



# MOMBASA COUNTY CLIMATE CHANGE POLICY



2021

## FOREWORD



The global climate is changing as a consequence of increased concentrations of greenhouse gas emissions in the atmosphere. These increased concentrations are largely the result of human activities. Climate change is a serious current threat to our current way of life and our ecosystems. Human-induced climate change is already having an impact on human and natural communities and this occurrence will continue to occur as a result of past, present and future emissions.

The County government acknowledges that the city of Mombasa through its rapid urbanisation is contributing to global greenhouse gases emission. The county government has an obligation to address the impact of climate change. Delayed action on climate change mitigation and adaptation strategies will increase costs and potential liabilities to County government in a range of areas, in particular planning and infrastructure management and risk management.

My government commits to supports all local and global actions and targets intended to contribute to limiting the increase in average global surface temperature and the prevention of dangerous, human induced climate change. We will actively promote and support efforts to develop effective global, national and state strategies to reduce the severity of climate change by reducing greenhouse gas emissions. Consequently, we will actively address climate change in a way that reflects Mombasa County proportionate per capita contribution toward achieving Nationally Determined Contribution (NDC).

My government acknowledges that our commitment requires strong political leadership and partnership between all levels of government; allocation of appropriate human, technical and financial resources; establishment of long-term objective going beyond political mandate; Inclusive engagement of relevant stakeholders; and empowerment of citizens and specific support of to community most vulnerable to the impact of climate change.

This policy document is a demonstration of our commitment towards a climate resilient and prosperous Mombasa. My government welcomes our stakeholders to mobilize and share expertise, knowhow, technology, and financial resources that compliment and strengthen our effort.

HE. Hassan Ali Joho  
The Governor  
County Government of Mombasa

## PREFACE



The recent natural disasters experienced globally, which may have been the result of climate change, serve to emphasize the need for government and citizens to stand in solidarity in addressing the unpredictable effects of climate change. The county has experienced its share of the effects ranging from droughts, floods, storm surges, and increased incidences of communicable diseases. Consequently, there have been related social implications such as displacement, loss of life and livelihoods as well as economic implication such as damage to infrastructure and productive assets.

The county government realises the urgency with which it needs to respond to the challenges brought about by climate change. This policy provides a pathway towards more sustainable and resilient institutions and communities in the face of climate change as well as reduce carbon emissions through adoption of appropriate technologies founded on sound research.

The current situation in nine sectors namely; water resources, biodiversity, sea level rise and coastal storms, health services, blue economy, waste management, built environment, energy and transport has been discussed. The policy outlines responses the county government will put in place in the next five years to address the identified challenges across the nine sectors. Implementation framework as well as monitoring and evaluation plan has been provided for.

The Department of Environment, Waste Management and Energy coordinates the mainstreaming of climate change into county development plans and programmes. It is therefore with great satisfaction that I introduce this policy that will guide our pursuit for a safe and resilient environment in the face of a changing climate.

Hon. Dr. Godfrey Nyongesa Nato  
County Executive Committee Member  
Department of Environment, Waste Management and Energy

## ACKNOWLEDGEMENT



It is clear that climate change is real and affects everyone, more so for rapidly expanding coastal cities like Mombasa which are likely to bare the greatest cost. This calls for a strategic long-term view that transforms Mombasa County to low carbon, climate resilient future through implementation of climate smart solutions.

The Department of Environment, Waste Management and Energy is very grateful for the technical support provided by the Miji Bora project spearheaded by Coastal & Marine Resource Development (COMRED) with financial support from the Western Indian Ocean Marine Science Association (WIOMSA). Technical expertise was provided by Dr. Godfrey Nato, Dr. Innocent Wanyonyi, Dr. Majambo Gamoyo, Mr. Titus Jefwa, Mr. Abdulsalam Omar, Prof. Justus Kithiia, Dr. Joseph Maina, and Dr. Sean O'Donoghue. Review of the Policy was provided by the African Group of Negotiators Experts Support (AGNES) team led by Dr. George Wamukoya, OGW (Team Leader), Erick Omollo, Faith Ludeki and Philip Dinga. Additional review provided by WIOMSA Secretariat led by Dr. Arthur Tuda, Emma Forsberg, and Dr. Valentine Ochanda.

The process of formulating this Policy was inclusive and consultative as it involved the participation of different stakeholders, national government institutions, sister departments in the County, civil society, the private sector, and academia. A wide range of individuals and institutions participated in its formulation. We take this early opportunity to recognize their efforts. We also acknowledge the support of county assembly in providing leadership and the county executive committee for approval.

Ms Ilhan Abass  
County Chief Officer  
Department of Environment, Waste Management and Energy

## **ACRONYMS AND ABBREVIATIONS**

CBO – Community Based Organization

CFA - Community Forest Associations

CIDP - County Integrated Development Plan

CO<sub>2</sub> - Carbon Dioxide

GDP - Gross Domestic Product

GHG - Greenhouse Gas

ICT – Information Communication Technology

IPCC - Intergovernmental Panel on Climate Change

M&E - Monitoring and Evaluation

MPA – Marine Protected Area

NAP - National Adaptation Plan

NCCAP - National Climate Change Action Plan

NDC - Nationally Determined Contribution

NGO – Non-governmental Organization

WIOMSA – Western Indian Ocean Marine Science Association

## GLOSSARY

**Adaptation:** Adjustments in natural or human systems to actual or expected climatic stimuli or their effects that moderate harm or exploit beneficial opportunities. It can be reactive (taking measures to respond to climate change impacts) or anticipatory (taking measures before impacts are observed).

**Climate Change:** Shifts in the mean state of the climate or in its variability, persisting for an extended period (decades or longer). Climate change may be due to natural changes or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

**Impacts of climate change:** The consequences of climate change on natural and human systems.

**Livelihood:** Assets and activities required for means of living.

**Mitigation:** Actions that reduce the sources or enhance the sinks of greenhouse gases.

**Resilience:** The capacity of a socio-ecological system to absorb shocks while still maintaining function and to reorganize following disturbance.

**Vulnerability:** The degree to which a system is susceptible to or unable to cope with adverse effects of climate change, including climate variability and extremes.

**Biodiversity:** The numbers and relative abundances of different species and ecosystems in a particular area.

**Anthropogenic:** it's related to the influence of human beings.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background

- 1.1.1 Mombasa County is one of Kenya's coastal county, with an area of 260km<sup>2</sup> between latitudes and longitudes -4.0435, and 39.6682. It borders Kilifi County to the North, Kwale County to the South West and the Indian Ocean to the East. The county lies within the coastal lowland which rises gradually from the sea level in the East to about 132m above sea level (asl) in the mainland. The county has six constituencies namely Changamwe, Jomvu, Nyali, Kisauni, Likoni and Mvita. The population is estimated at 1.2 million and it is projected to rise up to 1.8 million by 2030.
- 1.1.2 The County's terrain is characterized by three distinct physiographic features, which includes the coastal plain (parts of Changamwe and North Coast and parts of South Coast) consisting of flat land and beach terraces covered with coral limestone, sand deposits and back reefs; the hilly areas in the western part of the county (parts of mainland west) that is 45m to 132m asl; and the Indian Ocean and the shoreline covering parts of the South Coast, the Island, parts of Changamwe and the North Coast. The island is separated from the mainland by two creeks, Port Reitz in the south and Tudor Creek in the north, which are fringed by well-developed mangrove forests. The fringing coral reefs in the North Coast are an important marine conservation area - Mombasa Marine National Park and Reserve.
- 1.1.3 The County has rich natural and socio-economic assets. The county has a variety of ecosystems that are important for the provision of good and services as well as for its protection. The mangroves and coastal forests provide essential functions and services, source of livelihoods and protection of the shoreline. The inshore waters and the ocean are very important for fisheries and tourism. The county is also important for agriculture (crops, livestock, and poultry). The port of Mombasa is an important economic harbour for the region as the main international sea port and trade route to landlocked countries in East Africa, especially Burundi, Democratic Republic of Congo (DRC), Rwanda, South Sudan and Uganda. The port and shipping services are for very many jobs and creation of wealth. The historical sites such as Fort Jesus are the county important historical and cultural heritage.

1.1.4 Mombasa County is highly vulnerable to the adverse impacts of climate change threatening the ecological and socioeconomic assets important for its economy and livelihoods such as water, tourism, energy, transport, agriculture, ecosystems, human health, and human settlement. This is as a result of increased average temperatures, more frequent and severe extreme weather events, erratic rainfall patterns and rising sea levels. Rising sea levels threatens the low-lying plains of the Mombasa Island and mainland. Land used for agriculture will no longer be usable, as salt water contaminates soil and freshwater supplies. Rising temperatures and other effects of climate change create breeding grounds for disease-carrying insects such as mosquitoes, which spread diseases including malaria and dengue are particularly sensitive to changes in temperature and humidity. The increased frequency and magnitude of floods and droughts both affects access to safe drinking-water. An increase in disease incidence and heat stress puts pressure on the health system. Other impact that is evident is population displacement and migration from climate disaster prone areas especially the slums.

## **1.2 Rationale for the County Climate Change**

### **1.2.1 Global and National Context**

1.2.1.1 Kenya submitted her [Intended] nationally Determined Contributions (NDC) in 2015 and updated it in 2020 for the period 2020-2030. The updated NDC raises its mitigation ambition target of reducing emissions from 30% to 32% relative to the Business as Usual Scenario by 2030. The new target builds upon Kenya's initial NDC, the National Adaptation Plan (NAP) 2015-2030 and the Third National Inventory Report (NIR 3). This is in line with the Paris Agreement that aims to enhance implementation of the Convention and to strengthen the collective global response to climate change with countries committing to *“hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C”*. This is to be achieved through the nationally determined contributions (NDCs) prepared every five years. Mombasa County is expected to contribute to the realization of Kenya's NDC target by implementing adaptation and mitigation actions that enhance adaptation, build climate resilience and reduce emissions.

1.2.1.2 The *Climate Change Act No. 1 of 2016* is a national legislation that provides a regulatory framework for enhanced response to climate change. It provides mechanisms and measures for the country to achieve low carbon climate resilient development. The Act adopts a mainstreaming approach that includes, *inter alia*, integration of climate change considerations into all sectors and *in County*

*Integrated Development Plans.* It also establishes the National Climate Change Council, chaired by His Excellency the President and the *Chair of the Council of Governors* a member, with the responsibility to advise the national and county governments on legislative, policy and other measures necessary for climate change response and attaining low carbon climate change resilient development. The Act obligates the Cabinet Secretary through the Directorate of Climate Change (CCD) to provide technical assistance on climate change actions and responses to county governments, based on *mutual agreement and needs cited by the county governments.* The Cabinet Secretary is also required to report biannually to Parliament on the status of implementation of international and national obligations to respond to climate change, and *progress towards attainment of low carbon climate resilient development.* The Act also obligates CCD to national government through the Climate Change Directorate in collaboration with other agencies at the national and county government levels to, *inter alia*, (i) identify low carbon development strategies and coordinate related **measurement, reporting and verification**; (ii) develop strategies and coordinate actions for building resilience to climate change and enhancing adaptive capacity; and (iii) optimize the country's opportunities to **mobilize climate finance.** The Act also establishes the **Climate Change Fund** – a financing mechanism for priority climate change actions and interventions at the county level.

1.2.1.3 *The Kenya National Climate Change Strategy (KNCCRS)* was adopted in 2010 with the aim of identifying the challenge posed by climate with a view of proposing the national response to the climate change threat. The KNCCRS reiterates that climate change is already happening in Kenya and therefore the country needs to put in place measures to address the adverse impacts of climate change and also contribute towards reducing greenhouse gas (GHG) emissions. Some of the observed impacts of climate change identified include, *inter alia*: sea level rise and coastal erosion and bleaching of coral reefs. For example, it is projected that 17% of Mombasa will be submerged with a sea level rise of 0.3 metres. To implement the KNCCRS, the national government developed the first National Climate Change Action Plan (NCCAP I) 2013-2017 and which has been replaced by the National Climate Change Action Plan (NCCAP II) 2018-2022. The NCCAP II is unique as besides providing a framework for implementation of Kenya's NDC, it also sets out specific climate actions directed towards transforming to low carbon climate resilient development. To ensure implementation of the NCCAP II, identified climate adaptation and mitigations have been incorporated into the Third Medium Plan (MTP III) for the period 2018 – 2023. This has ensured that the NCCAP II is aligned with the budget.

## **1.2.2 County level**

1.2.2.1 *Mainstreaming of climate change into the County Integrated Development Plan.* The planning instrument for the County Government is the County Integrated Development Plan (CIDP). The CIDP is the planning instrument through which County Governments identify their development priorities for implementation. The County Government Act No, 17 of 2012 prohibits County Governments from allocating budget for any activities that are not in the CIDP. This is to be realized through the annual development priorities and which are aligned with the annual budget. To ensure that the prioritized climate change adaptation and mitigations actions are implemented, Mombasa County will have to mainstream them into the current and successive CIDPs.

1.2.2.2 *Framework for local climate action by different stakeholders.* Climate actions are implemented at the local level. To ensure that all stakeholders are involved in line with the principle of subsidiarity, there is need for a framework that would facilitate engagement of the different stakeholders in supporting local climate action. Such stakeholders may include the National Government, sister County Governments, private sector, CSOs, research, academia, development partners and local communities.

## **1.3 Process of formulating the policy**

1.3.1 The policy was prepared through a highly consultative process. Several meetings were held with different stakeholders to collect their views during the entire process of formulating the policy. Scientists and experts provided the requisite evidence that informed the proposed climate actions.

## **CHAPTER 2**

### **SITUATIONAL ANALYSIS**

#### **2.1 Vulnerability of Mombasa County to Climate Change**

2.1.1 Mombasa county lies within the coastal strip in the hot tropical region where the climate is influenced by monsoon winds. The climate is characterized of high temperatures and high humidity at 80%. Mombasa's annual average temperature is 30°C while the average low is 21.3°C. The highest recorded temperature annually is 37.6°C. January is the warmest month in the year with a temperature of 32°C and the lowest month is July. Mombasa experiences seasonal variation in rainfall. The rainfall patterns are characterized of long and short seasons with annual average precipitation of 1260mm. The long rains occur in April to June at an average of 1,040 mm and correspond to South Eastern monsoon winds. While the short rains begin at the end of October until December at an average of 240mm. The short rains correspond comparatively to dry North Eastern Monsoon winds. The annual rainfall for the county is at an average of 640mm. Temperatures have risen throughout the country with Mombasa County being no exception. It has been observed that since the early 1960s, both minimum (night time) and maximum (daytime) temperatures have been on an increasing (warming) trend. The minimum temperature has risen generally by 0.7 – 2.0°C and the maximum by 0.2 – 1.3°C, depending on the season and the region of the country. It is projected that the mean surface temperature across the country will increase by 1-1.5°C by 2030, 1.5-2.0°C by 2060s, 1.5-5.0°C by 2090s. Thus, rising temperatures trend is expected to continue in Kenya in all seasons. Rainfall has become irregular and unpredictable, and when it rains, downpour is more intense. The frequency and magnitude of extreme weather events is projected to increase with far reaching impacts across the country, including Mombasa County.

#### **2.2 Impacts of climate change on ecological and socioeconomic assets of the county**

##### **2.2.1 Sea level rise**

2.2.1.1 Mombasa County's highly vulnerable to sea level rise as it lies between sea level and about 45 metres above sea level (asl). The low lying areas of the County are already experiencing serious coastal/beach erosion as a result of the rise in sea level. This is having a negative impact on the County's and the livelihoods of the residents. It is estimated that sea level has been rising at a rate of about two

millimetres per year. At this rate, it is projected that about 17% of Mombasa, or 4,600 hectares of land area, will be submerged with a sea-level rise of only 0.3 metres. At the same time, there will be large areas that may be rendered uninhabitable as a result of flooding or water logging, or will be agriculturally unsuitable due to salt stress. Sandy beaches and other features, including historical and cultural monuments such as Fort Jesus, several beach hotels, industries, the ship-docking and human settlements could be negatively affected by sea-level rise. Other impacts that are already being experienced, include: increased coastal storm damage; sea-shore erosion; salt water intrusion into estuaries and freshwater aquifers and springs; changes in sedimentation patterns; decreased light penetration to benthic organisms leading to loss of food for various marine fauna; and loss of coral reefs.

## 2.2.2 Natural Resource base

2.2.2.1 Mombasa county has rich ecosystems that extend from the coastal, inshore and deep sea. The varied ecosystems provide important goods and services such as; tourism, water resources, provision of food, provision of wood and non-wood forest resources, and as habitats for fish, coral reefs and other aquatic and terrestrial organisms. Some of the ecosystems are important for protection of the coastline from erosion. All these ecosystems are being impacted by climate change.

2.2.2.2 *Water resources:* Mombasa highly dependent on trans-basin transfer of water i.e., Mzima springs, Baricho water works and Marere boreholes and the ground water aquifers and boreholes spread across the entire County. At least three permanent springs, four water pans and a number of borewells are operated by private investors, NGOs and CBOs accounting for about 10,360m<sup>3</sup> per day. The projected piped water supplies for the County by the year 2035 is in the range of between 150,000 to 200,000m<sup>3</sup>. The County frequently faces prolonged dry spells and droughts as well as flooding exacerbating the already worse water problem, which will have a wide range of implications for household food security, hygiene and well-being. The increasing temperature and changing rainfall in terms of reducing amounts and its unpredictability has negative impacts on provision of clean water. The adverse impacts of climate change on water resources are already being experienced, and are expected to result in severe flooding and intrusion of salt water in aquifers and ground waters. The impacts of climate change on water resources, in turn, affect all major sectors of the economy.

2.2.2.5 *Mangroves and coastal forests.* Mangroves and coastal forests provide essential functions and services. The total area of mangroves in Kenya is

estimated at 61,271 ha with Mombasa County accounting for about 6% (3,771 ha) of the total cover. The mangrove forests occur within a number of distinct coastline geophysical categories of drowned river valleys at Mombasa and Mtwapa protective outcrops of coral limestone. Mangroves are important as nursery ground for many commercial fisheries. It is also a habitat for invertebrates and migratory birds. Mangroves are important for the protection of the shoreline from storms and waves, and also act as carbon sinks. Mangroves also offer protection to sea grass beds and coral reefs by filtering sediments. Tudor Creek mangrove forest in Mombasa has been affected by changes in inundation duration frequency as well as salinity levels caused by sea level rise thus reducing its productivity. Increased flooding has caused change in species composition and intensity resulting loss of fish and coastal erosion.

2.2.2.6 *Inshore waters:* Mombasa inshore waters are important for life processes of marine organism, the hatcheries, nurseries, spawning and reproduction areas for fish. The county depends on small scale and artisanal and the fishermen largely depend on inshore waters as a provider of resources and employment. High temperatures have made the habitats unsuitable for fish and species which have migrated to other areas. The shift has also caused a decline in fishing activities for the fishermen and limited resources. Acidification of the ocean as a resulting of absorption of CO<sub>2</sub> from the atmosphere affects productivity.

2.2.2.8 The *coral reef* is found from shallow inshore waters of < 1.5 m to about 25-45m depth. Coral reefs are a harbour to rich biodiversity of birds, fish, crustaceans, molluscs, echinoderms. The rich biodiversity provides a range of goods and ecological services such as raw materials, nutrient cycling, bioremediation, it supports people's livelihood through fishery, tourism and cultural heritage. Whereas coral reefs are valuable in protecting the coastline they are increasingly being threatened extreme temperatures that causes bleaching and acidification, thereby disrupting the health and functioning of coral reefs. Increased atmospheric carbon concentrations have caused an increase in acidity in surface waters which lowers calcium carbonate deposition rates and fertilizes algae creating competition with coral reefs and causing nutrient pollution. Increases in rainfall have caused contamination on the coastal reefs making them more vulnerable to climate change.

2.2.2.9 *Seagrass beds* occur in sheltered tidal flats, lagoons and creeks and provide ecological services such as nutrient cycling, organic carbon production and export, they serve as coastal canaries, sediment stabilization and enhance biodiversity. Seagrass beds provide important habitats for a diverse array of associated fauna and flora. They serve as nursery grounds and as foraging areas for turtles and fish.



Numerous fish and invertebrates seek refuge from predators in seagrasses. As a result of climate change, increasing global warming has altered the growth rate of seagrass. Further, sea level rise has increased water depth and reduced light reaching the seagrass thus reducing productivity. Sediments and nutrients run off resulting from floods have led to loss of seagrass and a redistribution of existing habitats.

### **2.2.3 Productive assets and Blue Economy**

2.2.3.1 *Tourism.* Tourism one of the County's main economic activity employing tens of thousands of people. The tourism industry has spurred other economic activities including: hotel establishments, safari tour companies, curio vendors, boat operators, entertainment spots, sport fishing, snorkelling and diving. The County's tourism assets are warm weather throughout the year, friendly people, varied ecosystems, magnificent sandy beaches, the marine park and reserves, intriguing cultural and historical setting which blends unique old Arab towns and ruins of 16th-century Portuguese settlements with a rich traditional culture and modern developments. Climate change has negative impacts on these tourism assets. In particular, sea level rise, increasing high temperatures and extreme weather events. For instance, sea level rise has destroyed magnificent sandy beaches and hotel establishments through erosion and flooding; storms at sea affect tourism activities such as snorkelling, sport fishing and boat rides; and high temperatures have caused bleaching of corals important for tourism.

2.2.3.2 *Fisheries.* Traditionally, coastal communities depend on fisheries as a source of economy, nutrition and employment. The Blue Economy sector is one of the emerging economic frontiers expected to significantly contribute to the County's economy. Both artisanal fishing and industrial fishing is practiced in Mombasa County. On the one hand, the artisanal fishing is characterized by small scale fishermen that use traditional fishing vessels such as canoes and dhows and provides employment and livelihood to thousands of households. The artisanal fishermen in the County operate from several fish landing sites organized in 15 Beach Management units (BMUs). Artisanal fisheries are characterized by uncertainty and depend strongly on seasons. For example, along the East African coast, fish catches are poorest from April to July, during the *kusi* season, when southeast monsoon winds occur. This period is characterized by heavy rainfall and rough seas. During this time, fishers go out less to sea and tend to avoid the out-of-reef areas and deep waters. In contrast, fish catches are best from August to March, during the *kaskazi* season, when northeast monsoon winds occur. Seas are

relatively calm allowing fishers to go out more often and venture out further. On the other hand, industrial fishing is characterized with off-shore fishing is the domain of a few Kenyan vessels and some visiting factory trawlers from foreign countries. Climate change poses a significant threat to fisheries. For instance, the 2004 Indian Ocean Tsunami and 2006/07 flooding destroyed fishing infrastructure and fishing vessels. High temperatures also have affected physiological process in the ocean by causing upwelling thus reducing productivity of fish. As sea level rise, low lying coastal areas are being inundated with saltwater causing salt stresses on fish and destruction of fish habitats.

2.2.3.3 *Port and shipping.* Mombasa is the principal Kenyan sea port. It comprises of Kilindini Harbour and Old Port. Kilindini harbour has extensive docks, shipyards, and petroleum storage tanks. It is the main international sea port and trade route to landlocked countries, namely Burundi, DRC, Rwanda, South Sudan, Uganda and parts of Tanzania. The port is also important to the country as it is part of the Maritime Silk Road that runs from the Chinese coast to the Upper Adriatic region. The port plays an important role in the economy since shipping is one of the main economic sources that earn foreign exchange for the country from commercial imports and exports in Mombasa. The total number of ships docked and cargo traffic handled at the Mombasa Port has been increasing over the years. With projected sea level rise submerging about 17% of Mombasa, this will affect the ship-docking infrastructure. In addition, the port operations may be affected by increased in the frequency and intensity of 'extreme' weather events—shocks such as storms, heavy precipitation, and heat waves.

2.2.3.4 *Agriculture:* Agriculture is one of the economic activities that generates income, creates jobs and contributes to the County's food security. The main agricultural activities, include: Crops such as fruits and vegetables, maize, amaranth, sweet potatoes, cassava, sorghum, coconut, cashew nuts, simsim (sesame) and sunflower among others; livestock; and poultry. Crop production in the County is mainly in Kisauni and Likoni Sub-Counties. With increasing temperatures, erratic rainfall patterns and increasing frequency and intensity of extreme weather events especially floods and drought, crop production is most affected resulting in low yields and in some cases total crop failure. High temperatures have also contributed to high incidences of pests and diseases.

2.2.3.5 *Livestock production* in Mombasa is on a small scale. It comprises of dairy cattle, goats, sheep, camels, beef cattle and poultry. Livestock farmers earn an income from selling livestock and their dairy products such as dairy products, meat, milk, hide and skin. The negative effects of increased temperature on feed intake, reproduction and performance on various livestock species is something that is reasonably well understood. For example, for most livestock species, such as cattle, sheep, goats, pig and chickens, temperatures between 10 and 30°C is when they perform the best. Impacts of climate change have affected livestock production. High temperatures and shifting rainfall patterns have reduced livestock's feed production. Decreased feeds for livestock have affected the milk production, quality of meat, and reduced body weight. Droughts have caused hunger and floods resulted in death of livestock. Variations in temperature have caused disease outbreaks and warmer seasons increase the spread of diseases.

## 2.2.4 Socio-economic aspects

2.2.4.1 *Health.* Health and nutrition impacts of climate shocks are distributed unevenly in populations according to patterns of vulnerability defined by geography and social differences, such as gender, socioeconomic status, disability, ethnicity, and age. The formal health system must contend with surges in demand for health and nutrition services associated with climate shocks, which are likely to intensify because of climate change, whilst meeting the different needs of these populations. Different effects caused or exacerbated by climate change, such as heat, drought, and floods, negatively affect human health. The risk of vector and water borne diseases will rise. Among people aged 65 and over, heat stress-related mortality is expected to increase.

2.2.4.2 *Human settlement.* Human settlements and patterns in Mombasa County are influenced by proximity to economic and environmental factors such as jobs, markets, agriculture and fishing areas, vital social and physical infrastructure networks such as social roads, housing, water and electricity. Mombasa, about 40 percent of the population lives in informal settlements that occupies only 5 percent of the total land area. The growth of informal settlements in the County is unprecedented and it is projected that the population living in informal settlements is expected to double by 2030. Some of the reasons for the rapid expansion of informal settlements, include, inter alia: a combination of rural-urban migration, increasing urban poverty and inequality, high cost of living, non-transparent land allocation systems, land grabbing and insufficient investment in new low-income housing. Slum buildings vary from simple shacks to permanent and well-maintained structures. Most slums lack clean water, electricity, sanitation and other

basic services. These informal settlements are highly vulnerable to climate change. For example, Kenya Red Cross estimates that approximately 60,000 people were affected by floods during in 2006. Sea level rise and flooding causes internal displacement and forces residents. This exacerbated by the low altitude.

## **.CHAPTER 3**

### **POLICY GOALS, OBJECTIVES AND GUIDING PRINCIPLES**

#### **3.1 Vision**

A climate resilient and prosperous Mombasa County.

#### **3.2 Goal**

The goal of this policy is to provide an enabling environment for transforming Mombasa County towards a climate resilient development.

#### **3.3 Objectives**

The objectives of this policy are:

1. To provide a framework for the county's transitioning towards low carbon climate resilient development in line with the Kenya Climate Change Act 2016 and the current and successive National Climate Change Action Plans (NCCAPs);
2. To provide for mainstreaming and integration of climate change issues into the County Integrated Development Plan (CIDP), programs and projects;
3. To provide for identification, prioritization and implementation of adaptation and mitigation actions;
4. To provide legal and institutional framework for addressing climate change in the County; and
5. To promote collaboration and partnerships with national government, other county governments, private sector, academia, civil society organizations (CSOs), research and development (R&D) and development partners in the implementation of climate actions across the County.

#### **3.4 Guiding Principles**

The Guiding Principles underpinning the Policy are:

1. *The principle of subsidiarity:* Since the impacts of climate change are being felt at the local level, the design and implementation of climate actions will be

decentralized and devolved of authority and responsibilities at the lowest level possible.

2. *Public participation:* Given climate change affects provision of services by the County and the livelihoods, the residents and other relevant stakeholders will be involved in the implementation of the Policy and decision making. This will be complemented with public education, training, public awareness, public access to information and cooperation at all levels.
3. *Equity and social inclusion:* Given County's has varied socio-economic groups and economic interests and coupled with the fact that climate change has the greatest impact on the vulnerable groups of the society such as the poor, women, older members of society, persons with disabilities, children and youth. All climate interventions will be designed in close consultations with these groups so as to ensure that their needs are adequately addressed.
4. *Collaboration and partnerships:* Implementation of environment and climate change is a shared responsibility (concurrent jurisdiction) between the National Government and County Governments, thus require the County to work very closely with the National Government in implementation of this Policy especially in matters of mobilization of resources, technology transfer and capacity building. Since addressing the challenges posed by climate change requires climate change requires collective response, collaboration and partnerships with all stakeholders, including the national government, other county governments, academia, CSOs, R&D and development partners in the implementation of climate actions will be strengthened.
5. *Evidence-based and Cost effectiveness:* All climate actions taken by the County shall be evidence-based and cost effective to optimize the benefits and ensure value for the investment.
6. *Precautionary principle:* Since climate change is full of uncertainties, lack of data and information will not stop the County from taking action. Addressing today's climate change challenges while embedding a long term-vision as the future is now. Thus, planning for climate interventions will begin by addressing the current needs while taking into account the future scenarios.
7. *Building leadership and local action.* Efforts to build resilience are most likely to be accelerated and sustained through strong leadership, driving commitment and accountability with active resident's engagement.
8. *Reflective.* People and institutions systematically learn from experience with an adaptive planning mindset that accepts unpredictable outcomes. There should mechanisms for continuously modifying climate actions and decisions based on

emerging evidence, rather than seeking permanent solutions based on an assessment of today's climate shocks and stresses.

9. *Integration.* Given that climate change affects most of the key sectors that drive the County's economy, the County's systems, decision making and investments should be mutually supportive of a common outcome. Resilient system integration has evidence of systems that exist across different scales of operation. Integration requires ongoing feedback system for collection of information and response.

## CHAPTER 4

### ENHANCING ADAPTATION AND BUILDING RESILIENCE OF MOMBASA COUNTY

4.1 Mombasa County is highly vulnerable to climate change thus enhancing adaptation and building climate resilience of her ecological and socio-economic assets is the priority. Climate projections for the coastal region suggest that Mombasa will become warmer than they used to be, posing risks to health, agriculture and water supply. By the 2040s, temperatures may become up to 3°C higher on average than current conditions, with extremely hot days and widespread heat waves becoming much more frequent. Long-term rainfall trends for the coastal region could entail drier rainfall seasons becoming much more common, with a tendency towards more prolonged drought conditions. However, the County will continue to experience wet rainfall seasons with the associated risk of large-scale flooding. Some projections suggest that localised heavy rainfall events might become more frequent and intense. Key areas for adaptation and building climate resilience are: a) mainstreaming of climate change in the County development planning and budget; b) building resilience of coastal and marine ecosystems: i) water resources, ii) Mangrove and shoreline, and iii) Inshore waters; c) tourism; d) Agriculture, livestock and fisheries; e) health; f) infrastructure; g) human settlement.

#### **4.2 Mainstreaming Climate Change into the County development and sectoral Planning and Budgeting**

4.2.1 There is an important intersection between development and climate change adaptation in that they both aim to reduce the root causes of vulnerability. The integration of climate change risks and opportunities in development activities is one way to engage directly at this intersection. Its purpose is not only to enhance resilience to climate change, but also to ensure that 'no-regret' development is implemented and no maladaptive actions are taken. Mainstreaming (or integrating) climate change into county development and sectoral planning and decision-making processes is a crucial tool to ensure climate change adaptation and poverty reduction are implemented hand-in-hand. These plans set the priorities for directing public spending are revised after five (5) and ten (10) years, respectively. In this regard, Mombasa County will endeavour to:



1. Integrate climate considerations into the County Sectoral Plans and County Integrated Development Plans (CIDPs) and budgeting to enhance implementation.
2. Ensure that County planning processes integrate the best available scientific climate information.
3. Support locally appropriate planning and responses

#### **4.3 Building Resilience of Coastal and marine ecosystems**

**4.3.1 Water resources.** Mombasa County is generally a water scarce area with much of its water coming from transbasin transfer from Mzima Springs (Taita Taveta), Baricho (Kilifi) and Marere (Kwale). Climate change will exacerbate the water scarcity problems due to rising temperatures and unpredictable rainfall patterns. The other challenge is water lost through leakage which will require efficient measures to be put in place that could contribute to both greening the sector and increasing the resilience of livelihoods. Flooding is a regular occurrence across many parts of the County, due to a combination of intense rainfall, poor drainage and blockages in the drainage network. Furthermore, many of Mombasa's informal settlements experience floods frequently, causing destruction of property and water borne diseases. In this regard, the Mombasa County will endeavor to:

1. Develop Integrated Water Infrastructure Management Plans at County and Sub-County levels that will include *inter alia*: enhance rain water harvesting and storage among other measures.
2. Enhance protection of water catchment areas that are important for transbasin water transfer by working with the Counties of Taita Taveta, Kilifi and Kwale.
3. Climate proof existing water infrastructure, and any new investments in the water sector.
4. Develop Real-Time Flood Monitoring and Community Flood Communications and Response System.
5. Enhance access to clean and safe water and sanitation and improved water efficiency.
6. Develop and implement standards and guidelines for management and use of surface and ground water resources.

*4.3.2 Mangroves and shoreline protection.* Mangroves are important natural resources that has multiple functions the key among them being nursery for fish, and more importantly the shoreline protection. Mangroves also act a filtering system for the waters that enter the ocean from streams and rivers. As they intercept and slow down the flow of the waters that flow into them, they give sediments and other pollutants the chance to settle out of the water that then flows on to the ocean. Healthy vegetation along river banks is also important to prevent erosion and increased sediment loads. The observed and expected climate driven sea level rise, storms and coastal flooding will have an impact on mangroves ad therefore threatening the critical role they play in shoreline protection leading to increased coastal erosion. In addition, the climate change has impact on the general shoreline especially the coastal beaches and the coastal ecosystems due to inundation thus affected the stability of the shoreline and the tourism establishment along the beach. In this regard, the Mombasa County will endeavour to:

1. Enhance the protection and rehabilitation of mangrove ecosystem.
2. Promote measures that enhance the protection of the shoreline in areas where there are no mangroves.
3. Regulate activities along the shoreline including the setback line requirement that all establishment be constructed at least 100 metres from the high-water mark.

*4.3.3 Inshore waters.* Inshore waters play important environmental and economic role in Mombasa County. They provide habitat for breeding and foraging of marine species such as fish and marine turtles. The inshore fishery is an important resource for artisanal fishermen and a primary source of livelihood for many Mombasa County residents. Climate change can affect species directly by influencing how their bodies function, their growth and behaviour and indirectly through environmental effects on ecosystems. To assess the impacts of this temperature increase on a marine species. The inshore waters are also harbour corals important for fish and tourism. Corals are sensitive to small changes in water temperatures – longer periods of higher temperatures result in the breakdown of the coral-zooxanthellae relationship and if it persists leads to coral death. This can be caused by a number of environmental stresses, most commonly higher water temperatures, particularly when combined with still, warm ocean conditions. Ocean temperatures are predicted to continue to rise if we keep adding carbon dioxide and other greenhouse gases to the atmosphere. The fifth assessment Report (AR5) of Intergovernmental Panel on Climate Change (IPCC) released in 2013 predicts an increase in the surface temperature of tropical oceans of 3–4°C by 2100 if no change is made to the current patterns of greenhouse gas emissions. Mombasa County will endeavor to:

1. Promote sustainable activities in the inshore waters that do not stress the sea grasses beds, corals and coral reefs such as destructive fishing.
2. Put in place measure that regulate inflows and discharges especially a range of nutrients, pollutants and sediment loads into the inshore waters that may affect sea grass ecosystem and the reef system.
3. Promote improved management of agricultural and livestock production grazing to prevent the sediment and other pollutants reaching the inshore waters.

#### **4.4 Tourism**

4.4.1 Coastal and beach ecosystems are among the most diverse and productive habitats on the planet. Beach tourism is one of the most dominant market segments of Mombasa County. The impact of climate change on coastal tourism is already being felt in many ways. For example, climate change is adversely affecting some of the ocean-based tourism activities such as deep-sea diving, snorkeling etc. Bleaching is not only threatening the coral reefs but also fish that depend on them for habitat. The hotel establishments are also affected by accelerated beach erosion as a result of sea level and other factors. In this regard, Mombasa County will endeavour to;

1. Work with hotel establishments to put in place natural defence measures for protection of the shoreline.
2. Promote climate proofing of tourism sector establishments and operations within the County.
3. Diversify and orientate sustainable tourism activities across the County.
4. Strengthen education, information and public awareness on climate change among the residents in the county.

#### **4.5 Agriculture, Livestock and Fisheries**

4.5.1 Agriculture, livestock and fisheries are major economic sectors that make significant contribution to the county's economy and food security. The three agricultural production systems are climate sensitive due to rising temperature, rainfall variability and the increasing frequency and magnitude of extreme weather events such as droughts, floods and coastal storms. In addition, agriculture is also affected by salt water intrusion as a result of sea level rise and coastal storms. The fisheries subsector is mainly affected by the increase in sea storms affecting fish catch and sometimes causing accident such as drowning of fishermen. In order to enhance the resilience of the agriculture production, Mombasa county will endeavour to:

1. Promote climate smart crop and livestock production technologies and practices including solar powered small-scale irrigation and improved seed varieties and livestock breeds.
2. Enhance access to climate information by all stakeholders especially the small-scale farmers and fishers.
3. Develop a comprehensive early warning systems and climate risk management tools, including insurance schemes for crops, livestock and fishing gear.
4. Climate proofing agricultural and fisheries value chains from farm to consumers and to address post-harvest loss.
5. Enhance the protection of fish breeding grounds in the inshore waters especially the mangroves, sea grass beds, and coral reefs.
6. Promote aquaculture
7. Support fishermen to access offshore fishing grounds.

## **4.6 Health**

4.6.1 Climate change, together with other natural and human-made health stressors, influences human health and disease in numerous ways. Some existing health threats will intensify and new health threats will emerge. Certain groups have higher susceptibility to climate-sensitive health impacts owing to their age (children and elderly), gender (particularly pregnant women) or other health conditions like HIV. The socioeconomic costs of health problems caused by climate change are considerable. Impacts of climate change such as extreme heat waves, rising sea-level, changes in precipitation resulting in flooding and droughts, intense coastal storms, and degraded air quality, affect directly and indirectly the physical, social, and psychological health of humans. For instance, changes in precipitation are creating changes in the availability and quantity of water, as well as resulting in extreme weather events such as intense storms and flooding. In the recent years, Mombasa County has observed spread of new climate change – driven diseases such as *Chikungunya* fever which is transmitted by mosquitoes causing febrile disease and other complications. To address the adverse effects of climate change in the health sector, Mombasa County will endeavour to:

1. Integrate climate change considerations into the health sector.
2. Promote climate vulnerability and risk assessment tools and decision support systems to enhance informed decision making in the health sector.
3. Promote disease surveillance, monitoring and early warning system.

4. Strengthen and promote emergency management services to better handle emergency and disaster situations related to climate change and health.

#### **4.7 Infrastructure**

4.7.1 Infrastructure makes up the basic physical and organizational structure of Mombasa County. Built infrastructure includes buildings; power and telecommunication installations, road and rail networks, water and waste water infrastructure, refinery and storage tanks and port and shipping infrastructure. These facilities are highly vulnerable to climate change. For example, increased frequency and magnitude of extreme weather events such as floods being experienced have damaged the roads, buildings, power and telecommunication installations and water and waste water infrastructure. This will be exacerbated by sea level rise that is projected to submerge about 17% of the coastal line in Mombasa County, resulting in loss and destruction of infrastructural establishments. To address the current and expected adverse impacts of climate change on infrastructure, Mombasa County will endeavour to:

1. Climate proof infrastructural development across the county
2. Ensure climate risks and vulnerability assessments are done for all existing and new infrastructure development.
3. Promote climate resilient technological options in infrastructural design and development

#### **4.8 Human Settlement**

4.8.1 Climate change impacts on African human settlements arise from a number of climate change-related causes, notably sea level changes, impacts on water resources, extreme weather events, food security, increased health risks from vector borne diseases, and temperature-related morbidity. The County has facing with the increased rural-urban migration that has resulted in growth of informal settlement. The informal settlements are highly vulnerable to climate change and related extreme weather events such as sea level rise and flooding. Mombasa country will endeavour to:

1. Map out the vulnerable and climate risk areas across the county and integrate them into county planning
2. Relocate human settlements from highly vulnerable and climate risk areas to low-risk areas
3. Enhance informal settlements improvement schemes

4. Develop a comprehensive early warning systems and disaster risk management plans
5. Enhance community awareness and training on climate risk and disaster preparedness

## CHAPTER 5

# TRANSFORMATION OF MOMBASA COUNTY TO A LOW CARBON ECONOMY

### 5.1 Low carbon development pathway

5.1.1 Low-carbon economy refers to the development of an economy based on a low-emission pathway. Low-carbon economy aims at improving human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. It encompasses low energy consumption, low carbon dioxide emissions, and low levels of pollution. Further, a more recent term, the blue economy, draws attention to oceans and other water resources. Blue economy is understood as comprising the range of economic sectors and related policies that together determine whether the use of oceanic resources is sustainable. Mombasa County is a key player in the emerging blue economy opportunities. In this regard, Mombasa County will endeavor to:

1. Develop a County Long Term Low Carbon Development Strategy.
2. Map out priority actions at sectoral levels that will minimise greenhouse gas emissions while enhancing sustainable development in the county.
3. Promote technological options in development that minimize greenhouse gas emissions.

### 5.2 Waste

5.2.1 The waste sector is also a source of GHG emissions. The sector covers the GHG emissions from solid waste disposal, biological treatment of solid waste, burning of waste and wastewater treatment and discharge. Mombasa County does not have a good waste disposal system. In this regards, Mombasa County will endeavour to;

1. Incentivize and facilitate establishment of a circular economy based on waste across the county
2. Strengthen waste management regulation in the county.

### 5.3 Transport

5.3.1 Although the transport is one of the sectors that the country has identified to transform into a low carbon development pathway, it is a strategic sector, which is fundamental to all economic activities in Mombasa County. The County's transport system is largely fossil-fuel based, for example, vehicles, motorbikes, *tuk tuk*, air transport,

ship, boat and rail. Infrastructure for non-motorized transport system such as cycling and pedestrian walking is non-existence. In this regard, Mombasa County will endeavour to:

1. Put in place infrastructure to facilitate investment in low-cost public transport modes such as Bus Rapid Transit (BRT) and Light Rail Transit (LRT).
2. Put in place infrastructure to promote use of non-motorized modes of transport especially bikeways and pedestrian walkways.
3. Encourage transition from fossil fuel-based vehicles and vessels to other low carbon technologies such as electric vehicles.

## **5.4 Energy**

5.4.1 Mombasa County main source of emissions is from energy. The dependence on energy sources that are carbon intensive such as coal and heavy fossil fuels for cement production and energy inefficiencies accounts for the emissions. Mombasa County has the opportunity to enhance provision of clean and safe energy to the residents. In this regard, Mombasa County will endeavour to:

1. Promote investments in renewable energy especially wind and solar
2. Promote energy efficiency technologies and approaches
3. Promote use of energy saving technologies at household level such as energy saving cook stoves
4. Promote transitioning of manufacturers from energy intensive technologies such as the kilns to low carbon technologies.

## **5.5 Agriculture and Livestock**

5.5.1 Although agriculture is an important sector in the County's economy, it is also a source of GHG emissions. The sources of emissions are mainly as a result of enteric fermentation and poor land use practices, including use of fertilizers. Although the amounts are insignificant, the County can work with small scale farmers to adopt climate smart technologies and practices to reduce emissions from the agriculture sector. In this regard, Mombasa County will endeavour to:

1. Promote proper agronomic practices and use of agricultural wastes.
2. Promote climate smart technologies and practices and agroforestry.
3. Enhance water harvesting, storage and small-scale irrigation.



## **5.6 Forestry**

5.6.1 Besides coastal forests and mangroves being important in the provision of goods and services, they are also important as act as carbon sinks. Poor management and unsustainable harvesting have resulted to the degradation of forests leading to the loss of their socio-economic, ecological and environmental benefits. Mombasa County will endeavor to:

1. Develop a County Forest Sector Plan to enhance protection and management of coastal forests and mangroves within the County.
2. Promote rehabilitation of mangroves and degraded areas in the County.
3. Promote establishment and maintenance of greens zones.
4. Promote farm forestry and agroforestry.

## **5.7 Industry**

5.7.1 Mombasa County hosts several industrial processes and produce use (IPPU) sector that contribute to GHG emissions. Examples include the release of CO<sub>2</sub> as a by-product of cement production and the use of heavy fossil fuel. Other key industries include: production of lime, glass, ammonia, iron, steel and aluminium. To reduce emissions from the IPPU sector, Mombasa County will endeavor to:

1. Promote technology transfer and deployment of low emission technologies and appliances in the industrial processes and produce use sector especially the cement and steel industries.
2. Encourage use of renewable energy and use of energy efficient methods.

## **5.8 Buildings**

5.8.1 Buildings are a key component in the fabric of Mombasa County and it is an important source of employment and to the County GDP. Moreover, it provides housing, mobility, water and sanitary infrastructures, and it represents the physical context for social interactions as well as economic development in the County. At the same time, the built environment accounts for a large share of energy and energy-related greenhouse gas (GHG) emissions. In order to transition the building and construction sector towards low carbon development pathway, Mombasa County will endeavor to:

1. Review the building code to incorporate the standards for green buildings
2. Climate proofing of vulnerable buildings especially those of national heritage such as Fort Jesus, Mombasa Old Town among others.



## CHAPTER 6

### CROSS CUTTING ISSUES

6.1 Crosscutting issues include gender, climate finance, research and knowledge management and capacity development. These are critical aspects important and need to be mainstreamed and also act as means for implementation.

#### 6.1.1 Gender, Youth and Other Vulnerable Groups

6.1.1.1 Evidence has shown that impacts of climate change affect women and men differently. Women are often responsible for gathering and producing food, collecting water and sourcing fuel for heating and cooking. With climate change, these tasks are becoming more difficult. Extreme weather events such as droughts and floods have a greater impact on the poor and most vulnerable – women, youth and other vulnerable groups. Despite women being disproportionately affected by climate change, they play a crucial role in climate change adaptation and mitigation. Women have the knowledge and understanding of what is needed to adapt to changing environmental conditions and to come up with practical solutions. In this regard, Mombasa County will endeavor to:

1. Mainstream gender and climate change perspectives into county sectoral plans, County Integrated Development Plan (CIDP) and decision making.
2. Develop a County Gender and Climate Change Action Plan.

#### 6.1.2 Climate Finance

6.1.2.1 Climate finance refers to county and national governments or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change. Financial resources and sound investments are needed to address climate change, to both reduce emissions, promote adaptation to the impacts that are already occurring, and to build resilience. Furthermore, there is insufficient understanding of the landscape of climate finance that could be tapped into to support implementation of climate actions in the County. In this regard, Mombasa County will endeavour to:

1. Establish Mombasa County Climate Resilience Fund to mobilize, manage and disburse climate finance from both National and County Government allocations, development partners and other public and private sources.

2. Develop a County Resource Mobilization Strategy to facilitate capitalization of the Fund.
3. Put in place a framework for tracking both county and national government, development partners, CSOs and private sector climate finance flows into the County.

### **6.1.3 Research and Knowledge Management**

6.1.3.1 Knowledge and information about the expected impacts of a changing climate and sources of emissions in the County is critical for the County's sectoral and development planning and decision making. Climate information on observations, predictions and projections about existing and expected weather- or climate-related (extreme) events or slow onset events (e.g. increasing temperatures, sea level rise, salinization, etc.), damage statistics and information on possible adaptation and mitigation actions is essential. Lack of a framework for accessing such climate information is a challenge that Mombasa County needs to address. In this regard, Mombasa County will endeavor to:

1. Develop an integrated county climate information system with a comprehensive database.
2. Collaborate with Kenya Meteorological Department in the co-generation of climate information and its use.
3. Develop protocols on accessing county climate information by different users.
4. Promote establishment of i-hub for low carbon and climate resilient innovations to incubate climate smart solutions.
5. Collaborate with research and development institutions to catalyse innovative technologies and approaches to support the transformation to the low carbon economy.
6. Promote research in socio-economic impacts of climate change.

### **6.1.4 Capacity Development**

6.1.4.1 Mombasa County has inadequate institutional and technical capacity to deal with climate change hence need for a capacity development framework. Capacity development refers to a framework and process by which the County and individuals obtain, improve or retain the skills, knowledge, tools, equipment or other resources to enhance efficient implementation of climate actions competently. The other aspect of capacity development is education and training important for institutionalization of climate knowledge and information and knowledge. In this regard, Mombasa County will endeavor to:

1. Develop a Comprehensive County Capacity Development Program.
2. Establish county community education on climate change and information centers to improve access to information in Mombasa County.
3. Integrate climate change into ECDE learning.
4. Build capacity of private sector and civil society to implement and report on climate actions.

## CHAPTER SEVEN

### LEGAL AND INSTITUTIONAL FRAMEWORK

#### 7.1 Legal Framework

7.1.1 The Climate Change Act (2016) obligates both the National and County Governments to “*integrate climate change into the exercise of power and functions of all levels of governance, and to enhance cooperative climate change governance between the national government and county governments.*” The effect of this provision is that the County Governments have to put in place mechanisms for ensuring compliance to the Climate Change Act – a national legislation governing all matters dealing with climate change. The legislative power is vested in the County Assembly and the executive or a Member of a County Assembly can prepare a Bill for consideration by the Assembly. In this regard, Mombasa County will endeavour to:

1. Prepare a Climate Change Bill to provide a legal framework for integration, coordination and implementation of climate change responses and action in the County.
2. Provide a framework for provide mechanisms for mainstreaming of the National Climate Change Action Plan into the County Sectoral Plans (CSPs) and the County Integrated Development Plan (CIDP).

#### 7.2 Institutional Arrangements

7.2.1 The County Government Executive is responsible for the implementation of climate actions. Institutional arrangements are key in implementation and coordination of climate change actions in the county. The cross-cutting nature of climate change requires that all sectors and actors are involved at different levels in implementation of climate actions. In this regard, Mombasa County will endeavor to:

1. Designate a County Executive Committee (CEC) Member to be responsible for coordination of all matters relating to climate change.
2. Establish a climate change unit with adequate technical capacity and budget to support its operations and supervision of climate actions on the ground.
3. Devolve coordination of climate change to lower levels of authority and engagement – subcounty, location and sublocation levels.

### **7.3 Partnerships**

7.3.1 Climate change is a crisis not only at the county level but also at national, regional and global scale. To address this crisis, Mombasa County needs to collaborate and partner with the National Government, other County Governments, development partners, the private sector, academia, NGOs, UN agencies and others. It is drawing from the partners' knowledge, expertise and financial contributions that will make it possible for County to realize its climate change goals. In this regard, Mombasa County will endeavor to:

1. Strengthen existing partnerships and establish new linkages between the national government and other county governments, development partners, UN agencies, the private sector, academia, NGOs and CSOs to enhance cooperative planning and implementation of climate smart solutions for a clean, green climate-resilient future.
2. Provide an enabling environment and appropriate incentives to enhance public private partnerships. (PPP) in the design and implementation of climate change initiatives.

## CHAPTER 8

### IMPLEMENTATION FRAMEWORK

#### 8.1 Monitoring and Evaluation

8.1.1 Monitoring and evaluation (M&E) system is critical for moving the County from the business-as-usual (BAU) towards results-based climate actions. It is evident that the County does not have comprehensive data sets, however, this could build over time through doing-by-learning since this entails moving from input-output based M&E to that of evaluating performance, and using the data and frameworks to feedback into future planning processes. In this regard, Mombasa County will endeavor to:

1. Develop a policy implementation matrix to show how each policy item will be implemented.
2. Establish a robust M&E System to track the adequacy and effectiveness of climate actions being implemented.
3. Develop climate change reporting protocols to facilitate sharing of information and reporting.
4. Enhance peer-to-peer learning between counties as a way of sharing contextually appropriate solutions in the spirit of mutual respect and understanding.

#### 8.2 Review of the Policy

8.2.1 The Policy will be reviewed after every five years.



## Annex I: Contributors

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