as climate change response actions can potentially act as a significant factor in boosting sustainable economic and social development, a national policy specifically designed to bring this about is clearly in the national interest, supporting the major objects of the government including poverty alleviation and the creation of jobs. The National Climate Change Policy will also present the main framework of which the national climate change strategy and action plan can be developed.

Developed through a participatory and iterative process, this National Climate Change Policy will address the priority needs in the existing climate change situation within the context of the IPCC categories. The policy will also complement the effective implementation of the national development plan of "The Agenda for Prosperity" which focuses on inclusive green growth. In a

bid to achieve this vision and sustainable development, climate change mainstreaming is imperative, which involves the integration of policies and measures to address climate change into our sectors and development planning and decision making, so as to ensure the long-term sustainability of our investments as well as reduce the sensitivity of development activities to both today's and tomorrow's climate.

The policy will be guided by principles set out in the Sierra Leone Constitution, the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The principles include protection of human rights and freedoms, gender equality, sustainable development, equitable development; the polluter pays principle, the precautionary principle and informed stakeholder and community participation.

Signed:

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Acknowledgement

Thanks are due to the European Union staff in Sierra Leone and the EPA-SL which commissioned the writing of this policy and who took a strong interest in the work and committed so enthusiastically to an intense round of meetings and workshops. In particular, the author would like to thank Mrs. Haddijatou Jallow Executive Chairperson EPA-SL, Lahai Keita Ag. Director, EPA-S L and Momodu Bah Deputy Director CCS-EPA-SL for hosting and organising the consultative workshops during the trying period of the EBOLA outbreak.

Thanks are due to all the workshop participants who advised on the approach and reviewed the early drafts and who provided insightful comments.

The work presented in this policy was funded by the EU through the EPA-SL.

List of Acronyms and Abbreviations

ACC	Adaptation to Climate Change
AIDS	Acquired Immune Deficiency Syndrome
CDM	Clean Development Mechanism
DMD	Disaster Management Department
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EPA	Environment Protection Agency
EWS	Early Warning System
GIS	Geographic Information System
GDP	Gross Domestic Product
HE	His Excellency
HIV	Human Immunodeficiency Virus
INC	Initial National Communications
MTA	Ministry of Transport and Aviation
MWR	Ministry of Water Resources
MMR	Ministry of Mineral Resources
NaCSA	National Commission for Social Action
NFF	National Fire Force
NGO	Non Governmental Organization
NPDRR	National Platform for Disaster Risk Reduction and Climate Change Adaptation
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plans
NAPA	National Adaptation Programmes of Action
NGO	Non-Governmental Organizations
REDD+	Reduction of Emissions from Deforestation and forest Degradation
UNFCCC	United Nations Framework Convention on Climate Change
ONS	Office of National Security
PRSP	Poverty Reduction Strategy Paper
SL	Sierra Leone

SLMET	Sierra Leone Meteorological Department
SLRCS	Sierra Leone Red Cross Society
SNC	Second National Communications
UN	United Nations
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy for Disaster Reduction
VCA	Vulnerability and Capacity Assessment

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Section 1: Background

Introduction

Sierra Leone recognizes that, Climate Change is real, and is driven to a large extent by emissions of greenhouse gases linked to our human activities. Climate change is notably characterized by rising temperatures, changes in rainfall patterns, shifts in seasons, more frequent or severe storms, floods, droughts, rising sea level, erosion, desertification, changes in water quality and availability, changes in ecosystems, biodiversity loss, disease and pest outbreaks, which result to destruction of infrastructure, reduced food security, malnutrition, economic disruption, loss of livelihoods, social disruption, increased mortality and morbidity, reduced availability of hydropower, conflicts, population displacement and human migrations

The Government of Sierra Leone is committed to ensuring that climate change becomes an integral part of the national development policy and process. The third Poverty Reduction Strategy Paper (Agenda for Prosperity) 2014-2018 has formulated an effective environment management system that protects biodiversity and is capable of pre-empting disasters.

Sierra Leone is increasingly vulnerable to climate related and man-made hazards. Sierra Leone has just developed its National Disaster and Risk Management Policy to address disasters and hazards which impose serious impediments to its development. It aims at (i) decreasing vulnerability among people and communities at risk from shocks, (ii) decreasing social, economic and environmental impacts and consequences of disasters, and (iii) avoiding setbacks on the national path towards sustainable development

This document called “National Climate Change Policy” presents the main framework of the National Climate Change Policy within which a strategy can be developed.

Developed through a participatory and iterative process this National Climate Change Policy was developed following a diagnosis of the Climate Change and Risk situation in Sierra Leone based on its INC, NAPA, and SNC, identifying key gaps, challenges and priority needs in the existing CC situation within the context of the IPCC categories.

The document is presented in three sections:-

Section 1 introduces the major elements of the document including various contextual issues and highlighting the need for the policy.

Section 2 outlines the Vision, Mission and Strategic Objective of the National Climate Change Policy Response and Strategy Direction whilst section 3 deals with responsibilities of state actors / policy response approaches in mitigating climate change

International Context

The Intergovernmental Panel on Climate Change (IPCC) report – Climate Change 2014; Impacts, Adaptation and Vulnerability and the Fifth Assessment Report of 2013: the Physical Science Basis – clearly illustrate that climate change is no longer just an environmental problem but a core development challenge, as it undermines and reverses the gains of development of most vulnerable countries, particularly developing countries. According to these reports, climate change has the potential to undermine food security, international peace and security causing widespread conflict, displacement of hundreds of millions of people and devastation of the global economy by the end of the 21st century. The reports also made it clear that climate change will undermine the economic and agricultural base of many countries, particularly the most vulnerable developing countries.

The findings of the Africa's Adaptation Gap Report indicate that Africa is the most vulnerable continent to the impacts of climate change its climate stresses and low adaptive capacity are increasing. Africa is already facing adaptation costs in the range of US$7-15 billion per year. These costs will continue to rise if no adaptation measures are taken, and damages are expected to cost seven percent of African Gross Domestic Product (GDP) in a 3.5 to 4 degree centigrade world.

National Context

Sierra Leone is among the highly vulnerable African countries to the increasing frequency of climate change impacts. The country has been classified as the third most vulnerable after Bangladesh and Guinea Bissau to impacts of climate change. Climate change related hazards are having increasingly adverse effects on our sectors such as agriculture, fisheries, forestry, water

and infrastructure. Our vulnerable population has a low capacity to adapt to climate change and the rural populations are likely to be most affected because of their high dependence on rain-fed agriculture and natural resource-based livelihoods.

Institutional Context

In general, institutional capacity remains extremely weak. Most government institutions became dysfunctional during the war because of lack of qualified staff, lack of resources and lack of financing. The condition of these institutions was further exacerbated by high levels of corruption. In the post-war period, difficulty in attracting professionals, progressive reduction of donor funding, lack of clear mandates and, to some degree, a weakly shared national vision constrain performance. A very weak judicial system lacks the capacity to adjudicate matters in a timely manner.

Government of Sierra Leone has also undertaken a National Capacity Self-Assessment (NCSA) of Government Ministries and other institutions with a view to improve on their capacities for the effective implementation of the RIO Conventions on biodiversity, land degradation and climate change by eliminating wastages and duplications. An NCSA National Action Plan has been developed.

The government of Sierra Leone in consultation with citizenry and all relevant- stakeholders prepared the Second Poverty Reduction Strategy Paper (PRSPII) which focused on reducing poverty among the vulnerable communities by stimulating economic growth while preserving macroeconomic stability in consonance with the Millennium Development goals (MDGs) in a bid to achieve sustainable development. This document dubbed“ Agenda for Change” was endorsed by Parliament in May, 2009.

The third generation PRSP has also been developed and launched in August 2012.The Government in partnership with development partners is implementing this national development plan of “The Agenda for Prosperity” which focuses on inclusive green growth. In a bid to achieve this vision and sustainable development, climate change mainstreaming is imperative, which involves the integration of policies and measures to address climate change into our sectors and development planning and decision making, so as to ensure the long-term sustainability of our investments as well as reduce the sensitivity of development activities to both today’s and tomorrow’s climate.

Current Climate Change Situation in Sierra Leone

It had long been perceived that Sierra Leone, blessed with its luxuriant forests, high rainfall, well-drained landscape etc. would continue to enjoy nature's bounty of good weather for ever but recent events as evidenced by the erratic behaviour of the weather such as fog in places where they did not occur before during the dry season, flash floods and severe storms ,scarcity of fresh water due to less rain, higher evapo-transpiration in the dry season, frequent prolonged and wide spread dry spells have suggested that some major changes are occurring.

The threats from climate change in Sierra Leone

Presently, the Government in partnership with development partners is implementing its national development plan of "The Agenda for Prosperity" to move towards being a middle income country.

Climate change is a potentially significant threat to this our ongoing development and poverty reduction efforts. Mainstreaming climate change adaptation can make our development and societies more resilient to the impacts of climate change, and to minimize climate variability and extreme weather events such as floods and changing rainfall patterns, which are of immediate concern and relevance to us.

The main threat from climate change in Sierra Leone lies with natural and near-natural ecosystems (in particular forested coastal areas and upland regions) and also water management. If major changes occur, in particular in precipitation patterns, Sierra Leone may expect consequences for the agricultural, health, water, fisheries and tourism sector. This could lead to a rise in migration, to urban areas which even now has been on the rise given the social and economic gulf between these two areas and the global economic down turn.

Sierra Leone views the additional, anthropogenic greenhouse effect and the threat of climate change it entails as a global challenge which cannot be overcome by national measures alone but which requires in particular international cooperation and a readiness to act. Climate change impacts are complex due to complex interactions between biophysical and socio-economic

effects and tend to have implications at the level of whole sectors and across multiple sectors, rather than just isolated projects. Coordination is needed across sectors and levels of government to ensure effective responses and efficient resources allocation. Climate change mainstreaming at the national, sector and local levels support this kind of coordination.

Sierra Leone made the development and implementation of a comprehensive climate protection policy one central pillar of its environment and energy policy in the 2000s.

Geographic Context

Sierra Leone is located in the southern-western part of West Africa and lies between latitudes 7(6degree 55minute) and 10 (10degree 00minute) degrees North of the equator and longitude 10(10degree 14minute) and 13(13degree 17minute) degrees West of the Greenwich Meridian. The country has a surface area of about 72,325 square kilometers and bordered in the northeast by the Republic of Guinea, in the south and southeast by the Republic of Liberia and in the west by the North Atlantic Ocean.

The country is divided into four main physical regions, namely coastal plains, interior lowland plains, interior plateau, and hills and mountains.

The coastline or coastal plains is relatively gentle and comprised of estuarine swamps subject to tidal flooding; coastal terraces; alluvial plains are subject to freshwater flooding during the rainy season. Beach ridges, fringe the alluvial plains on the seaward side (Allan 1990).

The interior lowland plains, the largest of the four physical regions extend from the coastal terraces in the west to the east of Sierra Leone, occupying approximately 43% of the total land area. They rise gently from the coastal terraces to elevations of 200m in the east, where they are separated from the plateaux by distinct escarpments.

At the edge of the lowland plains are the interior plateaux, which covers 22% of the total land area and made up of granite that run from the northeast of the country to the southeast. The plateau region seldom rises above 700m and is comprised of alluvial ironstone gravel in the south eastern region, while the northern end is comprised of weathered outcrops of granitic rocks. The eastern and southern parts comprise dissected hills. In the north and east of the

country are found two of the highest mountains. The highest peak on the Loma Mountains is Bintumani, which rises to 1945m while Sankan Biriwa on the Tingi Hills, rises to 1805m.

The Freetown peninsula is made up of dissected mountainous Peaks with Sugar Loaf and Picket Hills being the highest.

Climate Context

Sierra Leone has a wet tropical climate, marked by distinct wet and dry seasons. The wet or rainy season is from May to October and the dry season from November to April. Both seasons may have some variations in their commencement and duration. The wet season is dominated by the southwest tropical maritime monsoon which is a mass of moisture-laden air that originates over the south-Atlantic ocean. The dry season is dominated by the hot dusty air of the Harmattan trade winds.

The mean annual rainfall over the country is about 3000mm and the southern and coastal areas receive from 3000 to 5000mm. The rains fall steadily in the wet season with the heaviest in the months of July and August.

The temperatures are consistently high throughout the country, roughly averaging about 28 degree centigrade. The humidity, like the temperature is usually high as a result of the heavy rains coupled with high temperature and maritime influences. Humidity rises up to 93% in the wet season and decreases inland to about 47% as the rainfall declines. There is little variation in the day length due to the near equatorial location, but sunshine hours are affected during the wet season.

The highest amount of rainfall occurs during the rainy season, which lasts from May to November. The heaviest rains occur in July and August. The mean monthly amount of rainfall reaches its maximum in July and August, when the average number of rainy days is 27.

The mean long-term air temperature regime shows an average monthly temperature of between 26-28^{0}C from June to October, with a maximum temperature of 32^{0}C. Temperatures of up to 36^{0}C have also been recorded especially during the month of March. A minimum temperature of 20^{0}C has also been recorded. Air humidity according to monthly means can be as high as 80-90% during dry season and decreased to 70-80% during the rest of the year. The mean monthly occurrence of mist is approximately 1%. The visibility is obstructed by haze, the frequency of

occurrence of which increases from 25% to 40% during the period from December to May. Its frequency from June to September is 3-5%. From December to February (Northern Winter), mist occurrence in the area increase to almost 2% a month.

Hydrological Context

The drainage system consists of a series of rivers that run from North to south including the GreatScarcies, Little Scarcies, Rokel, Jong, Sewa, Moa and Mano rivers In 2004, Serra Leone's population was estimated at 4,976,871 inhabitants living mostly in rural areas (%). This population derives most of its income from natural resources.

Demographic Context

The country has a population of 4,976,871 based on the 2004 National Census and is growing at 2.5% per annum. Approximately 80-90 % of the population is in the rural areas. The population growth rate was 1.5% in 2004. Fertility index, representing the average number of children per woman (15 – 49 years old), was 6.1.

With a Crude Death Rate of 20/1000, Sierra Leone remains one of the sub-Saharan countries with the highest death rates. The under-5 mortality rate of 297 for males and 271 for females is the highest in Africa. Life expectancy is still low, at 48.4 years according to the 2004 census. This, however, reflects an increase over time. Malnutrition among children aged under 5, estimated at 27.2 percent in 2003, is one of the highest in the region. Overall, 70 – 80 percent of the population of Sierra Leone lives on less than $ 2 a day. Population is concentrated in the district headquarter towns as well as in the Western Area. Under the high and medium variants, the population of Sierra Leone will double between 2030 and 2040; while under the low variant, the population doubles after 2040. Higher population growth can adversely affect resources and development in post war Sierra Leone.

Natural Resources

Sierra Leone is endowed with a wide variety of natural resources, including large deposits of minerals, abundant fertile agricultural land, and a deep natural harbour. Poverty in Sierra Leone can only be overcome by harnessing these advantages to create an economic transformation of the nation, while ensuring that the benefits of this growth are shared widely and lead to the

betterment of the lives of the people. Mining, tourism and land management are three key areas which have a significant impact on economic growth. In the mining sector we will focus on strengthening the legal and regulatory framework to ensure that returns benefit the population, while in tourism we will focus on improving the public image of Sierra Leone and building the necessary infrastructure. Land management will concentrate on ensuring clear ownership and use of land through the development of land management systems.

Climate Variability

Report of studies relating to climate change and the National Adaptation Programme of Action carried out in recent times as well as NAPA regional workshop reports have revealed that rainfall and temperature patterns of the country have been changing. During the dry season, the harmattan (dry dusty cool air) causes lowest daily country average temperature of 16oC with a range of between 10oC and 22oC. However, the harmattan period in recent times has been warmer than usual. It was also observed that the pre-monsoon period which runs from April to June is now associated with stronger winds and more frequent rain/storms causing greater damage to lives and property. Calmer and dryer weather now appears to be associated with the September/November period which was usually characterized by frequent thunder and lightning and short but heavy rainfall.

The wet or monsoon season runs from July to September with a country average rainfall of about 2746 millimeters (mm) varies from 3659 mm in Bonthe in the South, 2979 mm in Lungi (Freetown) in the West and 2618 mm at Kabala and Bo in the north and central parts of the country. This period has recently been periods of delays in the rains and associated water shortages particularly in Freetown in recent times. Heavy rainfall accompanying such dry spells often results in extensive flooding throughout the country. The effects of these unusual temperature and rainfall patterns on agriculture, water supply and sanitation are evident in various parts of Sierra Leone.

Existing & Future Climate in the Sierra Leone

The annual average rainfall in Sierra Leone is 2746 mm based on data from the National Meteorological Office for1961-1990.

Various models were used to assess future climate change scenarios for Sierra Leone, such as the GCM, HADCM, UKTR, ECHAM. The average for 1961-1990 is about 26.7°C. This average is expected to increase by about 7-9 percent by the year 2100.

Climate data for the period 1961 to 1990 were used to construct the climate change scenarios for Sierra Leone. Data were sourced from the following meteorological stations; Lungi, Bonthe, Kabala, Njala and Bo. The parameters used for the study were precipitation (Rainfall) temperature, solar radiation, evaporation etc. It was evident from the study that the coastal areas experienced the heaviest rainfall in the form of Torrential rains. The study period (1961-1990) shows an average annual rainfall of about 2746 mm which varied from 3659 mm at Bonthe in the south to 2618 mm at Kabala in the North

Projection from the 1961-1990 using the ECHAM4 and HDCM2 models for the rainfall values at 2100 are similar to the current climate rainfall amount, whiles the CSIRO-TR and UKTR models show a decrease in rainfall by about 3-10% below the current monthly and annual values. Based on the GCM outputs, solar radiation is expected to decrease by 12% under the HADCM2, by 9% under the UKTR model, and under the CSIRO-TR and ECHAM models by 5%. In Sierra Leone, based on the last reference MAGICC/SCENGEN models, $C0_2$ concentration of about 350 parts per million (PPM) was determined in 1990. Double $C0_2$ concentration levels of about 580ppm are likely to be achieved by 2025 and about 700ppm by 2100. Sea level rise (SLR) scenarios adopted in this study are 0.2m as baseline and 0.5m, 1.0m and 2.0m by 2100.

There is an indication of consistent temperature warming across all seasons and scenarios.

All the climate scenarios show an increase in the normal annual maximum temperature for the whole country, ranging from 1.25 °C (32.13° to 33.38 °C for MIROC3.2) to 1.87 °C (29.56° to 31.42 °C for CSIRO-MK3).

The projected 1.5◦-2.0◦ Celsius increase in temperature results in increased evaporation losses, decreased precipitation, and a continuation of rainfall decline. (Source: SNC 2012)

Sierra Leone's Vulnerability to Climate Change

Associated actual and potential adverse impact of climate change

According to the published report of the Initial National Communication on climate change, Sierra Leone is vulnerable to climate change and extreme weather events. The Vulnerability and Adaptation Assessment Report and the Climate Variability Report of the NAPA Project have clearly indicated that Sierra Leone is experiencing a variety of climatic hazards which include seasonal drought, strong winds, thunderstorms, landslides, heat waves, floods, intense seasonal rain fall, shifting rainfall patterns amongst others.

In some parts of the country, notably the north and South-eastern provinces (Kambia, , Kono Gbondapi, Pujehun), as well as in the Freetown area poor communities have suffered from floods and seasonal drought which have destroyed their crops and hampered their food production capabilities. Strong winds have also destroyed houses, damaged energy transmission lines and obstructed communications to remote areas of the country. Thunderstorms and heavy rain have disrupted flight schedules and caused a number of accidents at sea. Shifting rainfall patterns recently caused water shortage in Freetown and its environs. The changes in rainfall and temperature patterns have been causing current cropping patterns to become unsuitable to emerging climate conditions. Livestock is already experiencing greater stress due to the above climatic variability and pest and disease outbreaks are becoming more pronounced. These changes have adversely affected the ability of the rural poor to maintain their existing livelihoods and have limited the ability of Sierra Leone to maintain export earnings and pay for the importation of food.

Inadequate staff and poor facilities for weather forecasting and related activities have undermined the ability of the meteorological department to provide adequate support information to other sectors of the economy so that they can better adapt to the impact of climate change.

Impact of Climate Change on Health Sector

Climate change is already affecting the health of the people of Sierra Leone through an increased incidence of cold and cough as well as water and other air-borne diseases. This situation has been aggravated by the prevalence of HIV/AIDS that has negatively impacted on communities both rural and urban and jeopardizes their efforts in achieving food security and improved livelihood because of the burden of increased number of dependent orphans.

Impact of Climate Change on Agriculture and Food Security Sector

A critical look at the profile of the agriculture and food security sector indicates that the sector is highly vulnerable to climate change and climatic variability. The potentials for vulnerability lie in the following prevailing constraints and issues:

The almost total dependence of the sector on rain fed conditions.

The numerous environmental constraints:

- The traditional bush fallow system, and changes to it especially land/vegetation degradation due to the shortening of the fallow period to as low as 5 – 7 years.
- The increasing demands for forest products and other natural resources such as minerals, fuel wood, medicines,
- Unregulated livestock production
- Modern approaches to wetland development
- Bush fires of poorly organized and poorly coordinated mechanization practices fires.
- Poorly organized and supported crops, livestock and fisheries production sectors
- Socio-economic constraints within the sectors.
- Institutional and support services constraints.
- Policy and legislative and human resources constraints

In assessing the vulnerability and impact of climate change on the agriculture and food security sector in Sierra Leone, it has become clear that three key areas could be affected negatively (i)Land Management, (ii) Crops and Livestock Husbandry and (iii) Socio-economic Aspects of Agricultural Production.

Impact of Climate Change on Forestry Sector

Despite their large extent, rapid growth and increasing importance at the local, national and regional levels for the products and service they provide, forest are not afforded adequate prominence in forest policy, planning and research. There is a general lack of policies regulating and encouraging forest management, use and conservation. Ecological, silvicultural, and socio-economic knowledge regarding forests exists to a certain extent, and there is an increasing volume of research regarding restoration, rehabilitation and management. Several factors and

implementation constraints still render the sector vulnerable to climate change. Prominent among these are:- institutional constraints, land situation, agriculture activities, un-coordinated rural programmes, rural community needs, poverty and ignorance, disregard for traditional culture/values, inconsistent legislation and policies, mineral exploitation and the nearly ten (10) years of civil conflict

Impact of Climate Change on Coastal Habitats and Biodiversity

The collateral impacts of rising sea levels on the coastal zone will include shoreline recession, increased flood frequency probabilities, inundation of coastal lands and wetlands, and desalinization of surface waters and ground-waters. These impacts will in turn affect coastal habitats and biodiversity. In Sierra Leone, the retreat of the shoreline will result in significant loss of the mangroves of the Kambia district and elsewhere, strand vegetation, coastal swamps12and the habitat of marine biodiversity (turtles, snails etc). The species of mangrove vegetation of risk from flooding and shoreline retreat includes conocarpus erectus. The most vulnerable wetlands are those of the Kambia district and areas of the Western area (Freetown) i.e. Aberdeen creek which is one of the Ramsar sites in Sierra Leone.

The loss of beach will adversely affect the survival of intertidal organisms and those that make use of the sandy beaches at some stage of their life cycle e.g. the semi-terrestrial ghost crabs, ocypoda and O. Africana. The marine turtles that could be impacted on are the leatherback (Dermochelyscoiacea), the hawsbill (Erectmochelysimbricata), green turtle (Cheloniamyda), the loggerhead (carettacarretta) and the most abundant of all olive ridley (lepidochelysolivacea).It is against this background that Sierra Leone has developed and is developing policies and strategies to deal with the negative impacts of climate change on the production of food, health of the population and vulnerable ecosystems.

Climate Change Impact on Fisheries and Marine Life

Marine life like life on the entire earth depends on a stable climate and any change in climate will be reflected in the species composition and location of the various marine communities. The current distribution of marine plant and animal communities is a reflection of how different species and ecosystems have adapted to past climates. Future climate changes will affect the boundaries of ecosystems and the mix of species that inhabit them. This will have major

implications for human activities particularly in fisheries and coastal formations such as mangroves and coral. The main marine biological communities can be defined in relation to seawater temperature and salinity, which are directly dependent on such climatic variables as precipitation and evaporation. When past climatic was substantially different from the present, as in the glacial and warm interglacial periods, there were major shifts in the distribution of marine plant and animal communities.

Impact of Climate Change on Water Sector

The vulnerability of the water resources sector to climate change has been assessed in the Vulnerability and Adaptation Report contained in Sierra Leone's First National Communications on Climate Change. It is evident from the report that water resources will be affected by climate change if and when it happens. Various General Circulation Models (GCMs) have been used in developing climate change scenarios for Sierra Leone. The models predict an increase in temperature of about 5 °C by 2100. The increase in temperature will increase the amount and intensity of precipitation. An increase in rainfall could lead to an increase in surface runoff, resulting in flooding. On the other hand a decrease in the amount and intensity of rainfall may lead to drought.

Impact on Climate Change on Terrestrial Biodiversity

Sierra Leone's biological diversity is prone to drought, dry spells, and temperature fluctuations and changes in precipitation patterns leading to changes in habitat. The status of wild life in our National Parks and Game Sanctuaries shows that many forest birds and game animals have declined in numbers even to the extent that some species have been decimated. The terrestrial and aquatic areas of the country support a large number of diverse biological populations, both plants and animals. Notwithstanding insufficient baseline information on biological resources, it is believed that uncontrolled exploitation and mismanagement have caused a significant depletion of terrestrial and aquatic species diversity. Over-exploitation of some very common and endangered species in an unwise manner has led to their being reduced to a vulnerable and endangered status.

Sierra Leone's Efforts in Addressing the Challenges of Climate Change

Sierra Leone considers of climate change to be the greatest scourge of our time.

Nationally, Sierra Leone ratified UNFCCC on the 22 of April, 1995 and the Kyoto protocol in June, 2005.

Reference to article 4.1 and 4.2 and in accordance with article 12 of the UNFCCC, Sierra Leone applied for financial support to implement a project entitled, SIL/02/G32 'Enabling Sierra Leone's Capacity to meet its obligations to UNFCCC'.

As a Party to the UNFCCC, Sierra Leone in collaboration with UNDP and GEF developed its Initial National Communication (INC) on climate change in 2006.

The project commenced operation on the 1st February, 2003 and ended in 2006.

The goal of this project was to enable Sierra Leone to prepare and submit the First national communication to the conference of parties to the UNFCCC through its secretariat in Bonn.

Sierra Leone as one as one of the Least Developed Countries (LDCs) does not have the necessary means to deal with problems associated with adaptation to climate change. In response to the decision of the Seventh Session of the Conference of Parties to the UNFCCC for LDCs to develop their National Adaptation Programme of Actions (NAPAs),Sierra Leone started the project in March, 2006 and ended in December 2008.

The NAPA project for Sierra Leone was to develop country wide programme of immediate and urgent project based adaptation activities that address the current and anticipated adverse effects of climate change.

The Government of Sierra Leone in partnership with UNDP developed the Second National Communication (SNC) on climate change with the primary objective to identify existing/remaining gaps and new areas emerging from the INC and the NAPA for adaptation to climate change and minimizing its adverse, impacts in the country.

The report was submitted to the Conference of Parties through the UNFCCC through the Secretariat in Bonn in December 2012. A stakeholders' initiation workshop on the Third National Communication (TNC) took place in June-Nov 2013, and it was finalized before the end of the year. Currently the TNC is being developed in partnership with UNEP

Though Sierra Leone emissions are negligible, in a bid to significantly contribute towards the reduction of the sources and potential sources of GHG emissions or enhancing carbon sinks,

Sierra Leone proposed to undertake appropriate mitigation actions as listed below in its response to COP 15.

- Establishment of the national secretariat for climate change (NSCC) Setting/developing air, water and soil quality standards, and ensure regular assessments and monitoring through control programs.

- Expanding clean energy utilization (e.g. solar, mini-hydro electric power, LPG, biomass stoves etc).

- Development of energy efficiency programmes through sensitization and awareness raising campaigns. Sustainable production of charcoal a reduce dependence on firewood.

- Development of alternative energy sources such as bio-fuels from sugarcane, corn, rice husk, etc.

- Developing agricultural and urban waste incineration programmes for energy production.
- Improved waste management through composting and recycling of waste.
- Development and enforcement of regulations on regular maintenance of vehicles (vehicle emission testing): formulation of transport plans.

- Improved and promoting use of public transport (e.g. road and water): for passengers and cargo to reduce traffic congestion and GHG's emissions.

Effect of external forces

Another aspect that needs consideration is the effect of external forces on the development process of Sierra Leone. Because the demand for natural resources mostly by developed countries, the realization of this policy would also depend on the respective policies made in these countries.

Development strategies formulated in developing countries should therefore take cognizance of developed countries strategies into consideration (a situation that was highlighted during the United Nations Conference on Environment and Development at Rio de Janeiro).

It should also be considered that whilst climate change impacts of resource extraction are concentrated in developing countries, the extracted resources are mainly utilized in developed countries whose development policies are independent of each other. And the fact that developing countries to which Sierra Leone belongs, operates under such unfavourable condition of international trade they often have very little choice but to exploit forest, fisheries and other natural resources in an unsustainable way.

Need for a Climate Change Policy

Sierra Leone lacks a Climate Change policy. The country has been identified by the United Nations as one of the fifty Least Developed Countries (LCDs). Her economic and social development factors pose a major challenge to development and make the country vulnerable to may national and international pressures. Efforts to improve the quality of life of its people have been hampered by extreme poverty, structural weakness in the economy, civil conflict, and the lack of capacity and weaknesses related to growth and development. All these can be further aggravated by the negative impacts of climate change.

Delaying the response to climate change impact is likely to be more costly than starting to act now. Failure to integrate vulnerability and adaptation considerations in national and local development strategies, budget, programmes and projects ;may indeed result in wasted investment and increased future vulnerability of our vulnerable communities, while failure to take action on mitigation is likely to result in much more severe climate change and therefore greater damage and much higher adaption costs in future.

The need for a national climate change policy for Sierra Leone was identified as an urgent requirement during the preparations for the ratification of the UNFCCC in 1997. A process to develop such a policy was thus instituted under the auspices of the National Committee for Climate Change (NCCC), a non-statutory stakeholder body set up in 2004 to advise the President on climate change issues and chaired by the Environment Protection Agency-Sierra Leone.

(EPA-SL). The strategy segment of the policy is to broadly support the sectorial policy and principles mentioned in the PRSP2 and PRSP3 which call for inclusive green growth in Sierra Leone.

The need for a policy is clearly underpinned by the fact that climate change is a truly cross cutting issue that can affect the entire economy as well as many specific sectors including energy, transport, agriculture, forestry, water resources management and provision of water services and health. A national climate change policy and response strategy will promote integration between the programmes of the various government departments involved to maximise the benefits to the country, while minimising negative impacts. Further, as climate change response actions can potentially act as a significant factor in boosting sustainable economic and social development, a national policy specifically designed to bring this about is clearly in the national interest, supporting the major objects of the government including poverty alleviation and the creation of jobs.

Section 2: Vision, Mission and Strategic Objective of the National Climate Change Policy Response and Strategy Direction

Vision Statement

Introduction

Climate change is happening and its adverse effects are already affecting Sierra Leone. With right policies and capacities in place, adaptation to the effects of climate change in particular can offer opportunities for strengthening sustainable human development. Social equality, wealth generation, security and environmental safety and quality can all improve substantially over the coming decades, if issues of climate change are properly integrated into national development. Development ambitions can therefore remain high despite climate change.

Guiding Principles

National efforts to address climatic change in a policy responsive and strategic way will be guided by the following principles:

- Strategic climate change response is consistent with national development priorities, including gender considerations, poverty alleviation, and access to basic amenities including energy, job creation, rural development, human resource development and improved health, leading to sustainable economic growth.
- Climate change is addressed within the framework of sustainable development. *Climate change response must be sensitive to issues of equity, gender, youth, children and other vulnerable groups.*
- The use of energy as a key driver for high economic growth is pursued within the context of sustainable development involving energy conservation, energy structure optimization and strengthened ecological preservation and construction.
- Mitigation and adaptation are integral components of the policy response and strategy to cope with climate change.

- Climate change policy is integrated with other interrelated policies towards promoting economic and environmental efficiency.

- Climate change is cross cutting and demands integration across the work programmes of several government Ministries/Agencies/Parastatals and stakeholders, and across sectors of industry, business and the community. *The process for both the formulation and implementation of climate change initiatives/activities will be guided by continuous multi-stakeholder consultations and dialogues nationally and internationally*
- Climate change response provides viable entrepreneurial ship opportunities. *Strengthening private-public partnership for the development of clean energy technology-based commercial activities as well as climate adaptation and mitigation businesses.*
- Significant national financial resources are needed to implement climate change mitigation and adaptation initiatives for visible impact. *Mobilization of additional concessional and innovative finance to national/state/local budgets, including market-based financing mechanisms, from global, regional and national sources, is critical and will be appropriately targeted and facilitated.*
- Promoting research and development and adoption of "best practices" (including indigenous knowledge) as well as capacity building programmes on climate change issues.
- Adequate, coordinated and strategic institutional, policy and legislative response to climate change challenge.
- The principle of "common but differentiated responsibilities" of the UNFCCC continues to be the basis for Sierra Leone's engagements in international negotiations on climate change and international cooperation.
- The precautionary principle, which demands that appropriate actions are taken where significant evidence of climate related risks exist, and places emphasis on dealing with the causes, rather than the impacts;
- The Principal Responsible Party pays, which appropriately allocates the costs of environmental damage and resource utilization, and the production and disposal of waste to the Principals, rather than to society at large;

Goal and Objectives

The strategic goal of Sierra Leone's response to climate change is to foster low-carbon, high growth economic development path and build a climate resilient society with adequate consideration for the women and the vulnerable, through the attainment of the following objectives:

i. Implement gender sensitive mitigation measures that will promote low carbon as well as sustainable and high economic growth;
ii. Enhance national capacity to adapt to climate change;
iii. Raise climate change related science, technology and R&D to a new level that will enable the country to better participate in international scientific and technological cooperation on climate change;
iv. Significantly increase gender sensitive public awareness and involve private sector participation in addressing the challenges of climate change;
v. Strengthen national institutions and mechanisms (policy, legislative and economic) to establish a suitable and functional framework for climate change governance.
vi. Integrate cross-cutting issues including climate financing, capacity building, research and technology, population, gender, HIV and AIDS through an appropriate institutional framework.
vii. Effectively manage the impacts of climate change through interventions that build and sustain the social and ecological resilience of Sierra Leoneans.

Efforts will be made to realize the objectives through the adoption of a series of institutional, legal, economic and technological instruments in order to (a) strengthen energy conservation, (b) optimize energy mix for rapid economic growth, (c) improve environmental integrity, (d) enhance adaptation capacity, (e) intensify research and development and improve research capacity, (f) increase climate change financing, (g) raise public awareness and (h) improve mechanisms for climate change administration. The purpose is to enable Sierra Leone to respond effectively to climate change by:

- Putting in place adequate mitigation and adaptation measures that will not only minimize national climate change risks and enhance the capacity of Sierra Leone's to adapt to climate change, but also maximize opportunities and socio-economic and environmental benefits of following a low carbon development path
- Improving national understanding of the country's vulnerability to climate change in various economic sectors including the salient gender issues through research;
- Promoting synergy between climate change response and national development priorities;
- Ensuring adequate funding for climate change initiatives from national and international sources;
- Maximizing Sierra Leone's potential to benefit from climate change adaptation and/or mitigation by appropriate international negotiation positioning;
- Improving climate change governance in the country through a coordinated approach.

Vision

The vision of the National Climate Change Policy (NCCP) is a climate change resilient Sierra Leone for rapid socio-economic development that is sustainable.

Mission

The mission of the NCCP is to strengthen national initiatives to adapt to and mitigate climate change in a participatory manner that involves engaging all sectors of the Sierra Leone's society with appropriate and adequate consideration for the women, the youths, the aged, the poor and other vulnerable groups within the overall context of advancing sustainable socio-economic development in Sierra Leone.

Policy Response Approaches

Sierra Leone's policy response to climate change is driven by the need to urgently climate-proof the country's economy and society as well as its physical environment. This will entail efforts to reduce vulnerabilities and strengthen adaptation to climate change in all sectors and at all levels, as well as develop and implement mitigation initiatives towards a low-carbon and high-growth development path. A number of key policy approaches will be used to provide an organizing framework for the development and implementation of sectoral strategies, measures and

initiatives for effective response. These are as follows:

1. **Generating adequate energy from a mix of sources for rapid socio-economic development without significantly increasing the country's GHG emissions:** By 2025, Sierra Leone plans to have a large, strong, diversified, sustainable and competitive economy that will be resilient, diversified and effectively guarantee a high standard of living and quality of life to its citizens.

   Overall, access to modern energy has increased from 3% of the country's population in 2000 to 12.1% in 2011; biomass from fuel wood and charcoal still accounts for more than 85% of total energy use, and is the source of fuel for cooking for 99% of households. There is scope for efficiency gains from all sources of energy, and transmission losses remain high at over 40%. The target is to increase billing and collection rates to 90% through technical and organizational improvements. Fuel prices (USD 0.94 per liter for both gasoline and diesel in 2010)34 are higher than in Ghana (USD 0.83) and similar to Guinea and Liberia. Sierra Leone currently has only 90 MW of installed capacity, of which 86% is for Freetown; the hydroelectric facility at Bumbuna, completed in 2009, generates 62% of the country's power, and oil-powered facilities provide the remainder.

   The challenge is to balance the imperative of accelerating the transformation of economic growth pattern with an energy conservation and efficient utilization without increasing drastically GHG emissions in the country

2. **Continuously reducing greenhouse gas emissions in all sectors, particularly in the Energy and transportation sectors**: To control GHG emissions in the course of accelerating the economic transformation of National economic growth pattern, the promotion and adoption of low-emission energy path will constitute a major policy and strategic approach. This requires a conscious commitment to a transition towards a low carbon economy, with the concomitant shifts away from fossil fuel or coal generated energy towards renewable, as well as the introduction of energy efficiency measures in various sectors, including housing and transportation, within a regulatory and an ambitious framework for the country's low carbon growth strategy.

3. **Enhancing food security, reducing poverty and promoting healthy living for all Sierra Leonean:** Food security in Sierra Leone will be threatened by climate change. Climate change will alter rainfall, evaporation, run-off and soil moisture in an uncertain manner that will have effects on agriculture and national food security. This may in the long-term make the attainment of the MDGs in Sierra Leone difficult. Thus, the need for building resilience in the agriculture, livestock, and aquaculture sectors is compelling.

4. **Integrating disaster risk management of climate-related hazards into development:** Climate change is a fact and a threat to human society. Envisaged increases in temperature, variations in rainfall, sea level rise and more intensive weather related extreme events, such as floods, droughts and heat waves are unavoidable. Reversal of GHG emission trends will still not exonerate the country from planning against future induced threats. Thus, in addition to the indispensable task of reducing global carbon emissions through mitigation and a gradual transition to a post-carbon society, equal efforts must be directed towards disaster risk management to reduce the country's vulnerabilities. Adaptive management and risk management are complements in creating and maintaining resilience. This makes the integration of disaster risk management of climate-related hazards into national development policies and programmes critical and an important policy response issue to climate change.

5. **Enhancing private sector participation in the expanding business opportunities in climate change response:** Responding to climate change and achieving low carbon high growth and development encompass a very wide spectrum of activities and business opportunities. It will require significant public and private sector action and cooperation. Across this spectrum, the private sector would need to take on various roles that contribute to the NCCP goals and objectives. The private sector has an enormous role to play in this, undertaking the investment and technological innovation that will underpin low carbon growth, providing finance for mitigation and adaptation, adopting lower carbon production processes, and encouraging and facilitating more climate conscious purchasing decisions by consumers. The establishment of a clear policy framework will be important in creating an environment that is conducive to private sector engagement, particularly in the areas of energy sourcing and infrastructure development, will give business greater confidence to undertake the low carbon investments that are needed.

While ‘climate proofing’ of private sector investments is important, the role of the private sector is not limited to managing its own climate exposure. There are also emerging business opportunities in helping others to reduce their climate risks, including (i) generating new finance, to help fill the massive deficit in available funds for mitigation and adaptation, (ii) designing, manufacturing and distributing goods and services that can help reduce the vulnerability of individuals and communities to climate change; and (iii) providing risk management tools, including insurance. Thus, a regulatory framework will be established to ensure the active involvement of the private sector in the national response.

Planning for future climate change scenarios and building dynamic response strategies, including adequate research and infrastructure development:

Uncertainty about the rate of climate change and its consequences still remains and has important implications for public policy. Various studies have shown that the optimal mitigation and adaptation efforts may be greater than it would be if the median projection of climate change were known, with certainty, to be correct. As uncertainty is resolved over time, policies and strategies should be adjusted in the light of new information. Overall, the possibility of catastrophic damage from climate change cannot be ignored. This implies that the only sustainable policies and strategies are those that minimize the risk of catastrophic damage. One way of addressing such risks is through the precautionary principle, which implies that we should avoid courses of action with poorly understood possibilities of highly adverse outcomes. Only adequate research and responsive and flexible infrastructure development that will be elaborated in this document will assist the country to adequately address and response to future climate uncertainties.

That possibility suggests that the NCCP will be a flexible enough to be easily modified over time and that could include several elements such as (i) research to resolve uncertainties about potential damage and to develop technologies that might cut the cost of reducing emissions or be helpful in adapting to a warmer climate; (ii) economic incentives to encourage inexpensive reductions in emissions today, with the expectation that more-extensive reductions may be merited in the future; and (iii) policies that would facilitate adaptation, thus lowering the cost of any warming that did occur.

6. **Building adequate capacity to manage climate change:** Rapid and sustained actions to build capacity for planning and implementing measures is needed to effectively respond to the challenges of climate change. A major limitation in Sierra Leone's response to climate change is the rather weak institutional policy and legal capacity to address the problems in a coordinated manner. While taking cognizance of existing institutions and policies/strategies and plan, significant effort will be made to build capacity to manage climate change challenges.

Strengthening inter-sector actions and mechanisms concerned with climate change: Climate change response requires an integrated and interdisciplinary approach involving different sectors. Sectoral approach has been the basis of sustainable implementation of development policies, programmes and plans in Sierra Leone. The implementation of NCCP will focus on inter-sectoral and coordinated institutional arrangements for the sustainable impacts of interventions and actions.

Enhancing international cooperation in climate change response: Sierra Leone will continue to be an active player in international negotiations and activities to respond effectively to climate change.

Section 3: RESPONSIBILITIES OF STATE ACTORS / POLICY RESPONSE APPROACHES IN MITIGATING CLIMATE CHANGE

Climate Change Governance

Climate change governance can be taken as the sum of organizations, policy instruments, financing mechanisms, rules, procedures and norms that regulate the processes of environmental protection. It is about how decisions are being made, who is responsible, how they carry out their mandate, and how they are accountable.

Although Sierra Leone has been a party to a number of international high-powered gatherings, agreements and commitments, it is only of late that progress has been achieved in putting in place coherent climate change governance for national response to climate change.

Current National Framework

The climate change issues are handled by institutions created by the INC and SNC these institutions contribute to the implementation of UNFCCC in Sierra Leone. However, specific coordinating arrangement has been made for climate change activities.

To date the meteorological department in the Ministry of Transport and Aviation has been the focal point of climate change issues in Sierra Leone.

In addition and in response to the requirements of the Kyoto protocol, the country now has a National Secretariat for Climate Change that comprises of a National Climate Change Committee. A National Registry for Reduced Emissions from Deforestation and Degradation (REDD), REDD Plus and Non-REDD Carbon Trading is located in the Ministry of Agriculture Forestry and Food Security and a Designated National Authority (DNA) for issues relating to Clean Development Mechanism (CDM) designed to both attract investment and establish an effective regulatory framework for projects approval, measurements, reporting and verification (MRV) in the Ministry of Energy. The Secretariat is in the Environmental Protection Agency (EPA) established by an Act of Parliament in 2008.

The achievement of the stated policy objectives will be ensured through the implementation of the strategic actions of six (6) main policy priority areas:

Policy priority area 1	-	Inventory
Policy priority area 2	-	Mitigation
Policy priority area 3	-	Adaptation
Policy priority area 4	-	Capacity Building Education and Awareness
Policy priority area 5	-	Financing |Mechanisms
Policy priority area 6	-	Institutional Coordination
Policy priority area 7	-	Research, Technology and systematic Observation
Policy priority area 8	-	Cross-cutting issues and disadvantaged groups

Details of actions for the strategic six (6) main policy priority areas are addressed in the National Climate Change strategic action plan.

Policy implementation, tools, mechanism and framework

This policy identifies the main processes, instruments and mechanisms required for its implementation

National Climate Change Strategy and Action Plan

The current policy will be implemented through two main instruments: the national climate change strategy and the national climate change strategic plan. They will be presented in one document called National Climate Change Strategy and Action Plan" which will be annexed to the Policy document as integral part of it.

The National climate change strategy and action plan will state and define steps and actions to be undertaken that will ensure a full implementation of the Policy with a clear results framework for each policy implementation priority area. It indicates clearly the expected results and indicators, the strategic actions and related activities, the timeframe of implementation, and the required financial resources (budget), and allocates clear institutional responsibilities (primary implementing organizations and partner or supporting organizations).

Specific strategic and operational plans, frameworks and implementation guidelines

In order to implement specific components of the policy and as a result of the policy implementation process, a range of specific strategic and operational plans and frameworks will

need to be designed or finalized. They will include among others, plans and strategic frameworks for implementing, climate change activities for specific situations, climate change for the various administrative levels, and climate change in the various development sectors.

Detailed, specific implementation guidelines and manuals will be developed for components of the Policy that require further elaboration and guidance. It will also be consolidated as a result of the policy implementation.

Section4: Institutional arrangements for the policy implementation (Responsibilities of Stakeholders)

Responsibility of the State

1. The government is responsible to ensure the full implementation of this policy.. The national climate change committee will oversee its implementation on behalf of the state. The climate change secretariat which is the body that coordinates the national climate change activities will be responsible for ensuring the implementation of policy mechanisms and for facilitating promotion and coordination with other entities involved. If required, technical committees will be set up by the national climate change committee to develop mechanisms to comply with the requirements of the policy and it's implementation strategies and will report accordingly.
2. The climate change committee will be the monitoring body. It will monitor processes and mechanisms of policy implementation at all levels of the country as well as ensuring the integral and multi-sectoral nature of the policy, its membership can be temporarily extended to few relevant stakeholders.
3. With the enabling environment, the government of Sierra Leone shall be firmly committed to taking ownership of climate change related disaster risk reduction and response at all levels. The government shall advocate for the enforcement of policies, standards and regulations, and for the National Climate Change Committee to serve as a national consultative forum for the implementation of the policy.

National and District Forums

In order for government to reach out and engage with society, a national partnership forum for climate change will be established to review progress and advice on strategies and actions. The national forum shall include representative from: the parliament committee, civil society, gender groups including representation of disadvantaged groups, the private sector, academia, media and development partners. The youth of the country will also be represented as they are the future custodians of the environment.

The national forum will be convened and supported by a secretariat based at EPA-SL. The national forum will be chaired by the President or nominee. The national forum will establish technical working groups in priority areas. These will feed in reports to the national forum.

Convening and provision of secretariat support for these groups will be the responsibility of an appropriate line ministry. Thus, a working group on financing mechanisms will be supported by the Ministry of Finance. A working group that crosses multiple ministries will contain representatives from all relevant ministries.

The national forum will be complemented by District Forums, which will have similar multi-sectoral representation to the national forum, including private sector representation. The women and youth will also be represented on these forums. The district forums will be supported by a secretariat based at the District Council.

All other stakeholders at decentralized and local levels, including provincial climate change committees, Non Governmental Organisation (NGOs) at grassroots level. and local volunteers, will be involved in the policy implementation according to the allocation of responsibilities defined in the policy implementation strategy and action plan, or as required by the implementation of the strategy and action plan. In retrospect, climate change shall be mainstreamed into all sector operations

To implement this policy at chiefdom and village levels commonly called grassroots levels, it should be noted that, at this level, each region of the country is associated with its characteristic problems due to both tribal and cultural differences and success will require a high degree of participation from the local communities.

Policy implementation funding

1. Adequate funding mechanisms must be defined for the implementation of the Policy. Government should provide adequate resources to implement the activities of the action plan. All relevant ministries/Divisions/Agencies and departments will make provisions in its

annual budget to fund the activities and programmes set out in the climate change impact adaptation and mitigation components of its sector development plans.

2. Source of funding will be the allocated from governmental national budget and stakeholders'' contribution. Stakeholders (NGOs, UN Agencies, private Sectors, bilateral and multilateral donor agencies) will be mobilized and engaged to fund specific areas of interest in the National climate change action plan.

3. Adequate mechanisms ensuring transparency, accountability, monitoring and control of funding allocation, and ensuring compliance with partners' requirements and procedures must be established.

4. Regular and up to date reporting on funding allocation and utilization must be fulfilled.

Policy Enforcement

1. The competent national authorities will develop and strengthen legal instruments that will allow for the urgent institutionalization, internalization and appropriate of this Climate change policy. This will ensure legal and institutional frameworks which make the policy viable at all levels.
2. As a governmental policy and to ensure its full implementation, this National Climate change policy shall be enforced by law (enacted) so that it becomes the official regulatory framework guiding the implementation of climate change initiatives in Sierra Leone. The policy shall be used as legal strategic framework reference by all stakeholders.

3. There shall be enabling legislation to strengthen the mechanisms of accountability for the implementation of the various components and aspects of climate change policy, according to the allocation of responsibilities in its annexed national climate strategy and action plan.

Fines for Defaulters leading to environmental degradation etc

Accountability

1. If the objectives of the policy are to be effectively met stakeholders must be held accountable for aspects of implementation assigned to them. Accountability in that regard involves the timely and efficient provision of deliverables consistent with clearly outlined terms of reference.

2. Accountability is hinged on the provision of access to adequate and appropriate resources for the implementation process. Responsible individuals and organizations shall then be empowered and capacitated to implement adequately their assigned duties and responsibilities.

Policy Review, Monitoring and Evaluation

1. Monitoring, evaluation and review are core processes in climate change. Monitoring and evaluation provide information and processed data for use in developing a database for profile and trend analysis. A monitoring, control and reporting system must be established to support government and the parliament in to improving the effectiveness and efficiency of managing climate change related issues.

2. An annual progress report on the policy implementation must be sent to the President's office. Key performance indicators in the climate change strategy and action plan will be monitored and reported annually to the national Climate change committee to assess the progress of the policy implementation. These key indicators will: measure the outcomes of the policy implementation strategy, set benchmarks, measure the effectiveness of the policy and its strategy of implementation, and inform policy development, identify agency accountability and responsibility for each performance indicator, and identify areas for improvement.

3. The policy is a dynamic document and will be reviewed every five years or on a needs basis to ensure consistency with national context and priorities, (changing weather patterns, changing risk profile of the country) and international obligations. However, changes introduced at a specific point of time to address any policy issues encountered during the climate change action plan implementation can be undertaken. The process adopted for

making changes to the policy document will ensure a participatory approach with multi-stakeholder's consultation at central and decentralized levels.

4. If and when appropriate, revision of existing laws and regulation, operational plan, implementation guidelines and manual across all sectors shall be made to strengthen and further facilitate the climate change policy implementation, efforts and accountabilities.

Conclusion

Postscript by Executive Chairperson EPA

Annex: Definitions/Glossary

Adaptation - Adjustment in natural or human systems to a new or changing environment;

adaptation can be anticipatory or reactive, private or public, autonomous or planned Adaptive capacity - The ability of a system (e.g. community or household) to anticipate, deal with and respond to change.

Climate change - A statistically significant change in either the mean state of the climate or in its variability, persisting for an extended period (decades or longer)

Climate model - A quantitative approach to representing the interactions of the atmosphere, oceans, land surface and ice (see also Global Circulation Models)

Climate proofing - Ensuring that current and future development policies, investments or infrastructure are resilient to climate variability and change, reducing climate-related risks to acceptable levels

Climate risk - Likelihood of a natural or human system suffering harm or loss due to climate variability or change Climate variability - The departure of climate from long-term average values, or changing characteristics of extremes, e.g. extended rainfall deficits that cause droughts or greater than average rainfall over a season

Mitigation

The lessening or limitation of the adverse impacts of hazards and related disasters

The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, “mitigation” is

defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change.

Hazard

Means an event that has the potential to cause a disaster, and can be either natural, human induced, biological or technological in nature. Hazards are not disaster by definition. Such hazards arise from a variety of meteorological, hydrological, geological, oceanic, biological, and technological sources, sometimes acting in combination.

Hazards include:

- A cyclone, earthquake, flood, storm surge, tornado, tsunami, riverbank erosion, drought, landslide, hailstorm or other natural happening.
- An explosion or fire, a chemical, fuel or oil spill, or a gas leak.
- An infestation, plague or epidemic.
- A failure of, or the disruption to, an essential service or infrastructure.

A process of organic origin or those conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances.

Disaster

A serious disruption of the functioning of a community or a society by the impact of an event causing widespread human, material, economic or environmental losses and impacts and which exceed the ability of the affected community or society to cope using its own resources.

Disaster impacts

This include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

Preparedness

The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.

Prevention

The outright avoidance of adverse impacts of hazards and related disasters. Prevention (i.e. disaster prevention) expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Examples include dams or embankments that eliminate flood risks, land-use regulations that do not permit any settlement in high risk zones, and seismic engineering designs that ensure the survival and function of a critical building in any likely earthquake. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use.

Recovery

The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.

Coping capacity

The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters.

The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during crises or adverse conditions. Coping capacities contribute to the reduction of disaster risks.

Contingency planning

A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses to such events and situations.

Resilience

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Response

The provisions of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

Disaster response is predominantly focused on immediate and short-term needs and is sometimes called disaster relief. The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage.

Risk

The combination of the probability of an event and its negative consequences. The word "risk" has two distinctive connotations: in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in "the risk of an accident"; whereas in technical settings the emphasis is usually placed on the consequences, in terms of "potential losses" for some particular cause, place and period. It can be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks.

Vulnerability

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.