LAIKIPIA COUNTY

Climate Change Action Plan

2023 – 2027

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FOREWORD

In Kenya, Laikipia County has been one of the most affected county by effects of climate change. In the recent prolonged drought that the country is recovering from, Laikipia County was among the fifteen counties that were listed as the most affected.

The majority of the county's economic sectors, including those related to water, agriculture, livestock production, fisheries, tourism, transportation, manufacturing, and energy, are indeed impacted. In several areas of the County, we have seen serious damage to infrastructure, including roads and buildings. Communities, particularly those in the semi-arid sections of the County particularly Laikipia North, are increasingly suffering from droughts and famine. Frequent, extended droughts and erratic rainfall patterns have had a significant impact on agricultural and livestock productivity. Deforestation and pollution-related environmental degradation are too, weighing into the harsh realities of climate change.

If climate change is not addressed, Laikipia County's development program will be derailed and the only way to counter this is by supporting our people and the economy in adapting to the effects of climate change - by implementing long-term measures to mitigate those effects.

That said, climate change presents a number of opportunities, particularly for the commercial sector and development organizations. These possibilities include, among others, the creation and use of clean energy, crop variety research and production, insurance against the effects of climate change. The County Government will greatly benefit from this action plan's assistance in addressing the effects of climate change for the benefit of its people.

In order to put this strategy into action, my government will collaborate closely with the National Government and the neighbouring counties. Also, the County Integrated Development Plans (CIDPs), the budget, and other planning processes have all been integrated with the adaptation and mitigation measures outlined in this plan. To realize the plan's goal, we will implement the governance structures advocated in herein and while also collaborating with National Governments, non-governmental organizations, and partners in development.

Finally, I want to express my sincere gratitude to all the parties who contributed to the creation of this blueprint for climate change actions.

H. E. JOSHUA IRUNGU, EGH
GOVERNOR, LAIKIPIA COUNTY

Vision:

To be a climate resilient county.

Mission:

To promote community adaptive capacity to climate change impacts for sustainable county and national development ensuring carbon neutrality.

Objective:

To enhance climate resilience through development planning, management, implementation, regulation and monitoring of adaptation and mitigation measures and actions**.**

ACKNOWLEDGEMENT

The Laikipia County Climate Change Action strategy, a five-year plan, will direct Laikipia in mitigating and adapting to climate change. It intends to make sure that we establish a County with "a low carbon, climate resilient economy that sustains its citizens' livelihoods while contributing to the national development agenda."

Laikipia County stakeholders developed this action plan in a highly inclusive manner to direct the steps required to combat the effects of climate change and seize any opportunities that may present themselves. It is firmly rooted in pertinent legal and policy frameworks at the local, national, and international levels. The stakeholders identified pertinent climate change issues affecting each sector, and during stakeholder fora, activities either addressing the impacts or those that can minimize the impacts were agreed upon. The action plan has eight goals, including Enhanced Food Security, Green Energy, Climate Change Resilient Infrastructure, Knowledge Management and Capacity Building, Sustainable Financing for Climate Change Actions, Governance and Coordination, and Water Security, Environmental Conservation.

The development of the 2023–2027 climate change action plan involved cooperation amongst numerous parties. We appreciate their suggestions. We are grateful for their inputs. Special thanks to his Excellency Hon Joshua Irungu, EGH- the Governor Laikipia County for his invaluable support and guidance. We appreciate the timely information provided by the technical Departments, County Government agencies, and climate change Committees. We are particularly appreciative of the feedback provided by the PCRU participants, who offered priceless suggestions for the plan.

Finally, we are grateful to the core technical team from the directorate of climate change under the stewardship of the Chief Officer- Water, Environment, Climate Change and Natural Resources, Mr. Samuel Abraham Lemanyishoe who met and worked tirelessly to prepare and finalize this document.

MS LEAH NJERI
CECM-WATER, ENVIRONMENT, NATURAL RESOURCES AND CLIMATE CHANGE

LAIKIPIACOUNTY CLIMATE ACTION PLAN (2023-2027) TASK FORCE

The entire process was coordinated by the technical committee whose details are as follows;

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17. Steve Kariuki	Communication Officer
18. Joseph Muthoni	Water Officer

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ABBREVIATIONS AND ACRONYMS

CBO	Community Based Organization
CDM	Clean Development Mechanism
CECM	County Executive Committee Member
CFA	Community Forest Association
CIDP	County Integrated Development Plan
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
DVS	District Veterinary Services
EAC	East African Community
ECCNR	Environment, Climate Change & Natural Resources
EIA	Environmental Impact Assessment
EMCA	Environment Management and Coordination Act
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoK	Government of Kenya
INDC	Intended Nationally Determined Contribution
ICT	Information and Communication Technology
KALRO	Kenya Agricultural and Livestock Research Organisation
KEFRI	Kenya Forestry Research Institute
KENGEN	Kenya Electricity Generating Company
KEPSA	Kenya Private Sector Alliance
KFS	Kenya Forest Service
KWS	Kenya Wildlife Service
MENR	Ministry of Environment and Natural Resources
MET	Meteorological
MoALF	Ministry of Agriculture, livestock, and Fisheries
NACOFA	National Alliance of Community Forest Associations
NAP	National Adaptation Plan
NCCAP	National Climate Change Action Plan
NCCRS	National Climate Change Response Strategy
NEMA	National Environment Management Authority
NGO	Non-Governmental Organisation
PES	Payment for Ecosystem Services

PFM	Public Finance Management
REDD	Reducing Emissions from Deforestation and Forest Degradation
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
UNFCCC	United Nations Framework Convention on Climate Change
WECCNR	Water, Environment, Climate Change & Natural Resources
WHO	World Health Organisation
WRA	Water Resources Authority
WRUA	Water Resource Users Association
WWF	World Wide Fund for Nature

DEFINITION OF TERMS

Adaptation means adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects which moderates harm or exploits beneficial opportunities.

Adaptive capacity refers to the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences (IPCC, 2014, Fifth Assessment Report (AR5) Glossary).

A carbon credit or offset is a financial unit of measurement that represents the removal of one tonne of carbon dioxide equivalent from the atmosphere. Carbon credits are generated by projects that deliver measurable reductions in GHG emissions.

Climate change means a change in the climate system which is caused by significant changes in the concentration of greenhouse gases as a consequence of human activities and which is in addition to natural climate change that has been observed during a considerable period.

Global warming refers to the gradual increase, observed or projected, in global surface temperature, as one of the consequences of climate change. The main greenhouse gases that are measured in a GHG inventory are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF6) and nitrogen trifluoride (NF3).

Mitigation means human interventions that seek to prevent or slow down the increase of atmospheric greenhouse gas concentrations by limiting current or future emissions and enhancing potential sinks for greenhouse gases.

MtCO2eq or MtCO2e is an abbreviation for million tonnes of carbon dioxide equivalent, or the amount of GHG emissions expressed as an equivalent amount or concentration of carbon dioxide.

REDD+ is the acronym for reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries. It is a mitigation mechanism that creates a financial value for the carbon stored in forests by avoiding deforestation and increasing the carbon stock in existing forests.

Resilience refers to the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation (IPCC, 2014, AR5 Glossary).

Vulnerability refers to the propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. (IPCC, 2014, AR5 Glossary).

EXECUTIVE SUMMARY

The Laikipia County Climate Change Action Plan (NCCCAP) 2023–2027 was developed with the intention of ensuring that the County is capable of providing quality, sustainable, and affordable services while taking climatic risks and vulnerabilities into consideration. It also aims to increase community participation, ensure that climate actions are implemented in a way that is inclusive and that benefits are distributed fairly. The strategy also seeks to safeguard a favourable environment for political, social, and economic development, maximize benefits from climate action, and prevent any potential negative effects.

As per guidelines issued by the World Bank and FLLoCA secretariat, the Laikipia County action plan has been formulated and consists of four sections that build premises on which the plan is laid out.

Chapter one: highlights the background information, causes and evidence of climate change in the County. It encapsulates the process and various reasons for the development of the action plan. It also highlights the impacts of climate change, vulnerable groups affected, hazards and their distribution as well as climate change actions.

Chapter two: Outlines relevant national and County policies and regulatory frameworks on climate change.

Chapter three: is on priority climate change actions in key sectors

Chapter four: outlines the delivery mechanisms, the various enablers and implementation process of CCAP. It also identifies projects, their budgetary requirements and time frame of implementation.

Chapter five: It outlines the monitoring, evaluation and reporting framework of the plan

CHAPTER 1: INTRODUCTION & BACKGROUND

1.0 Introduction

Climate change is the statistically verifiable long-term shift in the world's temperature, precipitation, wind patterns, and other climate-related variables. Natural processes or enduring manmade changes in the atmosphere's composition or land use may be to blame for climate change. Variations in solar radiation, the earth's orbit, continental tectonic movements, the earth's surface's reflectivity, and the release of greenhouse gases naturally are all examples of natural processes that influence climate change.

Increased emissions of greenhouse gases such carbon dioxide, methane, nitrous oxide, and fluorinated gases are the main way that man is contributing to climate change. The Earth's atmosphere is kept heated by these gases, which act similarly to greenhouses in preventing heat from leaking into the surrounding air. Burning fossil fuels (coal, gas, and oil), solid waste, and wood products are the main sources of carbon dioxide production and release into the atmosphere. Carbon dioxide is released into the atmosphere by deforestation and soil erosion, while it is removed from it by forest regeneration. Methane is emitted during the production and transport of oil, coal, and natural gas. Methane emissions also result from livestock and agricultural practices and the anaerobic decay of organic waste in municipal solid waste landfills. Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste, while fluorinated gases are emitted from a variety of industrial processes, commercial and household.

Laikipia County has not been spared by climate change impacts. Rainy seasons have become erratic while the dry seasons have become frequent and prolonged hence affecting livelihoods. Instances of frost especially in January and September have also become more frequent.

Evidence of Climate Change in Laikipia

i. **Rise in temperatures**.

Since 1981, the first half of the year has seen a substantial increase in temperatures (1°C), mainly between March and May, along with a little increase in precipitation, whilst the second half has seen a modest increase in temperatures of about 0.5°C with no change in precipitation.

ii. **Prolonged droughts.**

In the first half of the year, an increase in dry spells has been noted such that 30-60 (average of 45) consecutive days experiences moisture stress while in the second half of the year shorter dry spells have been recorded such that 25-60 (average of 30) consecutive days experiences moisture stress (MoALF, 2016). The droughts have been noted to extend even into the rainy seasons at the same time being long and intense (Government of Kenya, 2018)

iii. **Extreme precipitation and flood risks**

There has been an increase by 25% in the first half of the year compared to the second half of the year. Between 1981-2015, in the first half of the year, at least each day received above 20mm of precipitation which only occurred for 3 years in the second half of the year in the same period (MoALF, 2016). Generally, the long rainy seasons have become shorter and drier while the short rainy seasons have become longer and wetter resulting in floods. However, the overall rainfall is still low. In the last 3-6 decades, heavy rainfall has become frequent with witnessed rainfall events causing floods being <3 per year in 1980s, >7 per year in 1990s and 10 events per year between 2000-2006 (Government of Kenya, 2018). In 2020, the heavy rains witnessed caused flooding and landslides that resulted in washing away of Thitai Bridge along Malewa River in Ol' Kalou interfering with transport within the County.

In addition, **instances and frequency of frost, cold days and nights have decreased** while that of **heatwaves, hot days and nights have increased**. The frequency and magnitude of extreme weather conditions has increased within the County since 1950 (Government of Kenya, 2018).

1.1 Purpose and process of the CCCAP

Purpose

The Laikipia County Climate Change action plan aims to strengthen the county's path towards sustainable, climate-resilient development while achieving low carbon climate resilient development.

The plan objective is to detail the strategies and activities that the Laikipia County government and its stakeholders will take to address and mitigate the effects of climate change within their jurisdiction. This action plan is created in response to a rising realization of the critical importance of addressing climate change and its consequences on local communities, natural resources, infrastructure, and overall quality of life.

Overall, this action plan is the roadmap to guide local decision-making and investment in initiatives that help combat climate change, enhance community resilience, and create a more sustainable and prosperous future for the residents and businesses in the county.

The plan was devolved using a must stakeholder approach where different actors of climate change including the community were consulted. The plan exercise was conducted between 15th May and 23rd May 2023 across all the fifteen (15 wards in the county.

The plan;

- Provides a roadmap for implementation of climate change actions in the County.
- Provides a framework for mainstreaming climate change into sector functions.
- Aligns County development plans with those of national Government
- Encourages participation and inclusivity of vulnerable groups within the County; elderly, youth, women, children, persons living with disability, marginalized and resource poor households.

Formulation process

i. Desktop review

Existing international, national and County level legal and policy instruments in relation to the development of County-level climate change Action plan were reviewed. These included relevant International and regional climate change policy frameworks, national policy documents (Vision 2030, The Constitution, National climate change Response Strategy, National Climate Change Action Plan 2013-2017, National Climate change Action Plan (2018-2022), Climate change act 2016, Climate adaptation Plan 2017), Laikipia County Climate Change Act 2021, Laikipia County Integrated Development Plan (CIDP) 2013-2017, 2018-2022, 2023-2027.

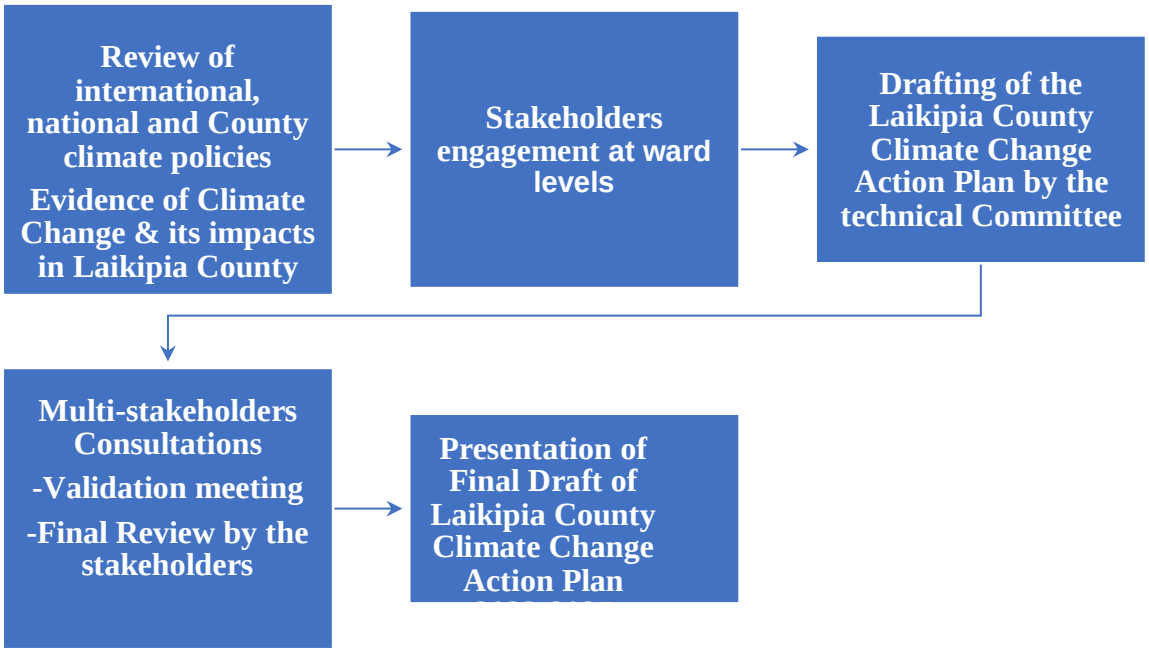

Figure 2: Schematic diagram summarizing Laikipia County Climate Change Action Plan formulation process

ii. Stakeholder engagements

Stakeholder forums were held at ward level with an aim of building the capacity of the participants on climate change matters focusing on;

- The definition of climate change and the context within which it is discussed;
- Evidence of and impacts of climate change in Laikipia County
- The need for adaptation and mitigation against climate change

The engagements also aimed at obtaining sector-based information from the stakeholders on;

- Evidence of climate change in Laikipia County
- Local impacts of climate change in different sectors
- Climate change actions (both adaptation and mitigation) being carried out
- The stakeholders working on climate change adaptation and mitigations actions
- Other new and future climate adaptation and mitigation actions

Stakeholders extensively deliberated on information obtained per sector and agreed on actions that will be implemented to combat climate change in the County. They also prioritised actions based on their perception of severity of climate change impact on various sectors. This information helped the formulation of a vision, mission and strategic objectives for Laikipia County Climate Change Adaptation Plan 2023-2027.

In addition to these ward engagements, a multi-stakeholder's workshop was held involving key Government Agencies, County Government officers, private sector players with responsibilities in sectors that are vulnerable to climate change. The draft plan was then subjected to validation by stakeholders. This was then tabled at the County Executive Committee for approval. The plan was further submitted to the County Assembly for review and adoption.

1.2 Underlying Climate Resilience Context

1.2.1 Impacts of Climate Hazards in the County

Climate change has posed various risks which have adverse effects on various sectors; socio-economic, agricultural, health and environment influencing livelihoods of the people and development.

i. Socio-economics impacts

Loss of lives mainly from floods as a result of heavy rainfall. In 2015, flash floods claimed lives in Doldol Laikipia North Sub-County after an ambulance travelling in was swept away by flash floods (Tuko, 2018).

Instances of prolonged droughts resulting in food insecurity due to delayed onset of rains. This often lowers productivity leading to food shortage.

Increased vulnerability- Women, elderly, youth, children, PLWDs and poor resource households are more vulnerable to impacts of climate change.

ii. **Environmental Impacts**

Droughts. Recently, instances of drought have become prevalent in Kenya and in Laikipia. This is mainly due to late and shorter rainy seasons which are poorly distributed annually and across the region. Between 1990-2015, ten (10) drought seasons occurred as reported by the International Drought Database (Government of Kenya, 2018).

Land degradation. Activities resulting to land degradation include deforestation, charcoal-burning, overgrazing, burning as a way of weed control, continued use of inorganic fertilizers and over cultivation. Encroachments in Mukogodo Forest, Marura wetland and Marmanet Forest has led to degradation and over-exploitation of natural resources in these key critical ecosystems.

Biodiversity loss lowers ecosystems productivity and negatively affects provision of ecological services.

Deforestation and degradation of forests as climate change affects their growth, survival, regeneration capacity, quality and composition. Extended periods of droughts coupled with the rise in temperatures exposes forests to frequent fires, pests and pathogens. This limits the ability of forests to provide goods and services such as carbon sequestration hence accelerating impacts of climate change.

Floods and erosion.

The cost of floods and droughts is estimated to have a huge negative impact on the economy of about 2-2.8% of the GDP annually. For every 7 years, the floods are estimated to cost 5.5% while the droughts cost 8% of the GDP for every 5 years in Kenya (Government of Kenya, 2018).

Figure 1.4 wreckage of a swept away ambulance in Doldol

During rainy seasons, floods destroys properties worth billions of shillings across the country. In 1997/1998, the El Niño induced floods caused losses and damages of between US$ 800 million and US$ 1.2 billion. In 2018, crops in about 85,000 ha of land were destroyed while the floods drowned above 20,000 heads of livestock all over the country. (Government of Kenya, 2018). In Laikipia County, 2019 heavy rains caused landslides destroying dozens of homes leaving more than 20 families homeless, while the 2020 heavy rains posed a threat to about 16,906 hectares of maize and 37,860 hectares of potatoes cultivated within the year hence loss worth tens of billions was encountered (Daily Nation, 2020).

Figure 1.5: Showing flash floods in River Nanyuki-Laikipa East Sub-County (Source: The Standard)

Droughts delay crops and lower the yields. Between 2007-2017, droughts resulted in livestock population losses amounting to nearly US$ 1.08 billion in the country. The 2008-2011 severe droughts contributed to the reduction in Kenya's GDP growth rate from an average of 6.5% in 2006/2007 to an average of 3.8% between 2008 and 2012. This led to a loss estimated to have cost the Kenyan economy KES 968.6 billion (Government of Kenya, 2018). In Laikipia County, continued severe droughts could have a reversible impact on Laikipia`s natural resources especially along Ewaso Narok river. The County Government has invested hugely on drought mitigation by drilling of boreholes, digging of water pans and distribution of water tanks to promote water harvesting and storage.

Table 1.1: Summary of climate change impacts by sector in Laikipia County

Sector	Likely Impacts of Climate Change
Crops	● Increased food insecurity ● Decline in overall crop yields due to insufficient availability of water, excessive moisture conditions, more pests, diseases and weeds ● Lower production due to temperature increases and lower precipitation leading to reduced soil moisture ● Uncertainty regarding the impact of production of specific crops, but likely reduction on yields of maize, potatoes and beans, and potential reductions of export cash crops mainly the horticulture ● Higher temperatures may have a positive impact on agricultural production as the County lies on a highland area by increasing the plant growth rate and lowering maturity period

	• Greater reliance on irrigation due to reduced precipitation
Livestock	• Livestock deaths caused by drought • Decline in production due to lack of pasture, reduced access to water, and heat stress • Expected changes in disease patterns, and potential for re-emergence of Tsetse, East coast Fever and African Trypanosomiasis in the highlands of the County
Environment	• Increases in invasive species, new pests, and diseases • Increase in stagnant air days leading to worse air pollution • Increased likelihood of contestation and conflict over diminishing natural resources
Forestry	• Reduced provision of environmental resources and economic activity • Increased exposure to wild fires, pathogens and invasive species
Health	• Increase in the incidence of Malaria, Rift Valley fever, malnutrition among other diseases • Increase in water-borne diseases such as typhoid and cholera due to flooding
Water	• Reduced availability of water for domestic and industrial use. • Depletion of groundwater aquifers • Increased water loss from reservoirs (wetlands and rivers and water pans) dues to evaporation • Continued degradation of Lake Ol' Bolossat that feeds Ewaso Ng'iro River, degradation of Aberdare Forest that acts as a catchment area for may rivers within the County may lead to lower water levels particularly in the dry season
Transport	• Destruction of infrastructure including roads and bridges during storms • Interruption of road transport from flooding and heavy rainfall events • Softened and expanded pavement creating rutting and potholes • Disruption of access to work, markets, education and healthcare facilities, due to damaged infrastructure and transport services

Security	• Increased likelihood of conflict within the County, between Laikipia County and the neighbouring counties as wells as the neighbouring communities • Financial instability through supply line disruptions and increased risks of doing business
Sustainable Manufacturing and cottage industries	• Greater resource scarcity (such as water and raw materials) for inputs to manufacturing processes • Greater risk of plant, product and infrastructure damage and supply chain disruptions from extreme weather events • Higher costs to companies, including for insurance
Drought and Flood Management	• Increased number of people without access to water • Increased frequency and intensity of droughts, decrease ability to cope • Increased frequency and intensity of flooding decrease adaptive capacity • Increased number of food insecure and malnourished people • Declines in school attendance and rising dropout rates
Blue Economy and Fisheries	• Decline in economic benefits of blue economy investments, • Declining fisheries • Damage to tourism industry hence decline in livelihoods • Increased risk of alien invasive species

1.2.3 Summary of Differentiated Climate exposure and Vulnerability of key groups and livelihoods in the County

The outcome of the PCRA indicated that the climate hazards currently deemed as having the highest impact on most vulnerable groups are drought, floods, crop pest and diseases, frost, strong winds, extreme change in temperature, forest fires, rock falls and mudslides. The top five vulnerable population groups identified as most affected by the current climate hazards are resource poor households, women, Persons living with disability, Elderly and children. These hazards have a great impact on agriculture, water, forests and health consequently affecting their livelihoods (social and economic activities) negatively. The identified vulnerable groups have no equal access and stake in the community resources and local decision making as they are looked down upon.

S. No	Hazard	Vulnerable group	Impact
1.	Drought	Women Children Youth Elderly PWLD PRH	• Water scarcity • Deforestation • Crop failure hence food shortage and Malnutrition • Loss of livelihoods • Deaths (people and livestock)
2.	Crop pests and disease infestation	Women Children Youth Elderly PLWD	• Loss of fodder and pasture • Reduced production • Food insecurity hence malnutrition • Increased cost of Production
3.	Floods	Children Women Youth Elderly PLWD	• Soil erosion • Poor water quality • Destruction and loss of property • Water-borne diseases • Seasonal displacement of people
4.	Strong winds	Women Children Youth Elderly PWLD	• Soil erosion • Drying of water pans and wetlands • Destruction of property • Reduced crop production
5.	Frost	Children Women Youth Elderly PLWD	• Increased instances of respiratory diseases • Crop Failure • Small scale trading lowered
6.	Extreme change in temperatures	Women Children Youth Elderly PWLD	• Reduced production due to loss of soil moisture • Diseases (crop, livestock and human including arthritis and respiratory) • Reduced trading/business activities
7.	Fog and mist	Women Children Youth Elderly PWLD	• Poor visibility hence accidents (reduced mobility) • Increased crop diseases • Reduced crop production
8.	Rock falls and mudslides	Women Children Youth Elderly PWLD	• Loss and destruction of property • Poor water quality • Soil erosion • Reduced crop production • Deaths

1.3 **Brief Overview of Climate Change Actions in the County**

1.3.1 Mainstreaming of NCCAP in County Actions

The County has enacted the Laikipia County Climate Change Act, 2021 setting the foundation for adaptation and resilience. The CECM coordinates climate change affairs and reports annually on climate interventions. The County Climate Change Fund Regulations, 2021 is enacted and 2% of the development budget allocated to the fund. Climate change resilience is mainstreamed into CIDP III.

1.3.2 Climate Change in CIDP

The Laikipia County CIDP III has been developed with the recognition of the effects of climate change in the County. The priority programmes and projects identified have been coined in a way that they will address the effects of climate change as well as their mitigation strategies. The CIDP III priorities have been linked with the National priorities as captured in the MTP IV, Kenya's Vision 2030, among other plans.

CIDP III has taken bold steps to mainstream climate change in the County's development agenda. It recognizes that climate change is a key driver of environmental degradation. The CIDP lays emphasis on building resilience and enhancing adaptive capacity to climate change impacts, mainstreaming climate change at all sectors of the County Government and promotion of research in climate change.

1.3.3 Other key climate actions/strategies in the County

Wetland management plan (2020-2030) provides for the protection, rehabilitation and sustainable use of resources in the Ewaso Narok catchment. This will enhance climate resilience and sustenance of upstream and downstream communities.

Enactment of the Laikipia County Environment Action Plan (CEAP) will promote proper management of the environment and actions to reduce environmental degradation in all sectors in the County. County legal and institutional frameworks are providing enabling environment for establishment of partnerships in climate change adaption and mitigation.

CHAPTER 2: POLICY ENVIRONMENT

2.1 National Policy Context

All the key sectors of Kenyan economy (including agriculture and fisheries development, Environment and water, Tourism, infrastructural development, industrial development and trade among others) are dependent on natural resources which are themselves vulnerable to impacts of climate variability and climate change. Climate change has therefore been identified as a major impediment towards the realisation of the country's Vision 2030 goal of becoming a middle-level industrial economy by the year 2030 (GoK, 2010a). The country has therefore put in motion efforts to ensure that there are mechanisms to mainstream climate change in the development agenda. To achieve this Kenya has been working with the rest of the global community to address the impacts of climate change and to reduce Green House Gases (GHG) emissions that are to blame for much of the global warming problem.

Climate change is a global problem that demands a global solution and Kenya is an active player in the international efforts. The international response to climate change is founded on the UNFCCC.

Within the country, the Kenyan Government has been working with stakeholders to plan her response to dealing with climate change and has also been actively developing various national policies and strategies to combat it. However, following devolution as per the country's constitution, the lead player in some of the sectors impacted on by climate change is the County Government. In this chapter, the relevant international, regional, national, County and local level and climate change policies are examined with emphasis on mainstreaming climate change at the County level.

2.1.1 The National Perspective

The National Climate Change Response Strategy (NCCRS) 2010 was developed to help Kenya deal with the negative impacts of climate change and to maximise the positive impacts of climate change. The strategy was developed through a consultative process and its vision is a "prosperous, and climate resilient Kenya." Its mission is to strengthen nationwide focused actions towards adapting to and mitigating the changing climate. The strategy aimed to develop sectoral and cross-sectoral priorities for climate change adaptation and mitigation in the terms of short, medium and long-term actions.

The strategy recognizes that agriculture, tourism, infrastructure, health, natural resources especially biodiversity are the sectors that are most vulnerable to climate change.

The Strategy recognizes that the Kenyan environmental policies in place by 2010 had not mainstreamed climate change. It also took note of the prevailing international climate change policy instruments available by 2010 and Kenya's participation in the global climate change agenda. The strategy pointed out the international, national and local mechanisms to finance recommended actions. The strategy was formulated in an inclusive and participatory process that mainstreamed gender and vulnerable groups and identified research needs and vulnerable sectors.

2.1.2 National Legal and Policy Framework

The Kenyan Constitution

Although the Kenyan constitution does not specifically address climate change, it does so indirectly by Articles 42 and 70. Under article 42, the constitution gives every person the right to "a clean and healthy environment" while Article 70 empowers any person whose right to a clean and healthy environment is violated to seek legal redress. As such any person who contributes to making the environment unhealthy can be sued for it. Article 360 (1b) of the Kenyan constitution requires that the state should work towards a 10% forest cover. County Governments can use these constitutional provisions in the formulation of County-specific policies and strategies.

Vision 2030

Vision 2030 – the long-term development blueprint for the country – aims to transform Kenya into "a newly industrializing, middle-income country, providing a high quality of life to all its citizens in a clean and secure environment." Emphasis was placed on infrastructure; Science, Technology, and Innovation; Public Sector Reforms; Tourism; Agriculture; Trade; Manufacturing; ICT (Information Communication & Technology) without the recognition that climate change can derail the realisation of the goals.

County Government Act, 2012

Section 110 of the County Government Act 2012 requires counties to produce a ten-year spatial plan to guide development. Some of the actions recommended in this plan can be implemented in the formulation of the Laikipia County Spatial plan. These activities include the mapping of wetlands, agricultural land riparian habitat boundaries. Such actions will contribute to the County's climate change adaptation and mitigation strategies.

Other relevant national policy and legal instruments

a) **Environmental Management and Coordination Act** (No. 8 of 1999 and Amendment 2015). The Act is the principal instrument of Government for the management of the environment. It provides for the relevant institutional framework for the coordination

of environment management including the establishment of the National Environment Management Authority (NEMA), which is the Designated National Authority (DNA) for Clean Development Mechanism (CDM) and the National Implementing Entity (NIE) for the Adaptation Fund

b) **Water Act (No. 43 of 2016)** – establishes National Water Harvesting and Storage Authority. Part V of the Act establishes a Water Sector Trust Fund and empowers it to work with relevant institutions to develop incentive programmes for water resources management including disaster management, climate change adaptation and mitigation.

c) **Forest Conservation and Management Act 2016** gives effect to Article 69 of the Constitution with regard to forest resources; to provide for the development and sustainable management, including conservation and rational utilization of all forest resources for the socio-economic development of the country and for connected purposes.

d) **Urban Areas and Cities Act 2016** provides for the classification, governance and management of urban areas and cities; for the criteria of establishing urban areas, also provides for the principle of governance and participation of residents and for connected purposes.

e) **Health Act (No. 21 of 2017**) – This act contains a section on environmental health and climate change (Part VII, sections 68 and 69) that is relevant to climate change.

f) **Energy Bill (2017)** – Part 3, section 43; Part 4, section 74 (i), and Part 9 address climate change-related issues

g) **National Urban Development Policy (NUDP)** seeks to create a framework for sustainable urban development in the country and addresses environment and climate change and other themes relevant to urban development.

h) **The Integrated National Transport Policy (2010)** policy provides for transport solutions that are relevant to climate change mitigation.

i) **The National Disaster Management Policy, 2012** institutionalised disaster management and mainstreams disaster risk reduction in the country's development initiatives. The policy aims to increase and sustain resilience of vulnerable communities to hazards.

j) Green Economy Strategy and Implementation Plan (GESIP) 2016 – 2030.: Provides the overall policy framework to facilitate a transition to a green economy and

outlines the need to mainstream and align green economy initiatives across the economic, social and environmental spheres.

k) **The Agriculture Sector Development Strategy 2010-2020** is the overall national policy document for the agricultural sector. The strategy promotes sustainable food production and agroforestry. There are also broad implications for the forestry sector, which the strategy elaborates.

l) **The National Forest Programme (2016–2030)** is the outlines the cross-sectoral and multi-stakeholder national framework for developing and coordinating forest development aimed at meeting the needs of Kenyans from 2016 to 2030. The framework aims at sustainable forest management with a to develop and sustainably manage, conserve, restore and utilise forests and allied resources for socio-economic growth and climate resilience.

m) **Climate Risk Management Framework (2017**). The framework was developed in a participatory manner with technical experts and stakeholders working on disaster risk reduction and climate change adaptation. It recognizes that Kenya faces various forms of disasters, but focuses on hydro meteorological disasters given their magnitude, socio-economic and environmental impact, and frequency of occurrence.

2.2 County Enabling Legal & Policy Framework

Laikipia County Climate Change Act, 2021

This is the main legislature guiding climate change response actions at County level. Part II, Section 4 of the Act provides for the establishment of the County Climate Change Fund which is mainly 2% of the County development budget in addition to other funds dedicated to climate change. It provides for the formation of climate change units and committees to run all the climate change functions within the County.

Section 36-39 of the climate change act gives the contents, approval and publication, as well as review of the climate change action plan. Climate change action plan runs for a period of 5 years, must run concurrently with the current NCCAP, and CIDP and provides for the specific measures and actions to respond to climate change within the County.

County integrated development plans (CIDPs)

The County Integrated Development Plans guide the County on the project and programmes for implementation in the five years span. In the CIDP, the projects aimed at addressing the issues related to climate change are domiciled in the climate change directorate. However, since

climate change is a cross cutting issue, the other departments have identified programmes and projects that would address effects of climate change as well as mitigation strategies.

CHAPTER 3: PRIORITY CLIMATE CHANGE ACTIONS

3.1 Identification of strategic climate action priorities in the PCRA

From the participant engagements, priority adaptation strategies were proposed to respond to the main climate change hazards in order to promote community resilience. These priority projects and programmes reflects the needs of communities and are anchored on ecosystem conservation, food and nutrition, soil and water conservation thematic areas. Soil and water conservation projects were the most prioritized by the residents mainly due to the fact that drought and floods were identified as the major climatic risk occurring across all the fifteen (15 wards).

The plan takes note of impacts of climate change on socio-economic sectors. It identifies key areas where climate action over the next five years is linked to Kenya's Vision 2030 and the Sustainable Development Goals (SDGs) recognising that climate change is likely to limit their realisation. It prioritises adaptation actions because of the devastating impacts of droughts and floods and on the vulnerable society groups which mainly impact the agriculture sector affecting food security. The adaptation actions will be undertaken to limit GHGs emissions, where possible, to ensure that the County meets its mitigation objects and at the same time ensuring that the country achieves its NDCs under the Paris Agreement to reduce GHG emissions by 32% by 2030 relative to the business-as usual scenario of 143 MtCO2e (Government of Kenya, 2018).

Based on the SDGs, the Action plan will contribute to sustainable development achievement as well as increased agricultural productivity and improved water accessibility. Laikipia County Climate Action Plan 2022-2027 adaptation actions will provide benefits for women through access to clean cooking, forest restoration and agroforestry actions that provide energy and water sources (Government of Kenya, 2018).

There is an alignment and synergies in terms of impacts of climate change mitigation and adaptation actions on the SDGs and Vision 2030. Particular attention was given to the way climate actions address the overriding objective of the vision 2030 Agenda for inclusivity. This objective involved prioritising the poorest and most vulnerable in the pursuit of sustainable development to end extreme poverty and curb inequalities by 2030. The analysis systematically

assessed the impact of all climate actions on SDG 1 on poverty eradication, SDG 5 on gender equality, and SDG 10 on reducing inequalities (Government of Kenya, 2018).

The adaptation and mitigation actions in this plan directly address or provide likely benefits for all the SDGs. The greatest potential benefits are related to:

- Knowledge Management and Capacity Building of Community, Stakeholders, Climate Change Committees and County officials (SDG 13)
- Sustainable agriculture and food security (SDG 2 and Economic & Macro pillar of the vision 2030)
- Sustainable and renewable energy (SDG 7 and Economic and Macro & Social pillars of the vision 2030)
- Ecosystem restoration and preservation (SDG 15 and Social pillar - Environment, Water and Sanitation of the Vision 2030)
- Water availability (SDG 6 and Environment, Water and Sanitation -Social pillar of the Vision 2030)
- Sustainable growth and industry (SDG 8 and Economic and Macro pillar – infrastructure and Manufacturing)
- Sustainable transport (SDG 9 and Economic and macro & social pillars of the vision 2030)
- Sustainable waste management (SDG 11 and Social (Environment water and sanitation) pillar of the Vision 2030)
- Human health (SDG 3 and Social - health Pillar of the vision 2030)

Low-carbon energy sources; ecosystem-based solutions such as climate smart agriculture, rangeland restoration and agroforestry; and the development of sustainable public transport systems have sizeable win-win benefits for boosting employment and manufacturing capacity, protecting the environment, and narrowing inequalities (Government of Kenya, 2018).

3.2 Priority County Climate Change Actions

Laikipia County Climate Change Action Plan 2023-2027 outlines the programmes and strategies for adaptation and mitigation. It is a comprehensive plan that:

- Enables all sectors within the County to act to achieve climate change adaptation and mitigation objectives;
- Supports achievement of the Vision 2030 agenda and the SDGs;
- Enhances the adaptive capacity and resilience of communities, with an emphasis on the marginalised and vulnerable groups within society;

- Undertakes actions that limit GHGs emissions, where possible, to help Kenya achieve the mitigation NDC under the Paris Agreement; and
- Enables actions to be undertaken in an integrated manner that address several priorities. E.g., actions to plant trees also contribute to disaster risk management, water and food security objectives.

Table 2: Summary of Priorities and their Objectives

Priority	Objective
Disaster Risk (Floods and Drought) Management	Reduce risks to communities and infrastructure resulting from climate-related disasters such as droughts and floods
Food and Nutrition Security	Increase food and nutrition security through enhanced productivity and resilience of the agricultural sector in as low-carbon a manner as possible
Green and Renewable Energy	Reduce reliance on wood (charcoal, firewood) energy by 30% through increased uptake of green and sustainable energy in households and institutions
Forestry, Wildlife and Biodiversity conservation	Increase forest cover to 30% of total land area; rehabilitate degraded lands, including rangelands; conserve fragile ecosystems; increase resilience of the wildlife and reduce loss of biodiversity
Enhanced water security and the Blue Economy	Enhance resilience of the water sector by ensuring access to and efficient use of water for agriculture, manufacturing, domestic, wildlife and other uses
Health, Sanitation and Human Settlements	Reduce incidence of malaria and other diseases expected to increase because of climate change; promote climate resilient buildings and settlements including urban centres; and encourage climate-resilient solid waste management
Energy and Transport	Climate-proof energy and transport infrastructure; promote renewable energy development; increase uptake of clean cooking solutions; and develop sustainable transport systems
Environment and social performance	To reduce degradation, damage and loss of environmental and social resources

Laikipia County Climate Change Action Plan 2023-27 recognises that certain enabling activities cut across the strategic priorities, such as increasing access to climate finance, measuring and reporting on climate actions, improving the legal and policy framework, building capacity, enhancing knowledge management and promoting technology and innovation.

CHAPTER 4: DELIVERY MECHANISMS FOR CCAP

4.1 Enabling Factors

4.1.1 Enabling Policy and Regulation

The County has put in place relevant policy and regulatory frameworks towards actualization of this plan. This among others Laikipia County Climate Change policy, Laikipia County Climate Change Act 2021, Public Finance (Climate Change Fund) Regulations, 2021. The County is in the process of preparing an energy plan that will complement the CCAP. Provisions in the County frameworks will be complemented with those in international, national, and regional level to ensure delivery of this CCAP. Synergy between actors in the various levels is critical.

4.1.2 Mainstreaming in the CIDP

The CIDP is a statutory document that captures the County priority projects and programmes to be implemented in five years. Actions emanating from the CIDP guides annual development plans, sector plans and budgets. Adherence to provision in the CIDP and ensuring documents is basic to achievement of the CCAP. The CCAP priorities have been linked with the County priorities as captured in CIDP3.

4.1.3 Multi-stakeholder participation processes

Active and informed participation of all stakeholders is critical in the development and implementation of CCAP. Stakeholder engagement enhances ownership and success of initiatives. Stakeholder at all levels, particularly local, were actively engaged in the priority projects and cycles in this plan. The CCU is assessing and developing the capacity of various stakeholders to deliver on the climate change agenda. This will enhance the ability of the stakeholders to report on lived experiences and positive impacts ensuing from actualization of CCAP.

4.1.4 Laikipia County Climate Change Fund Regulation 2022

The County is committed to allocating 2% of its development budget to the fund. Functioning of the CCCF has and will continue to enable other donors to contribute and enhance its performance.

4.1.5 Governance - County Government Structure

Synergy between the County Executive and Assembly has proved critical in delivery of services and positive development impacts. The two arms are working and will continue to work in synergy to actualise the CCAP. Allocation and approval of adequate funding for the actions in this plan is paramount.

4.1.6 Governance - Climate Change Planning Committees

The various committees established under the climate change Act 2021 have distinct but complementary roles in climate interventions in the County. Timely screening, vetting and forwarding of the priority high impact adaptation projects to the planning and steering committees will ensure they are funded and implemented effectively.

4.1.7 Climate Information Services & Climate Data Access

The CCCU is setting up the County climate information services to collate, synthesize and disseminate information and data for early warning preventive and remedial measures to climate change. The climate change information centre equipped with appropriate technology will function as a banking, clearing and disseminating channel of requisite information and data. This will enable stakeholders at various levels to respond and act on hazards, risks and also report on best practices and impacts.

4.1.8 Resilience Planning Tools

A number of planning tools exist at various levels and the relevant ones were applied in the development of the CCAP and will guide in its implementation. These tools include among others, the, NCCAP 2018-2022, the National Climate Change Response Strategy 2010, the National Adaptation Plan (NAP), the National Determined Contributions (NDCs), Measurement, reporting and verification framework, the CIDP and NCCCA, 2021. Relevant provisions in these tools have been contextualized in the County through development of the County PCRA and will be critical in implementation of this CCAP.

4.1.9 Measurement, Reporting and Verification

Laikipia County will use the existing national measurement, reporting and verification framework and contextualize it to actions in this Plan. The plan stipulates indicators of progress in adaptation and resilience building in the County. The County is developing a context specific system to compile, analyse and report on progress and challenges and share

with stakeholders and lead agencies. Progress will be reported annually by the CCU and the CECM in charge of climate affairs.

4.1.10 Institutional Roles and Responsibilities

The roles and responsibility of key institutions is summarized in the table below.

Institution	Roles and Responsibilities
County Government	• Integrate the CCAP into sectoral strategies, action plans and other implementation projects • Mainstream climate change actions, interventions and duties into County Integrated Development Plan III • Prepare report on the implementation progress of climate change actions
County Assembly	• Legislate on Climate Change issues • Ensure mainstreaming of climate change on development
National Government Sectoral Agencies	Integrate the CCAP into sectoral strategies, action plans and other implementation projects
Donors and Multi-agencies	Provide financial and technical support
Ministry of Environment, Climate Change and Forestry	Provide technical support and linkage with the National Climate Action Plan
Kenya Wildlife Service	Support on wildlife interventions
Kenya Forest Service	Support interventions on gazetted forest
National Environment Management Authority	Monitor and Enforce compliance of climate change interventions.
Civil Society Organizations	Public awareness creation, policy research and analysis, and advocacy on key socio-economic issues
Private Sector	Awareness raising and information building
Public	Planning, implementation and monitoring of adaptation interventions

4.2 Implementation and Coordination Mechanisms

This section provides actors involved in the implementation and coordination of activities in this plan.

4.2.1 Directorate of Climate Change

As envisioned by the Laikipia County Climate Change Act (2021), the Directorate of Climate Change shall;

- Advise the Executive Committee Member in charge of Climate Change on policy, strategic planning and all matters related to Climate Change in the County.
- Provide secretariat services to steering and planning committees,
- Coordinate, mainstream and integrate climate change programs into sectoral strategic plans to ensure synergy among other key sectors.

- Establish and maintaining relationships with the counties with shared natural resources, regional and international organizations, institutions and agencies with interest on the said ecosystems and natural resources as may be appropriate for the implementation of the climate change policy and recommendations.

4.2.2 **County Climate Change Planning Committee**

The Laikipia County Climate Change Planning Committee shall;

- Coordinate planning and implementation of projects and activities for climate change responses in the County.
- Provide leadership for the implementation of this Climate Change Action Plan as well as the County Climate Finance Framework.
- Promote informed designing of projects and programmes at local levels, the committee shall establish guidelines to be used by the Ward Climate Change Committees in formulating climate response projects for funding by the County Climate Change Fund.
- Support Ward Committees in development and implementation of climate response projects
- Advise the Steering Committee on strategies, priority programmes, projects and activities for climate change responses in the County.

4.2.3 Steering Committee

As envisioned in the Laikipia County Climate Change Act, the Steering Committee shall among others

- Coordinate and oversee climate change responses in the County.
- mobilize funds into the County Climate Change Fund established under Climate Change Act.
- Review, approve and monitor implementation of Regulations for administration and management of the County Climate Change Fund.
- Review and make recommendations on the biennial report on implementation of the County Climate Change Action Plan and any other reports on climate change response interventions in the County.

4.2.4 Climate Change Unit (CCU)

As outlined in the Climate Change Act 2021, the Climate Change Unit (CCU) shall;

- Be responsible in coordinating and overseeing climate change responses in the County.
- Set County-specific targets for climate change actions, and develop strategies to achieve them
- Mainstream climate change issues in the implementation of the County Integrated Development Plans III (CIDP III)
- Capture activity data and coordinate analysis, documentation and dissemination;
- Mainstream disaster risk reduction in development projects and spatial plans
- Approve and oversee implementation of the County climate change actions;
- Advise departments and the County assembly on legislative and policy measures necessary for climate change response and attaining low-carbon climate-resilient development pathways
- Develop public education, awareness strategies and implementation programmes;

4.2.4 Ward Climate Change Planning Committee (WCCPC)

As actioned in the Climate Change Act 2021, the Ward Climate Change planning Committees shall coordinate and mobilize communities and other stakeholders at the ward level to design and implement local climate change response activities.

With the support of Climate Change Unit, the respective Ward Committees shall also facilitate research and knowledge management at the ward level on climate change, its impacts and strategies for responding thereto.

To promote stewardship and promote sustainability, the committees shall facilitate public education, awareness creation, and capacity building at the ward level on climate change, its impacts and adaptation strategies.

4.3 Implementation Matrix

Summary of Priority Climate actions

Priority 1: Knowledge Management and Capacity Building of Community, Stakeholders and County officials

Priority 1: Capacity Building, Knowledge Management of Community, Stakeholders, Climate change committees and County officials											
Objective: Create an enabling environment, Enhance Capacity building, knowledge management and information sharing											
Major Challenge: Limited technical capacity on climate change among stakeholders; Lack of timely information on climate Change and limited mainstreaming of climate change in County and stakeholder planning processes.											
Vision 2030 Pillars: Social Pillar (Education and training)											
SDGs: 13: Climate Action, 4: Quality Education; 5: Gender Equality; 10: Reducing Inequalities; 16: Peace, Justice and Strong Institutions and 17: Partnerships for the Goals											
Sub-sector	**Proposed Action**	**Adaptation/Mitigation Action**	**Indicators**	**Target**	**Actors**	**Budget in KES**	**Time Frame**				
Capacity Building and enabling	**Assess the capacity of stakeholders in dealing with climate change**	Capacity building	Assessment report on stakeholders' capacity	1 report	GoK, CGoL, CBOs, Research Institutions	1,000,000.00	X				

Capacity Building and enabling	**Build the capacity of the various county climate change committees;**	Capacity building	-No. of committee members trained from various FLLoCA governance committees -No. of the successful training meetings organized	-1 Steering committee (10 Members) per year -1 Planning Committee (10 members) per year -15 Ward Climate Change Committees (165 members) -One-25-member County assembly -One- 15 member County Environment Committee	GoK, CGoL, Academic/Research Institutions, Community, Private Sector	20,000,000.00	X	X	X	X	X

Capacity Building and enabling	**Provide capacity support to address identified gaps in the County CCU, other departments and stakeholders which will be informed by the capacity assessment .**	Capacity building	No. of stakeholders trained and No. of meetings held.	CG Departments and stakeholders trained on need basis	GoK, CGoL, CBOs, Research institutions,	6,000,000.00	X	X	X	X	X
Capacity Building and enabling	**Conduct regular meetings for various FLLoCA relevant committees: WPCCC, Technical Committee, County Environment Committee, Steering Committee to review their plans, evaluation of programs progress, public participation meetings**		ü No. of meetings held ü Reports from these meetings	WPCCC, Technical Committee, County Environment Committee, Steering Committee.	GoK, CGoL, CBOs, Research institutions, NEMA	5,000,000.00	x	x	x	x	x

Capacity Building and enabling	**Develop and implement a robust public awareness programme on climate chang**e.	Capacity building	No. of climate change awareness events organized. üNo. of participants engaged	-15 annual awareness meetings 1 per ward	GoK, CGoL, CBOs, NGOs, Research institutions, Schools, Private sector, Community	5,000,000.00	X	X	X	X	X
				International/National celebrations – e.g WED							
Capacity Building and enabling	**Engage students and pupils in climate change actions by training teachers as CC trainers; Support establishment of CC clubs in schools**	Capacity building	-No. of CC Clubs established -No. of schools (students) engaged -supporting implementation the schools CC action plan within the schools	ü200 schools ü2 teachers per school	GoK, CGoL, Schools, CBOs, NGOs, KFS, Community	6,000,000.00	X	X	X	X	X

Capacity Building and enabling / knowledge	**Conduct CC annual learning event and participate in relevant county & National CC forums and conferences**	-Knowledge generation and sharing/documentation	-No. learning events -No of documentaries done and articles written	1 annual learning event on climate change for five years	CSOs, Community, WRUAs, CFAs, WCCPC, MDAs, Private sector and research and learning institutions, media	10,000,000.00	X	X	X	X	X
	Develop communication strategy and train staff on content generation and developing communication materials for diverse audience.	Knowledge generation and management	üNo. of training manual developed üNo. of training conducted	10 stakeholders, 10 communication officers in the departments	Community, KFS, CSOs, private sector, youth groups, producer organizations.	6,000,000.00	X				
	Write articles for publications in print, electronic & social media. Policy briefs, peer reviewed articles, case studies, article publication	Knowledge generation and management	No. of publications & articles done	Electronic and print media	Nation Media Group, Steering Committee and Technical Committee	3,000,000.00	X	X	X	X	X
Capacity Building and enabling	**Develop & implement an integrated County Climate Change Information Management System(CCCIMS)**	Knowledge /management Enabling action	Fully operational CCCIMS	1 CCCIMS	GoK, CGoL, Private Sector	25,000,000.00	X	X			

Governance and coordination of Climate Actions	**Prepare annual work plans incorporating Climate actions**	Enabling action	Departmental work plans with climate change actions	5 annual work plans	CGoL, relevant Stakeholders	1,250,000.00	X	X	X	X	X
	Prepare Annual Reports on implementation of actions and plans and present them to the community, steering committee, the stakeholders and the County Assembly	Enabling action	Annual reports on implementation of the action plan	5 Annual reports	CGoL, County Assembly, CECM incharge of Climate Change	5,000,000.00	X	X	X	X	X
	Enact relevant County legislations	Enabling action	No. of effective laws and policies enacted	As need may arise	County Assembly, Civil society, Community, CGoL	5,000,000.00	X	X	X	X	X
PRIORITY TOTALS						**98,250,000.00**					

Priority 2: Food and Nutrition Security

Priority 2: Food and Nutrition Security												
Objective: Increase food and nutrition security through enhanced productivity and resilience of the agricultural sector in as low-carbon manner as possible												
Major Challenge: Unpredictable weather patterns (Human-wildlife conflicts, delayed rains, prolonged cases of moisture stress), extreme weather events (floods & droughts), environmental degradation, food scarcity, increased disease incidences, loss of climate resilient crop and animal breeds, increased levels of poverty.												
Vision 2030 Pillars: Economic and macro (agriculture and rural development), Social (Water and sanitation, gender, youth and vulnerable groups, health) Foundation (disaster risk reduction and ending drought)												
SDGs: 2: Zero hunger; 1: No poverty; 13: Climate action; 3. Good health 5: Gender equality; 8: Decent Work and Economic Growth; 9: Industry, Innovation, and Infrastructure; 10: Inequality reduction; 12: Sustainable consumption and production; 15: Life on Land												
Sub-sector	**Proposed Action**	**Adaptation/Mitigation Action**	**Indicators**	**Target**	**Actors**	**Budget**	**Time Frame**					
Crop Production	**Promote production of early maturing, high yielding, High value, drought-tolerant/nutritive crop varieties**	Address crop failure due to increased temperatures and changes in rainfall patterns thus leading to increased crop productivity and yield (promotion of high iron and Zinc beans, pegion peas, sorghum)	No. of farmers adopting use of the drought-tolerant crops; -No of drought tolerant seeds varieties distributed -No of 90kgs bags produced per acre	50 famers per ward annually	KALRO, CGoL-Crop production officers, NGOs, CBOs & Farmers	15,000,000	x	x	x	x	x	

		Mitigation: -Increases adoption of technologies that reduce greenhouse gas emission such as conservation agriculture, agro-forestry, industrial crops[macadamia, coffee] and fruits trees [mangoes, avocadoes]	No of Acreages where drought-resistant crops, fruits, agro-forestry are grown								
	Promote Organic Farming within the County	Mitigation: Reduce emissions from continued use of inorganic fertilizers and pesticides	Number of farmers engaged in organic farming; No of acreage under organic farming Tons of organically produced foods	60 farmers per year 100 acres annually	CgoL – Crop Production officers, CBOs, NGOs & Farmers	15,000,000	x	x	x	x	x
	Diversification of enterprises: ● Integration of crops and livestock enterprises (Commercially oriented mixed farming)	Adaptation: -Promote high value crops integrated with livestock to diversify food security and households incomes in times of unpredictable weather pattern	-No. of high value crops introduced -No. of farmer group organized and trained on promotion of crops and livestock enterprises	-At least 3 high yield Crops introduced -10 groups per ward trained annually	CgoL- Crop Production Officers, CBOs, NGOs & Farmers, Kenya Seed Co., KALRO, Research Institutions,	10,000,000	x	x	x	x	x

	upscaling of carbon sink smart farming practices such as conservation agriculture and agro-forestry	● Agroforestry and fruits trees; (Avacados, Macademia, Mangoes and) -Conservation agriculture Reduce GHG emissions by increasing carbon sequestration especially through agroforestry	Acreage of fruit trees established No of acreage under Conservation Agriculture No. of fruit trees grown	5000 fruits trees seedling per ward per year -10 acres per ward per year								
	Promote farmer led small-scale irrigation	Adaptation : Improve water use efficiency by supporting farmers on water saving and renewable energy technologies such as use of solar water pumps and drip irrigation Subsidising acquisition of technology	● Number of farmers utilizing Climate Smart irrigation to promote crop yields; No. subsidised technologies	100 farmers per year	CgoL Water Officers, irrigation officers, CBOs, Civil Society, Private sector, NGOs, financial institutions	20,000,000	x	x	x	x	x	

	● Construction, Desilting and rehabilitation of climate smart water harvesting, storage structures and irrigation systems and improve flood control such as dams, water pans, lined ponds and reticulate water for irrigation	Increase crop productivity through irrigation and therefore reducing dependence on rain-fed crop production	● No of dams/water pans constructed/rehabilitated (50,000-100,000 cubic meters Earth dams/Waterpans)	3 dams per ward 5 Water pans Constructed/desilted per ward per year							

	Promote climate smart soil and water conservation technologies	Establish and maintain new and existing soil and water conservation structures	Acreage of land conserved -No of soil and water conservation structures constructed (Gabions, grass strips, terraces, side drains)	5 acres conserved per ward - 1 km of terraces per ward							
	Promote Value addition	Adaptation:	● Number of farmers benefiting from value addition projects	-500 farmers annually	GoK, MoALF, CgoL, Farmers, NGOs, CBOs, Private Sector	9,000,000	x	x	x	x	x
	Post harvest management of crops through technologies such as warehouses, cold storage, , solar drying, hematic bags, metal silos and processing etc.	Improved livelihoods and income due to minimal post-harvest losses on cereals, legumes, potatoes, horticulture produce	● Number of value addition technologies initiated -No of warehouses and driers established -No of cold rooms constructed	5 value addition technologies initiated -5 warehouses							

	Support youth, women, elderly, and PLWDs in nature-based enterprises and climate smart farming technologies- Apiculture, nature based ecotourism,	Adaptation:	● Number of individuals of vulnerable groups supported No of nature of based enterprises value added and linked to the market- Bee keeping and Honey production	-100 individuals per ward annually 10 enterprises supported and linked to the market annually -Bee keeping and Honey production	GoK, CgoL, NGOs, CBOs, Farmer enterprises	8,000,000	x	x	x	x	X
	Treated liquid waste water for irrigation use	Adaptation	No of litres of water treated and used for irrigation	1,800,000,000 litters annually	GoK, CgoL, NGOs, CBOs, Farmer enterprises	50,000,000	**X**	**X**	**X**	**X**	**X**
VETERINARY	**Control of increased outbreaks of livestock disease - existing, emerging and re-emerging disease occasioned by climate change**	Regular livestock vaccinations against transboundary and zoonotic diseases.	Number of animals vaccinated against FMD, LSD, Anthrax, PPR, CCPP, CBPP, S&G pox, Rabies	200,000 heads of cattle, 400,000 sheep, 350,000 goats and 50,000 dogs and cats	CGoL- Veterinary officers, KEVEVAPI, DVS	20,000,000	**x**	**x**	**x**	**x**	**x**
	active and passive livestock disease surveillance	Enhance livestock disease surveillance to map out disease hot spots of existing, emergig and re-emerging livestock	1. Number of disease surveillance carried out 2. Number samples collected and analyzed in the laboratory	60 active surveillance and 300 passive surveillance	CGoL- Veterinary officers, DVS	5,000,000	x	x	x	x	x

	Promotion of meat values chain by use climate smart abattoirs	establishment of climate smart abattoirs by use of solar energy or biogas from the slaughterhouse waste, production of black soldier flies from the waste for animal feeds Hides and skins for sheep and goat (women enterprises) Promotion of Organic fertilizers and Manure mainly done by women Linkage to the market of the enterprise	1. Number of abattoirs using green energy 2. Number of abattoirs utilizing waste to produce BSF	1. Improvement of 5 existing abattoirs 2. 2 abattoirs utilizing waste to produce BSF	Veterinary and livestock, department of energy and KALRO farmer cooperatives, group enterprises, private sector, women enterprise fund	10,000,000	x	x	x	x	x
LIVESTOCK PRODUCTION	**Bio gas energy development**	Address GHG emissions and minimize use of fuel wood through biogas promotion Institutional biogas production	number of Biogas units No of institutions supported	150 units 10 institutions supported	Livestock production, min of education , department of energy	10,000,000	x	x	x	x	x
	establishment of high valur drought tolerant fodder crops and establish fodder banks	1. Address water insufficiency, as they are drought tolerant 2. Rich in protein thus increases livestock productivity Create linkages with other sectors with fodder banks and market	number of acres No of linkages created	150 acres 10 linkages per year	Livestock production, farmers	7,000,000	x	x	x	x	x
	Small scale irrigation of fodder crops	Address water insufficiency by harvesting run off water thus controlling soil erosion and land degradation	Number of water pans	15	Livestock production, farmers and irrigation	9,000,000	x	x	x	x	x

	Support women and youth in Indigenous chicken, sheep and goat enterprises for food and nutrition security and livelihood diversification	Contribute less GHGs than other livestock, need very little space, highly adaptable and women and youth friendly	number of birds distributed to farmers	15,000 birds	Livestock production, farmers	18,000,000	x	x	x	x	x
	Pig production	1. Alternative livestock production to reduce conflicts emanating from competition for livestock feeds as a result of climate change 2. High production per unit 3. Use of clean energy in pig units 4. To mitigate against cattle rustling	Number of pig units	20 units	Livestock production officers and farmers	5,000,000	x	x	x	x	x
FISHERIES	**Promotion and provision of climate smart aquaculture technologies**	Water conservation	Number of climate smart aquaculture technologies promoted and provided	10 technologies	Fisheries officers and fish farmers	4,000,000	x	x	x	x	x
	Promotion and provision of climate smart fish and fish products value addition technologies	use of green energy	No of climate smart fish and fish products value addition technologies promoted and provided	100	Fisheries officers and fish farmers	4,000,000	x	x	x	x	x

	Promotion of ponds and dams aquaculture	Mitigate against over fishing from natural waters	number of fish fingerlings stocked	1,000,000	CGL and national government Fisheries officers and fish farmers	8,000,000	x	x	x	x	x
PRIORITY TOTALS						**227,000,000**					

Priority 3: Disaster risk reduction and management; Droughts and Floods

Priority 3: Disaster and Risk Management (Floods and Droughts)											
Objective: Reduce risks to communities and infrastructure resulting from climate related-disasters such as droughts and floods											
Major Challenge: Disasters such as floods and droughts have an adverse effect on the economy, infrastructure and communities especially the marginalized, women, children, youth, PWDs and the vulnerable groups											
Vision 2030 Pillars: Foundations (disaster risk reduction & ending drought emergencies, infrastructure), Economic and Macro pillar (Agriculture and rural development, infrastructure), Social pillar (marginalized communities, gender, youth & vulnerable groups)											
SDGs: 13: Climate action; 1: No poverty; 2: Zero hunger; 3: Healthy lives; 4: Education; 5: Gender equality; 6: Sustainable water management; 8: Sustained economic growth; 9: Resilient Infrastructure; 10: Reduced inequalities; 11: Sustainable communities											
Sub-sector	**Proposed Action**	**Adaptation/ Mitigation**	**Indicators**	**Target**	**Actors**	**Budget**	**Timeframe**				
Drought	**Improve people's ability to deal with drought** through:	Adaptation	● No. of recipients benefiting from climatic early warning information	-	GoK, CGoL, farmers/community, MET department, CBOs, NGOs, Civil societies	60,000,000	X	X	X	X	X

	● Improve on drought early warning systems	Dealing with high temperatures, water scarcity, prolonged water/ moisture stress leading to crop failure, loss of livelihoods, malnutrition, hygiene issues and school dropouts.	● Capacity of water storage facilities to deal drought	-Targeted population							

	● Develop expertise to customize and manage satellite-generated vegetation condition index used for drought early warning and response ● Invest on water harvesting and storage strategies; tanks, pans and dams ● Promote drought resistant crops		● No.of public fora organised to promote drought resistant crops	-1 NDVI Map - 1,000,000 litres per year -2 public meetings per ward per year							

Floods	**Improve ability of the people to deal with floods – including infrastructure:**	Adaptation		-One report on mapping generated	GoK, CGoL, Farmers/Community, MET department, CBOs, NGOs, Civil society	50,000,000	X	X	X	X	X
	● Map and develop storm water drains to channel flood water to the main water ways information)	Dealing with heavy rainfall and floods leading to damage and loss of infrastructure (roads, houses, health facilities, schools); loss of property and livelihoods; increase in water-borne diseases such as cholera	● Area mapped countywide	-1 flood control structure per year							

	● Construct flood control structures		● No. of water harvesting and flood control structures built								
			● Length of drains constructed To water sector								
PRIORITY TOTALS						**110,000,000**					

Priority 4: Forestry, Wildlife and Biodiversity Conservation.

Priority 4: Forestry, Wildlife and Biodiversity Conservation											
Objective: Attain a 30% forest cover of the total land area by 2027, Improve Wildlife Resilience, and rehabilitate Degraded sites to promote sustainable tourism											
Major Challenge: Overexploitation and loss of biodiversity resulting from unplanned developments mainly encroachments for agriculture, settlement and infrastructural development, overreliance on wood fuel resulting in deforestation and degradation resulting in increased GHGs emissions further impacting on wildlife negatively.											
Vision 2030 pillars: Economic and Macro pillar (Tourism), Social Pillar (Environment)											
SDGs: 15: Life on land; 13: Climate Action; 5: Gender Equality; 6: Sustainable Water; 7: Sustainable Energy;											
Sub-sector	**Proposed Action**	**Adaptation/ Mitigation**	**Indicators**	**Target**	**Actors**	**Budget**	**Timeframe**				
Forestry	**Afforestation and reforestation** through:	Mitigation Linking to the sub-county climate change resource centers	.No of trees planted and grown	6million trees planted and grown	GoK, MEF CGoL, CBOs, NGOs, Farmers, Schools & Institutions, Private Sector, KFS	75,000,000	X	X	X	X	X
	● Promote tree growing by ecologically site matching and integrating tree growing with other county climate smart initiatives and showcasing the	Reduces exposure by increasing surface cover preventing degradation Carbon sequestration to reduce GHG emissions	● Number of operational trees nurseries	150tree nurseries supported to produce 3million seedlings per year							

	technologies within the climate change resource centres Establishing a resource and learning centre with tree propagation centre, ecological species site matching, holistic tree nursery, knowledge centre, botanical gardens, bamboo seedlings propagation, nature based business development service and linkage to market		● Total land area in hectares planted with trees both under private and public ownership ● Proportion of land in hectares rehabilitated	-1428 Hectares planted with trees							
	Adapt and Nature a Tree (ANAT) Program	Mitigation: Improve carbon sequestration hence reduce GHGs emissions	● No. of green parks established; Doldol, Rumuruti, Upgrade the Nanyuki and Nyahururu Green Parks	1 green park per sub-County annually	GoK, MEF CGoL, CBOs, NGOs,, Schools, Private Sector, KFS, School Environmental Clubs	30,000,000	X	X	X	X	X

	Promote green parks in schools by ensuring that at least 10% of the school land is planted with trees - ANAT and rebranded 4K clubs Other degraded areas like hills, community forests		● No. of environmental clubs engaged	2 environmental clubs per ward							
	Restore Fragile Ecosystems through:	Adaptation	● No. of fragile ecosystems successfully restored	-10 sites restored annually	GoK, CGoL, KFS, CBOs, NGOs, KWTA, CFAs, WRUA, Community, WRA	20,000,000	X	X	X	X	X

	● restoration of the fragile ecosystems; management of invasive plant species, gully erosion especially in Laikipia North	Reduces exposure by increasing surface cover preventing degradation Mitigation: Improve carbon sequestration hence reduce GHGs emissions	● Area in hectares restored ● Percentage of land cover restored	-10 hectares restored per year -							
	Promote sustainable timber production on farm forests and community lands through**:**	Mitigation:	Ha of land under commercial woodlot	-100 hectares for 5 years	GoK, CGoL, CBOs, NGOs, Community, CFAs, KEFRI, KFS	10,000,000	X	X	X	X	X
	● Increase in private plantations for commercial and industrial purposes	Increase carbon sequestration hence reduce GHGs emissions	● No. of sensitization meetings organised to promote sustainable timber production	20 meetings per ward							

Wildlife	● **Reduce human-wildlife conflict cases** through:	Adaptation	● Number of HWC cases reported	-20% annual reduction in reported HWC cases	GoK, CGoL, KWS, KFS, CBOs, NGOs, Community	10,000,000	X	X	X	X	X
	Development and implementation of HWC resolution mechanisms Demarcation of wildlife corridors, Construction of water points for wildlife and salt licks Electric solar fence maintenance	Deals with climate risk resulting to increased likelihood of HWC	● -No of resolution meetings held -Kms of wildlife corridors demarcated No of water points and salt licks established Km of electric solar fence maintained	-50 resolutions meetings annually - 50 km of wildlife corridors demarcated - 10 water points and 15 salt licks established 250 km of wildlife solar fence maintained							

	● Installation of solar lighting motion sensors to scare wildlife from human population	To reduce cases of human wildlife cases on communities leaving around HWC hotsports	● Total land area in hectares under PAs	-							
	Operationalize KIrimun Game reserve										
	Control of invasive species:	Adaptation:	● Total area in hectares where invasive species have been controlled	50 hectares annually	GoK, CGoL, KFS, CFAs, CBOs, NGOs, Donors, CRMRD, CETRAD, NRT, ICRAF, KEFRI	30,000,000	X	X	X	X	X
	● Conduct surveys to determine the prevalent invasive species, their effect on endangered wildlife species and device mechanisms to control them	Build resilience by protecting critical and endangered habitats	No.of surveys done and reports restoration of rehabilitated areas, through reseeding	-one survey per year 50 hectares restored annually							

	Digital mapping of invasive species	Production of digital maps to determine the extent of invasion	No of maps produced								
	Protection of springs.	Adaptation: Deal with climate risk of water shortage	● No. of springs protected	-10 protected springs	GoK, CGoL, KFS	10,000,000	X	X	X	X	X
	Support biodiversity monitoring and mapping of natural resources	Enabling Action	● No. of mapping and monitoring reports	-1 Report	KWS, research Institutions, CGoL, KEFRI, CBOs, NGOs	3,000,000	X	X	X	X	X
Eco-tourism	**Promote eco-tourism through:**	Adaptation:	● No of communitiesbenefiting from ecotourism initiatives	3 communities per ward	CGoL, KTB, NGOs, CBOs, Community, Civil Society, MoWT, KWS, KFS, conservancies	5,000,000	X	X	X	X	X

	● Identify key tourist attraction sites, technologies and initiatives to promote sustainable tourism	Build resilience by promoting protection of endangered species and offering communities with alternative source of income	● No. of sustainable initiatives introduced	1 per sub-county per year							
PRIORITY TOTALS						**193,000,000**					

Priority 5: Enhanced Water Security

Priority 5: Enhanced Water Security and sanitation												
Objective 4: Enhance resilience of the water sector by ensuring safe and adequate water access and efficient use of water for agriculture, manufacturing, domestic, wildlife, and other uses.												
Major Challenge: Water catchment degradation, drought and water scarcity, pollution, fragmented jurisdiction, competing water users including wildlife, human, inefficient water use, limited investment in water infrastructure, illegal water abstraction, water governance, high cost of energy in water production, increased population mainly in urban centres, gender inequality, rapid urbanization, poor water quality, high non revenue water												
Vision 2030 Pillars: Social pillar (Environment, water and sanitation, Gender, Youth and Vulnerable groups, health), Economic and macro pillar												
SDGs 6: Clean Water and Sanitation; 13: Climate Action; 1: No Poverty; 2: Zero Hunger; 3: Good Health and Well-Being for People; 5: Gender Equality; 9: Industry, Innovation, and Infrastructure; 11: Sustainable Cities and Communities; 15: Life on Land; 17: Partnerships for the Goals												
Sub-sector	**Proposed Action**	**Adaptation/ Mitigation**	**Indicators**	**Target**	**Actors**	**Budget**	**Timeframe**					
Water Security	**Promote access to safe and clean drinking water for all the County residents** ● Last-mile water connectivity	Adaptation Increase water availability and reduce distance to water points	No. of water meters installed within the County Reduce the distance to water access in km	- 500 households per ward annually -500 meters installed per ward annually Reduce distance to water access to 3km	GoK, CGoL, CBOs, Private Sector, Community, Donors, WRUAs WRA, WSPs, Conservancies	150,000,000	x	x	x	x	x	
	● Reduce non-revenue water both in rural and urban areas	Quality of pipes used, immediate leak detection and repair, mapping of	-Durability of the pipes, -No of HDPE pipes procured -Time taken to repair the leakages reported	-3 to 5 years depending on the sitting -1000 HDPE pipes annually								

		water pipelines Reduce human wildlife conflict and infrastructure destruction	-Metering No of km of water pipeline mapped No of infrastructures secured with an electric fence and construction of separate water troughs for humans and wildlife	- 2 hours to repair 500 meters installed per ward annually 1000km of water pipeline mapped 30% reduction in HEC cases - 100 instrstrucutres secured with solar electric fence and construction of water troughs for both wildlife and humans							
	Promote water catchment conservation:	Adaptation: deal with the climate risk of water shortage	acreage of catchment areas conserved,	-500 acres conserved	GoK, KFS, CGoL, CBOs, NGOs, Civil society, Community	30,000,000	20	10	10	5	5
	Construction of gabions, cut-off drains, Strip cropping, Construction of	Mitigation:	• Length of cut-off drains done	-10km of cut-off drains							

		Increase carbon sequestration reducing GHGs emissions	• Length of strip cropping done	-10km of strip cropping							
	Restoration and protection of Wetland zones and Riparian areas:	Adaptation: deal with the climate risk of water shortage	• Length in Km of riparian rehabilitated wetlands-Marura 20 hectares, Pesi-20 hectares Mwiyogo 30 hectares, Manguo 20 hectares, Mutara springs 20 hectares	-25 km of riparian rehabilitated annually	GoK, CGoL, KWS, KFS, CBOs, NGOs, Private sectors, Community, WRA	30,000,000	15	10	5	5	5
	• Identification of sites	Mitigation:	• No. of riparian areas protected	2 riparian areas protected annually							
	• Bamboo planting along the riparian	Increase carbon sequestration reducing GHGs emissions	No of bamboo trees planted and grown along the riparian areas Acreage of riparian and wetlands covered with bamboo trees	1000 bamboo trees grown annually 5000 acres of riparian and wetland areas							
	• Fencing of riparian areas.		No of km of riparian lands fenced	100km of riparian areas fenced							

	Promote water efficiency to minimize wastage (monitor, reduce, re-use, recycle and modelling)	Adaptation	• No of awareness meetings/ programs organized	-50 awareness meeting; 2 per ward annually	GoK, CGoL, Community, Private Sectors	10,000,000	2	3	2	2	1
	Raise awareness on water efficiency	Deal with risk of water shortage	• No. of residents reached in awareness programs	-2,000 residents annually							
	Increase gender-responsive, affordable water harvesting-based livelihood resilience programmes	Adaptation: Addresses climate risk of water shortages	• No of individuals in the vulnerable groups accessing clean and Safe water for various purposes	-200 per ward annually	GoK, CGoL, Community, private sector, NGOs, CBOs, conservancies, development partners	25,000,000	10	5	5	3	2
	Increase annual per capita water availability through development of water infrastructure:	Adaptation	• No of functional dams, water pans, weirs, storage tanks constructed	500,000 Cubic metres storage infrastructure constructed	GoK, CGoL, Private developers, Research institutions, WRA, Community	430,000,000	150	170	100	50	30

	• Increasing the number of dams, Weirs, Water pans and storage Tanks	Ensure water security, deal with climate risk of drought, floods, food shortages in rain-fed crop production	• No. of identified sites for borehole drilling	-15 sites identified annually							
Conservation of Marura wetland	Feasibility studies and evaluation of environmental resources in the Marura wetland and its Ecosystem	Adaptation	No. of reports	1 report	CGN, KFS, KWS and NEMA	5,000,000	X	X			
	Water infrastructure development - Drilling of boreholes	Mitigation and adaptation -enhance water availability to augment the other water sources	• No. of boreholes drilled	-45 boreholes drilled and equipped annually		420,000,000	X	X	X	X	X
PRIORITY TOTALS						**1,100,000,000**					

Priority 6: Health

Priority 6: Health											
Objective: Mainstream climate change adaptation into the health sector; and increase the resilience of human settlements, including improved solid waste management in urban areas											
Major Challenge: climate change frustrating fight against malaria, water-borne diseases, malnutrition, infant mortality among others. At the same time inappropriate management of waste results in negative effects on health and emit GHGs.											
Vision 2030 pillars: Social pillar (health, sanitation)											
SDGs: 3: Good Health; 13: Climate Action; 5: Gender Equality; 6: Clean water and sanitation; 9: Sustainable Infrastructure; 11: Sustainable Cities; 12: Sustainable consumption and production											
Sub-sector	**Proposed Action**	**Adaptation / Mitigation**	**Indicators**	**Target**	**Actors**	**Budget**	**Timeframe**				
Health	Strengthen Community Health Systems for Climate Change Resilience and Adaptation	Adaptation: increased information in the community about effect of climate on health capacity to seek appropriate	Number of Community Health Workers capacity built and supported to minimize climate change risk to health	5 Community Units per Ward annually (Total 70 Community Units having 1500 Community Health Promoters	GoK, CGoL, Private Sector, Donors	30,000,000	X	X	X	X	X

		health interventions									
	Strengthening Public Health Systems for Resilience against the Extreme Effects of Climate Change	Resilience: resilient health system that responds to changing injury, morbidity and mortality pattern attributed to climate change	Number of climate resilience related diseases or events reported from each ward	Timely monthly report	GoK, CGoL, Private sector, Donors, Research institutions, Community	5,000,000		X	X	X	X
	Reduce the risk of food and water-borne diseases	Resilience: capacity to keep the communities safe in the face of variations in water and food quality due to climate change	Improved capacity of Level 2 and 3 health facilities per ward to manage water and food borne diseases related to climate change	At least one health facility per ward	CGoL, MoH, NGOs, CBOs, Community, Civil society	10,000,000	X	X	X	X	

	Reduce the incidence of vector-borne diseases	Adaptation: Addresses climate risk of increases in disease	Advocacy and behaviour change communication done	Two advocacy forums per ward per year	CGoL, Community, CBOs, Research institutions	2,000,000	X	X	X	X	X
		Resilience: Accurate data for decision making	Strengthened diagnostic and management capacity in health facilities per ward	One Data Quality Analysis for disease surveillance per quarter	CGoL, MoH, NGOs, CBOs, Community, Civil society	2,000,000	X	X	X	X	X
	Reduce the risk of malnutrition in the communities	Resilience: Strengthen Community Based Screening	Number of Assessment Surveys conducted for Acute and Chronic Child Malnutrition	One Assessment per Ward per Year (15 wards); twice per year in the second and third years	CGoL, NGOs, developers, CBOs, NGOs, community, private sector	800,000	X	X	X	X	X
		Adaptation: Management of	Number of malnourished children supported	4500 children with Severe Acute	CGoL, NGOs, developers, CBOs, NGOs,	5,000,000	X	X	X	X	X

		Moderate Acute Malnutrition	with Ready to Use Therapeutic Foods (RUTF)	Malnutrition treated	community, private sector						
	Climate resilient and sustainable technologies and infrastructure	Mitigation: Reduce carbon footprint in health infrastructure and operations	Number of Health Centres of Excellence with Climate Resilient infrastructure and technologies	One (1) Centre of Excellence per Ward (Total 15)	GoK, CGoL, Private Sector, Donors	25,000,000	X	X	X	X	X
PRIORITY TOTALS						**79,800,000**					

Priority 7: Green and Sustainable Energy

Priority 7: Green and Sustainable Energy											
Objective: Clean, sustainable and affordable energy: Climate-proof energy and transport infrastructure; promote renewable energy development; increase uptake of clean cooking solutions; and develop sustainable transport systems											
Major Challenge: Renewable and affordable electricity supply with low GHG emissions needs to increase to meet the demands of a growing population and the increasing industrialisation. The County is highly dependent on non-renewable biomass for primary energy leading to indoor air pollution, deforestation, and GHG emissions											
Vision 2030 Pillars: Economic and macro pillar (Oil and other mineral resources, infrastructure)											
SDGs: 7 – Affordable and clean energy, 13 – Climate action; 1 – End poverty; 2 – Food security; 3 – Health; 5 – Gender equality; 8 – Sustainable growth; 9 – Resilient infrastructure; 11 – Sustainable cities; 15 – Sustainable forests											
Sub-sector	**Action**	**Adaptation/Mitigation**	**Indicator**	**Target**	**Actors**	**Budget**	**Timeframe**				
Energy	**Improve energy efficiency and energy conservation:**	Mitigation;	No. of successful energy efficiency initiatives employed	-As per the need	CGoL, KPLC, NGOs, Private sector, Civil society, Communities	20,000,000	x	x	x	x	x
	Promote energy efficiency and conservation projects/initiatives including:	Reduce GHGs emissions	No. of households and offices utilizing energy efficiently	-100 households and offices per ward utilizing energy efficiently annually							

	Efficient lighting **Raise awareness on use of LED energy saving bulbs within the County.**	Adaptation	No. of households and offices utilizing LED energy saving bulbs	-1000 households and offices using LED bulbs per ward							
	Increase renewable energy for energy generation that is climate resilient mainly in the rural areas: solar and wind **Installation solar light on the market centres**	Mitigation Reduce GHGs emissions Adaptation Increases resilience of energy system to drought	· Number of households benefiting from the renewable energy No of market centres with solar lighting	-100 households per ward 3 per ward per year	CGoL, Private Sector, Civil Society, NGOs	20,000,000	x	x	x	x	x

	Promote use of alternative fuels, such as LPG, ethanol and other clean fuels as a way of transitioning to clean cooking:	Mitigation:	No. of households utilizing LPGs among other clean fuels within the County especially in rural areas	-100 households per ward	CGoL, Private sector, Civil Society, NGOs, CBOs	10,000,000	X	X	X	X	X
	Increase energy efficiency Adoption of green and renewable energy sources for manufacturing	Adaptation: Resilient energy infrastructure Green and renewable sources, biogas, solar, wind energy Mitigation on energy efficiency upgrades and GHG emission reductions	No of companies adopting green energy and renewable	10 companies	GoK, CGoL, Private Sector, community, NGOs, Energy Utilities, EPRA, KEREA,	10,000,000	X	X	X	X	X
	Construct climate-proofed sanitary landfills with methane capture	Mitigation: reducing GHGs emissions	Amount of methane produced/ captured	-	CGoL, NEMA, CBOs, Development partners	40,000,000	X	X	X	X	X

	technology for solid waste disposal in the County.		Amount of solid waste discharged	-							
			Cases of health complications resulting from waste	-							
Climate resistant transport	**Construct pedestrian and bicycle pathways**	Mitigation:	No. of people utilizing transport methods	-	CGoL, Private sector,	5,000,000	X	X	X	X	X
		Reduce GHGs emissions	No. of effective incentives introduced	-							
PRIORITY TOTALS						**105,000,000**					

Priority 8: Climate resilient infrastructure

Priority 8: Climate resilient infrastructure.											
Objective: Promote climate resilient infrastructure to reduce injuries, loss of lives and property destruction.											
Major Challenge: Limited climate proofing of infrastructure/loss of human life, injuries and loss of property.											
Vision 2030 pillars: Economic and macro pillar (Infrastructure)											
SDGs: 13: Climate Action; 3: Good Health and Well-Being for People, 1: No Poverty; 2: Zero Hunger; 7: Affordable and Clean Energy 9: Industry, Innovation, and 11: Sustainable Cities and Communities											
Sector	**Action**	**Mitigation/ Adaptation**	**Indicator**	**Target**	**Actors**	**Budget**	**Timeframe**				
Climate resilient infrastructure	**Conduct Strategic Environmental Assessments (SEA) for infrastructural programmes** and **EIAs Environmental audits for projects**	Enabling Action to prevent/ mitigate damages and loss	• Number SEA, EIA and EA reports made	-Dependent on no of programs and projects done	GoK, NEMA, CGoL	5,000,000	X	X	X	X	X
PRIORITY TOTALS						**5,000,000**					

Priority 9: Carbon Emission Trading

Priority 9: Carbon Emission Trading											
Objective: Reduce GreenHouse Gas Emissions, promote climate-smart agriculture ensuring food security											
Major Challenge: Increased GHGs emission leading to global warming hence unpredictable weather patterns											
Vision 2030 pillars: Economic and Macro pillar, Social Pillar											
SDGs: 13: Climate Action; 3: Good Health and Well-Being for People, 1: No Poverty; 2: Zero Hunger; 7: Affordable and Clean Energy 9: Industry, Innovation, 11: Sustainable Cities and Communities, 12: Responsible Production and Consumption, 17: Partnerships for the goals											
Sector	**Action**	**Mitigation /Adaptation**	**Indicator**	**Target**	**Actors**	**Budget**	**Timeframe**				
Carbon Emission Trading	Capacity building of County staff and stakeholders on carbon	Enabling Action	No of trainings / capacity building meetings undertaken	5 meetings per year	GoK, CGoL, NEMA, Conservancies, Donors	5,000,000	X	X	X	X	X
	Carbon assets sequestered in the biomass:	Enabling Action	GreenHouse Gas emissions inventory report	1 GHGE inventory report	GoK, CGoL, Private Sector, Donors,	20,000,000	X	X	X	X	X

	● Undertake a County Greenhouse gas emission inventory		No. of carbon trading platforms developed	1 carbon trading platform developed	Community, NEMA, Farmers, CBOs, NGOs, dept of agriculture, KFS, Research institutions, Conservancies, community lands						
	● Conduct a carbon audit To determine the county carbon footprint Develop and implement a carbon footprint strategy		A baseline report	One baseline report							
PRIORITY TOTALS						**25,000,000**					

Priority 10: Environment and Social Performance

Priority 10: Environment and Social Performance											
Objective: To reduce degradation, damage and loss of environmental and social resources											
Major Challenge: Decreased productivity and increased climate vulnerability from degradation, damage and loss of environmental and social resources, poor and unsustainable management of solid and liquid waste resulting in high environmental pollution, emergence of invasive plant species, emergence of gullies and soil erosion											
Vision 2030 pillars: Economic and Macro pillar, Social Pillar											
SDGs: 13: Climate Action; 3: Good Health and Well-Being for People, 1: No Poverty; 2: Zero Hunger; 7: Affordable and Clean Energy 9: Industry, Innovation, 11: Sustainable Cities and Communities, 12: Responsible Production and Consumption, 17: Partnerships for the goals											
Sector	**Action**	**Mitigation /Adaptation**	**Indicator**	**Target**	**Actors**	**Budget**	**Timeframe**				
	continuous capacity building of County Environment Committee	Enabling action	•One environment committee capacity built No of capacity building sessions conducted	Two capacity building sessions per years	GoK, CGoL, Private Sector, Donors, Community, NEMA, Farmers, CBOs, NGOs, Research institutions	3,000,000	1	1	1	1	

Environment	**Solid and liquid waste management**	mitigation	Promotion of the three R-reduction, reuse and recycling	Promote and Support solid waste management enterprises	20 enterprises supported	10,000,000	X	X	X	X	X
	Development and implementation of five year County Environment Action Plan and two year County State of Environment Report	Enabling Action	·Complete action plan · Number of actions implemented	one --County environment action plan -Two state of envirrrronment reports	GoK, CGoL, Private Sector, Donors, Community, NEMA, Farmers, CBOs, NGOs, Rffffesearch institutions	10,000,000	X	X	X	X	X
	Environmental degradation and pollution surveillance, control and management in all sectors	Mitigation/adaptation action Proactive action and reduction of pollution of land, water and air	.Number of restorations, pollution incidences reported and resolved	No of incidence reported and resolved	CGoL, GoK, Donors, Community, NEMA, CEC, Private Sector,	5,000,000	X	X	X	X	X
PRIORITY TOTALS						**28,000,000**					
GRAND TOTAL						**1,971,050,000**					

CHAPTER 5
REVIEW AND MONITORING

5.1. Introduction

The County Government and other stakeholders will be informed by monitoring and evaluation (M&E) of the planned actions as to whether the expected results have been attained. Additionally, it will reveal whether the problems identified during the planning stage are being addressed, have been fixed, or are getting worse. The Department of Water, Environment, Climate Change, Tourism, and Natural Resources will be in charge of organizing the project monitoring, which will be a continuous activity during the duration of the plan. Other significant players from across the board, including NEMA, KWS, and KFS, major national government organizations with responsibilities for environmental protection and climate change, will be included in the monitoring. Local conservation NGOs can make a big contribution to this process as well.

The implementation of this action plan is linked with other plans and strategies, action plans, and other policies both at the County and national levels. These include the national planning process as captured by Vision 2030, County planning processes, and the national climate change policy processes among others.

5.2 Plan Review and monitoring

5.2.1 Monitoring Issues

This plan will need to be revised at five-year intervals in accordance with the Laikipia County Climate Change Act, 2021. Key issues that will need to be monitored and evaluated to inform the review process include:

i. Ecosystem conservation including forest cover and habitat restoration.
ii. Level of adoption of green energy and energy efficiency.
iii. Carbon and other greenhouse gas emissions.
iv. Agricultural and industrial production.
v. Biodiversity status.
vi. Water quality in key water sources.
vii. Habitat condition.
viii. Poverty levels.
ix. Level of engagement of women, youth, and vulnerable groups in climate issues.

5.2.2 Forms of Evaluation and Review

Two forms of evaluation will take place:

1. **Biennial reviews** – To be undertaken by the Planning Committee do determine the implementation of the County Climate Change Action Plan (and the activities proposed therein) and report to the Steering Committee.
2. **A 5-year evaluation and review:** This will be carried out at the end of 5 years of implementation of this plan. This evaluation will inform the revision of activities and objectives for the following five -year implementation period. There will be a need to revise the plan every five years to ensure conformity with the County and national development priorities, and ensure relevance to the CIDPs. In addition, the revision will provide an opportunity to capitalize on emerging opportunities.

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