# Garissa County Climate Change Action Plan 2023-2028

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## FOREWORD

I am honored to present the County Climate Change Action Plan (CCAP) for Garissa County. Climate change poses significant challenges to our county, impacting our environment, economy, and the well-being of our residents. As the Governor of Garissa County, I am fully committed to addressing these challenges head-on and ensuring a sustainable and resilient future for our county.

The CCAP is a testament to our collective efforts and determination to tackle climate change. It is the result of extensive research, stakeholder engagement, and the commitment of numerous individuals and organizations. This plan sets out a comprehensive roadmap that will guide us in mitigating the impacts of climate change and transitioning towards a low-carbon, climate-resilient economy.

I firmly believe that effective climate action requires the active participation and collaboration of all stakeholders. Throughout the development of the CCAP, we engaged with residents, community leaders, experts, and various governmental and non-governmental organizations. Their invaluable contributions and insights have shaped the strategies and actions outlined in this plan, ensuring they are relevant, practical, and inclusive.

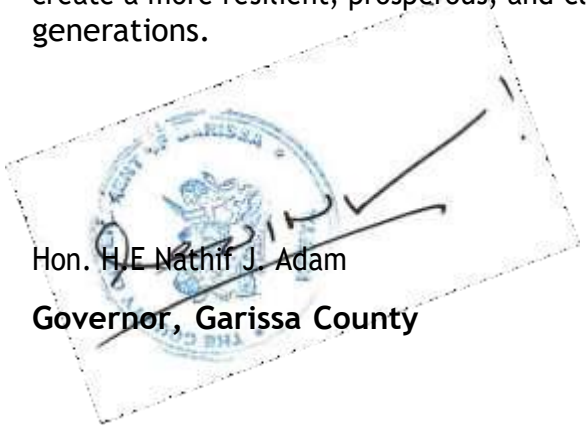
To demonstrate our commitment to implementing the CCAP, I am proud to announce that Garissa County will allocate 2% of our annual development budget to the Garissa County Climate Change Fund, as mandated by the Garissa County Climate Change Fund Act of 2018. This financial commitment underscores our determination to prioritize climate action and ensure adequate resources are allocated to implement the strategies outlined in the CCAP effectively.

The CCAP focuses on key priority areas, including disaster risk reduction, food security, nutrition, and enterprise development; water and sanitation; and environment, energy, Climate change and natural resource management. By addressing these areas, we aim to enhance our adaptive capacity, reduce vulnerability, and promote sustainable development.

However, the success of the CCAP depends not only on our commitment as a county government but also on the active involvement and cooperation of all stakeholders. Together, we can build a resilient county that is better prepared to withstand the impacts of climate change and create a prosperous future for our residents.

I would like to express my gratitude to all those who contributed to the development of the CCAP. The expertise, dedication, and passion demonstrated by individuals, organizations, and communities throughout this process have been truly inspiring. I am confident that our collective efforts will make a significant difference in addressing climate change and building a sustainable Garissa County.

I encourage all stakeholders to join hands and work together towards the successful implementation of the CCAP. By leveraging our strengths, knowledge, and resources, we can create a more resilient, prosperous, and climate-ready Garissa County for current and future generations.



Hon. H.E Nathif J. Adam

**Governor, Garissa County**

**Acknowledgement:**
I would like to express my sincere appreciation to the dedicated technical working team that worked tirelessly on the County Climate Change Action Plan (CCAP) for Garissa County. Your expertise, commitment and hard work have been instrumental in the successful development of this important plan.
I want to acknowledge the invaluable contributions of each member of the technical working team. Your diverse backgrounds and specialized knowledge have brought depth and breadth to the CCAP. Your tireless efforts in conducting research, analyzing data, formulating strategies and crafting the plan have been pivotal in ensuring its quality and effectiveness.
I would also like to extend my gratitude to the County Government of Garissa for its unwavering support in this endeavor. The guidance and resources provided by the County Government have facilitated the smooth execution of the CCAP development process. Together, we are taking significant steps toward addressing climate change and safeguarding the future of Garissa County.
Furthermore, I want to acknowledge the collaboration and support received from various government agencies, departments and institutions. Your technical assistance, data sharing and consultations have significantly enriched the CCAP, enabling us to incorporate the best available knowledge and practices into the plan.
I extend my appreciation to the non-governmental organizations, community-based organizations and civil society groups that actively participated in the CCAP development. Your invaluable contributions and input have ensured that the CCAP is rooted in the needs and aspirations of our communities. Your dedication to environmental conservation and sustainable development has been pivotal in shaping the strategies and actions outlined in the plan.
Lastly, I would like to express my gratitude to the residents of Garissa County. Your engagement and participation in public consultations and stakeholder engagements have provided crucial insights and perspectives that have greatly influenced the CCAP. Your commitment to building a resilient and sustainable future for our county is inspiring.
To all those who contributed to the development of the CCAP, I extend my heartfelt thanks. Your dedication, collaboration and expertise have been pivotal in shaping this plan that will guide our efforts in addressing climate change in Garissa County.

Thank you.


Ahmed Mohamed Ibrahim
County Executive Committee Member
Water, Environment, Natural Resources and Climate Change

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## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AfDB | Africa Development Bank |
| ASAL | Arid and Semi-Arid Land |
| CCCAP | County Climate Change Action Plan |
| CCCF | County Climate Change Fund |
| CCCIS | County Climate Change Institutional Support |
| CCCRI | County Climate Change Resilience Investment |
| CCCU | County Climate Change Unit |
| CCD | Climate Change Directorate |
| CDM | Clean Development Mechanism |
| CECM | County Executive Committee Member |
| CGP | County Gross Product |
| CIDP | County Integrated Development Plan |
| CoGs | Council of Governors |
| CSA | Climate Smart Agriculture |
| EAC | East African Community |
| E-CIMES | Electronic County Integrated Monitoring and Evaluation System |
| EDE | Ending Drought Emergencies |
| FLLoCA | Financing-Locally Led Climate Action |
| GCF | Green Climate Fund |
| GDP | Gross Domestic Product |
| GEF | Global Environment Facility |
| GESIP | Green Economy Strategy and Implementation Plan |
| GHG | Greenhouse Gas |
| GoK | Government of Kenya |
| ICT | Information and communication technology |
| IRK | Islamic Relief of Kenya |
| IPCC | Inter-Governmental Panel on Climate Change |
| KCIC | Kenya Climate Innovation Centre |
| KMD | Kenya Metrological department |
| M&E | Monitoring and evaluation |
| MTP | Medium Term Plan |
| NAMA | Nationally Appropriate Mitigation Action |
| NAP | National Adaptation Plan |
| NCCAP | National Climate Change Action Plan |
| NCCC | National Climate Change Council |
| NDC | Nationally Determined Contribution |
| NDEF | National Drought Emergency Fund |
| NDMA | National Drought Management Authority |
| NEMA | National Environment Management Authority |
| PCRA | Participatory Climate Risk Assessment |
| SDGs | Sustainable Development Goals |
| UN | United Nations |
| UNDP | United Nations Development Program |
| UNFCCC | United Nations Framework Convention on Climate Change |
| WB | World Bank |

| | |
|---|---|
| WFP | World Food Programme |
| WMO | World Meteorological Organization |
| WRUAs | Water Resources Users Association |

## DEFINITION OF TERMS

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

The **carbon market:** A market that is created from the trading of units of GHG emissions. A carbon credit or offset is a financial unit of measurement that represents the removal of one ton 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.

**Resilience:** Refers to the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing 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 Garissa County Climate Change Action Plan (CCAP) is a strategic framework designed to address climate change and reduce greenhouse gas (GHG) emissions within our county. This plan is the outcome of an inclusive and comprehensive process that incorporated a participatory climate risk assessment (PCRA) conducted in all 30 wards. The PCRA identified drought, floods, pests, and diseases as the primary climate hazards affecting our region, highlighting their potential impacts on our communities, economy, and environment.

The CCAP recognizes the urgency to address these climate hazards and their associated vulnerabilities. It provides a roadmap to enhance our resilience and adaptive capacity, aiming to minimize the risks faced by our communities. Through the PCRA, we identified areas, key resources and different groups within the communities that are particularly vulnerable to these climate hazards, enabling targeted interventions to reduce their exposure and enhance their resilience.

The vulnerability assessment conducted as part of the PCRA has provided valuable insights into the specific risks faced by different groups within the communities. It has helped identify those who are most at risk and require immediate attention and support. By understanding the vulnerability status of our communities, we can prioritize actions and allocate resources where they are most needed.

The CCAP highlights four priority areas that require focused attention and action. These areas include disaster risk reduction, food security, nutrition and enterprise development; water and sanitation; and environment, energy, climate change and natural resource management. Each priority area addresses specific challenges and opportunities related to climate change. By emphasizing these priority areas, the CCAP ensures that our efforts are targeted and impactful, promoting holistic and sustainable development.

The CCAP is a dynamic document that will evolve and adapt to emerging information, technologies, and policies. Regular monitoring and evaluation will be conducted to assess the progress of implemented measures and identify areas for improvement. Through an iterative approach, we will continuously refine our strategies and actions to effectively address climate change challenges and enhance our resilience as a county.

By implementing the strategies outlined in the CCAP, we are committed to creating a climate-resilient county that safeguards our communities, natural resources, and economic well-being. Together, we can mitigate the impacts of climate hazards, strengthen our adaptive capacity, and build a sustainable future for all residents. The success of the CCAP relies on the active involvement and collaboration of community members, stakeholders, and decision-makers, as we work towards a resilient and prosperous county.

# 1. BACKGROUND AND CONTEXT

## 1.1 Introduction

The international response to climate change began with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. The Government of Kenya, through the UNFCCC process, is committed to protecting the climate system for the benefit of the present and future generations. Kenya participates actively in the international response founded on the UNFCCC framework. To achieve her commitments to climate change and mitigation actions, Kenya has enacted several policies and laws at the national level which include The Constitution of Kenya 2010, with Articles 42 and 69 providing for government and the people commitment to sustainably manage the environment; National Climate Change Action Plan NCCAP (2018-2022); National Adaptation Plan (NAP 2015-2030); The ClimateChange Act (2016); the Climate Change Fund (2017-2018); the Climate Finance Policy (2018) and the Nationally Determined Contribution (NDC 2015). All these policies, strategies, laws and regulations are geared towards providing actions that will lower GHG emissions, adoptionof green economy transition and helping Kenya meet its Nationally Determined Contribution (NDC) goal of abating the emissions by 32% by 2030, relative to business as usual.

Climate change is a shared responsibility between the National Government and County Governments, and the implementation of the Plan is coordinated by the two levels of the government in line with the Constitution of Kenya. The County Governments are responsible for a number of devolved functions whose climate change actions will contribute to the achievement of NCCAP 2023-2027, the Bottom-up Economic Transformation Agenda (BETA) and the Sustainable Development Goals (SDGs).

The Garissa County Climate Change Action Plan (CCCAP) for the period 2023-2028 represents a comprehensive strategy outlining the specific measures that the Garissa County government intends to implement in order to tackle the climate change challenges identified through the Participatory Climate Risk Assessment (PCRA) community engagement process. This action plan has been devised in response to a noticeable increase in the frequency of climate-related hazards, which have had detrimental effects on both the local economy and the livelihoods of Garissa County residents. The plan seeks to address these challenges head-on, ensuring the sustainability and resilience of the county in the face of a changing climate.

The development of the CCCAP is especially timely, given the heightened occurrence of climate-related hazards. These events have exerted considerable pressure on various sectors within the county, resulting in notable economic and societal impacts. Drawing from insights gathered in the PCRA report, the primary climate-related hazards identified encompass droughts, floods, climate-related disease vectors and pests, as well as conflicts arising from climate-induced resource constraints. Notably, key sectors such as agriculture, livestock, water, environment, tourism, wildlife, and health were singled out as being particularly susceptible to severe threats in Garissa County due to their high sensitivity to climate variations. Recognizing these vulnerabilities forms a crucial foundation for the targeted

interventions outlined in the CCCAP, aiming to fortify the resilience of these sectors and mitigate the potential impacts of future climate-related challenges.

The Garissa County Climate Change Action Plan (CCCAP) identifies four priority areas based on the susceptibility and vulnerabilities of key livelihood sectors. These areas encompass (i) Food and Nutrition Security and enterprise development; (ii) Disaster Risk Management; (iii) Water, health, and sanitation; and (iv) Environment, forestry, wildlife, and tourism. By focusing on these crucial domains, the climate change action plan aligns itself with the Government's Bottom-up Economic Transformation Agenda (BETA) and the attainment of Sustainable Development Goals (SDGs). Additionally, there are twenty crosscutting enabling actions that will be implemented. These actions aim to equip the County government and other stakeholders with the necessary knowledge, skills, technologies, and financial resources required to effectively execute and report on the planned climate change actions. These enabling actions encompass supporting policy and regulatory framework, capacity development and knowledge management, technology and innovation, climate finance, and the implementation of Measurement, Reporting, and Verification Plus (MRV+).

Furthermore, the CCCAP for the period 2023-2028 holds the potential to facilitate not only Garissa County but also Kenya at large in transitioning towards a low-carbon, climate-resilient mode of development. While giving due consideration to mitigation efforts, the CCCAP places greater emphasis on adaptation actions. This reflects a strategic response to the diminishing livelihood sources brought about by the unpredictability of climate conditions. By prioritizing adaptation, the plan aims to enhance the County's capacity to withstand and recover from climate-related challenges, ultimately ensuring the sustainability and well-being of its residents.

## 1.2 Purpose and process of developing the County Climate Change Action Plan (CCCAP)

Climate change has increased the frequency and magnitude of extreme weather events in Garissa County as is the case elsewhere in Kenya. The consequences have been diminished or lost pastoral livelihoods, recurrent crop failures, increased livestock mortality, loss of lives, increase in human and livestock diseases, rural -urban migration, invasion of invasive plant species, migratory pest and damaged infrastructure. Consequently, the successive climate change impacts over the past 10 years in Kenya have resulted in socio-economic losses estimated at 3.5% of the GDP annually despite having negligible global GHG emissions. Droughts are the main hydro meteorological hazards not only affecting livelihood negatively but also triggering resource-based conflict particularly in the Arid and Semi-Arid Lands (ASALs) of Kenya. Climate change is therefore a significant threat to the county's future development, including achievement of the Kenya Vision 2030 goals, the Government's Bottom-up Economic Transformation Agenda (BETA) and the attainment of the UN SDGs.

Through the Kenya Vision 2030, Kenya is expected to transform into a newly industrializing middle-income country providing a high-quality of life to all its citizens by the year 2030.

Unfortunately, climate change poses a great threat to its attainment. Therefore, to achieve the transformation as envisioned alongside the attainment of the SDGs, implementation of low carbon climate resilient developments that address both sustainable development and climate change can never be overemphasized. In recognition of this, addressing climate changeis now a top priority for both the National and County governments.

The CCCAP 2023-2028 proposes attainable actions in the four priority areas of Food and Nutrition Security and enterprise development; Disaster Risk Management; Water, health, and sanitation; Environment, forestry, minerals, wildlife, and tourism that aim to enhance resilience and reduce vulnerabilities of communities and systems affected by climate hazards. The plan places the coordination of disaster risk reduction, climate change adaptation and sustainable development at the centre of its planning and implementation. The plan is clear that adaptation is the main priority for the county because of the adverse socio-economic impacts related to climate change being experienced and the ever-increasing vulnerabilities of the different sectors.

The main goal of the CCCAP 2023-2028 is to provide mechanisms and measures to achieve low carbon climate resilience development in a manner that prioritizes adaptation and at the same time recognizing the essence of enhancing climate resilience. The CCCAP 2023-2028 was developed in a consultative manner through an elaborate process of identifying climate risks from the community level. The process of developing the action plan was through athree-tier process. It started with initial training of trainers (TOT) on the Participatory climate Risk analysis (PCRA) tool. Then countywide participatory climate risk analysis (PCRA) was undertaken at the community level that enabled generation of ideas on climate change related hazards; aimed at understanding and addressing the risks and vulnerabilities associated with climate change and adaptation strategies implemented at the local level. And finally, a multi-sectoral team from County and national government reviewed the different community reports and generated the Garissa County climate change action plan 2023-2028.
Multi-stakeholder approach and triangulation technique were used to develop the plan. The approach was informed by field reports from the Ward Climate Change Planning Committees (WCCPCs) and the technical sub-county sector heads from all the Garissa County's 30 wards, and the 12 sub-counties respectively. The reports were further complemented by the Participatory Climate Risk Assessments (PCRA) executed in all the wards to assess climate change related hazards, vulnerability, and local coping strategies. The community and sub-county sector and the PCRA reports were further strengthened with desk review of existing literature, and multi-stakeholder adaptation planning workshops held in Mombasa and Mwingi to document the climate change action plan to build strong climate resilient and well adapted communities in the arid Garissa County. The process was supported by the County Government of Garissa, the World Food Programme of the United Nations (WFP) and the Financing-Locally Led Climate Action (FLLOCA) Project of the World Bank/Government of Kenya

# 2. SITUATIONAL ANALYSIS AND COUNTY CLIMATE HAZARD

## 2.1 Situational Analysis

The World Meteorological Organization (WMO) report of 2021 records that between 1970 and 2019, more than 11,000 climate related disasters occurred globally leading to over two million deaths and US$ 3.64 trillion losses. Over the last 40 years, the planet has lost anestimated 40% of its arable land due to climate change disrupting the livelihoods of 1.3 billion people. Furthermore, occurrence of natural disasters has become more frequent and destructive and around 55 million people are affected by droughts annually while as many as700 million people are at risk of being displaced as a result of drought by 2030.

Furthermore, changes in weather and climate have significant impacts on many aspects of people's lives and particularly among populations whose livelihoods are directly dependent on natural resources. Climate change is a major global threat that adversely disrupts livelihoods especially of the poorest population. The accumulation of greenhouse gases on the Earth's atmosphere mainly as a result of human activities is predicted to increase temperatures on land and in oceans by between 1 to 6.4$^{o}$C by the end of the 21$^{st}$ century, according to IPCC 2013, leading to melt down of glaciers, rise in sea levels, change in intensity and frequency of weather patterns, ecosystems and biodiversity losses, disruption of livelihoods leading to food and nutritional insecurity, water insecurity and increased susceptibility to water borne diseases, and migration.

Despite its low contribution to greenhouse gases emission, Africa remains the most vulnerable continent to climate change impacts because of its sole reliance on weather sensitive activities and sectors according to the ADB report of 2021. Furthermore, seven out of 10 countriesthat are most vulnerable to climate change are in Africa. Climate change is a major threat toAfrica in achieving the Sustainable Development Goals (SDGs). Despite these challenges, African countries committed to take collective action to keep global temperature to no morethan 2$^{o}$C above pre-industrial levels. For the continent, adaptation to the adverse impacts ofclimate change is urgent and appropriate policy decisions and actions to minimize the adverse impacts of climate change are needed urgently.

Kenya's economy is largely dependent on climate sensitive sectors such as agriculture, livestock, and tourism. The country is classified as water scarce with over 80% of its area being classified as arid and semi-arid lands (ASALs). This means that the country is vulnerableto climate change and any slight increase in frequency of droughts accompanied by intermittent flash floods presents a major challenge to food and nutritional security, water quality and availability, health, infrastructure, environmental and biodiversity conservation especially in the ASALs. Extreme flood and drought events are estimated to reduce the country's GDP by 2.4% per year between 2019 to 2023 following five successive failed seasons, the number of Kenyans in need of relief assistance grew from three million to six million according to USAID report of 2021 and Kenya Food Security Steering Group report of

February 2023.

At the local level, Garissa County is vulnerable to acute human suffering and loss of development assets brought about by disasters. “Slow-onset’ hazards of drought and environmental degradation, and ‘sudden-onset’ of natural hazards such as floods, epidemics, pest infestations, human and livestock diseases, as well as resource-based conflicts have been experienced in the county in the past and if no action is taken, they might go out of control. Heat stress, prolonged dry spells, and drought are hazards that strongly contribute to agricultural risk in the County, especially in the northern parts of the County. The Tana River runs along south-western boarder of the county where flooding along riparian areas is also a risk, especially due to periods of rain upstream in the Tana River.

Whereas intense precipitation within Garissa County can directly contribute to flooding, especially along smaller seasonal rivers and streams, it should be noted that extreme precipitation events in upstream catchment areas of the river Tana, and which lie outside of Garissa County are more important in causing flooding along the riparian areas within the County.

Notably, drought is the prime recurrent natural disaster in Garissa. In recent times intense droughts have occurred in 1983/1984, 1991/1992, 1995/1996, 1998/2000, 2004/2005, 2008/2012, 217/2018 and 2021/2022 periods. Each of these events caused severe pasture and livestock losses, famine and population displacement. The loss caused by drought supersedes all other hazards combined with livelihood destruction being the main effect as well as continuing environmental degradation. During high stress periods, the natural resource base (water, pasture) becomes insufficient to support large numbers of livestock. This has forced several pastoralists to relocate livestock to neighbouring communities in in the Northern parts of the County (Benane, Balambala, Garbatula and Dertu) thus increasing cost of production as well as directly resulting to resource stress and conflicts. Other severe consequences of drought include increased livestock and human death, lack of water, higher temperatures, livelihood changes, and competition for the resources leading to conflicts and changes in human and animal behaviour. These has resulted in increased migration (both in and out of the county), livestock raids and deforestation.

Persistent occurrence of disasters threatens food security through disruption of cropping and pastoralist production and marketing activities. In recent decades, episodes of drought-induced food shortage and famine associated with conflicts have resulted in thousands of casualties, internally displaced persons and refugees, posing dilemma for long-term solutions. Such conflicts-related or ‘complex’ emergencies have been creating need for massive and prolonged relief operations and require the heavy use of social and economic assets in mitigation activities, thus derailing the counties’ aspiration for sustainable economic and social development.

## 2.2 Past County Interventions on Climate Change and Predicted Climate Change Trends

### 2.2.1 Introduction

In the recent past, the Country and the County experienced recurrent droughts intermittent with floods contributing to severe crop failures, death of livestock and wildlife, malnutrition, escalation of farmer-pastoralist, and human-wildlife conflicts and increase in mortality and morbidity especially among the vulnerable groups.

The residents of Garissa derive their livelihoods from natural resources that increasingly face threats from land degradation and desertification caused by climate change and unsustainable practices such as overgrazing, deforestation and destruction of wildlife habitats, mushrooming and haphazard settlements and water sources. The consequences are spiraling poverty and resource-based conflicts, biodiversity loss, soil erosion, pollution, depletion of water quantity and quality, and increased rural-urban migration as a climate change coping mechanism.

### 2.2.2 Overview of Past Climate Change interventions and Actions at the County

The past and current adaptation/resilience strategies for enhanced livelihoods to overcome climate risks and shocks include rehabilitation of strategic boreholes, enhancing large scale fodder production and preservation, restoration of degraded rangelands, integrating climate service information/early warning system, promotion of drought-tolerant and flood-tolerant variety of crops and trees, promotion of climate smart agriculture technologies, innovations and management practices, development of flood control dams/structures along seasonal and permanent rivers and improving vectors and disease surveillance & response. Other actions include improvement of animal health service delivery, increasing the resilience of livestock systems, operationalization and strengthening of community peace and resource-based institution structures and norms, development of climate-friendly peace and conflict management policies as well as capacity building community and stakeholders.

The County Integrated Development Plan serves as a strategic planning document for Garissa County. It integrates various sectors and outlines the county's development priorities, including climate change adaptation and mitigation. The CIDP incorporates policy statements supporting climate risk assessment and promotes climate-resilient development. Similarly, all sectors have mainstreamed climate change related issues in policy and other planning documents including sectoral plans, annual development plans, and annual work plans and budgets.

### 2.2.3 Garissa County Background Information

Garissa county is located in the Northeastern region of Kenya. It borders Somalia to the East, Lamu county to the South, Tana River County to the West, Isiolo to the Northwest and Wajir county to the North. The county covers a land area of approximately 44,736 $km^2$, making it the 7th largest county in Kenya. It has 7 sub-counties, which are further sub-divided into 30

County Wards as shown in table 1 below.

**Table 1: Sub counties and Wards in Garissa County**

| No | Sub Counties | Wards | No | Sub Counties | Wards | No | Sub Counties | Wards |
|---|---|---|---|---|---|---|---|---|
| 1 | Balambala | Balambala | 11 | Fafi | Jarajila | 21 | Hulugho | Hulugho |
| 2 | Balambala | Danyere | 12 | Fafi | Fafi | 22 | Hulugho | Sangailu |
| 3 | Balambala | Jarajara | 13 | Fafi | Nanighi | 23 | Ijara | Masalani |
| 4 | Balambala | Saka | 14 | Fafi | Bura | 24 | Ijara | Ijara |
| 5 | Dadaab | Dertu | 15 | Fafi | Dekaharia | 25 | Lagdera | Modogashe |
| 6 | Dadaab | Dadaab | 16 | Garissa | Township | 26 | Lagdera | Benane |
| 7 | Dadaab | Labisgale | 17 | Garissa | Waberi | 27 | Lagdera | Goreale |
| 8 | Dadaab | Damajale | 18 | Garissa | Sankuri | 28 | Lagdera | Maalimin |
| 9 | Dadaab | Liboi | 19 | Garissa | Iftin | 29 | Lagdera | Sabena |
| 10 | Dadaab | Abakaile | 20 | Garissa | Galbet | 30 | Lagdera | Baraki |

Garissa, Modogashe, Balambala, Bura, Masalani, Hulugho and Dadaab are the major towns while Garissa town in the township ward, serves as the main headquarter and the primary location for the administrative offices. It hosts Garissa University and Garissa Medical colleges, and it serves as the main business hub for the county.

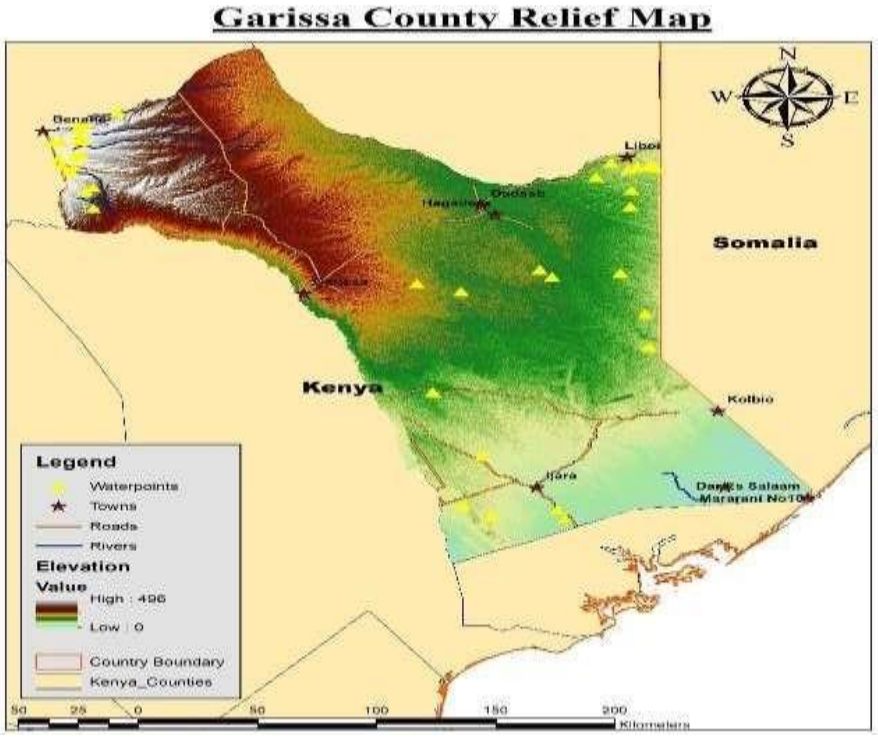
### 2.2.4 County Profile and Climate Trends in the county

Temperatures in the county are generally high throughout the year with an average temperature of $36^0$C. The hottest months of the year are September and January to March with maximum temperatures of $39^0$C, while the coolest months are April to August with minimum temperatures of $20^0$C. The county receives an average of 9.5 hours of sunshine per day. Strong winds are also experienced in the county between April and August with the rest of the months getting calm winds.

#### a. Relief

On the southern part of the County towards the Indian Ocean, the County rises from an altitude of about 100ft above sea level, 432ft in Garissa area to 1600ft in Benane, the northwestern most area of the county and the highest altitude point as well. The county is largely low lying and has minimal changes in elevation as shown in the county relief map (Fig. 1) below. Most areas are remote with minimal developmental investments due to scarce resources. This type of topography is ideal for pastoralism and irrigated agriculture economic activities but also provides a risk factor for most climate related hazards.

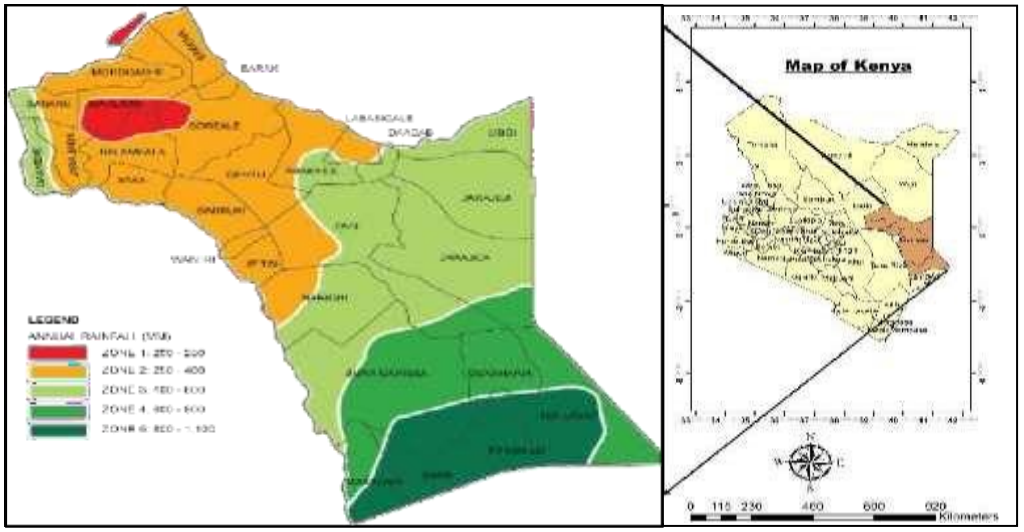
**Fig. 1: Garissa County Relief Hazard Map**




## b. Rainfall

The county receives an average annual rainfall of 280 mm and a range of 200-1,100mm but communities have reported a decrease in the amount of rainfall received in the past few years. There are two main rain seasons, the short rains which occur between October to December and the long rains which occur between March to May. Rainfall distribution is marked with high variability (short torrential downpour) making it unreliable for vegetation growth and conventional crop production unless supported by technologies for dryland farming or irrigation. The county hazards are shown on fig. 2.

**Fig. 2: Garissa County Climate Hazard Map**



The likely effects of climate change in the County are significant increases in year-round temperatures, increased intensity of rainfall during rainfall seasons, shift in rainfall onset and cessation dates, increases in frequency of extreme weather events from year-to-year weather variation.

## 2.3 Climate Change Impact at the County Level

### 2.3.1 Introduction

The county is rich with unique endemic and endangered biodiversity and wildlife but faces threats from recurrent droughts. Examples of these unique species are Hirola antelope, reticulated and white giraffes, Grevey's zebra, African wild dogs and the Tana River poplar *Populus ilicifolia*. The environment and land resources in Garissa are degraded mainly due to climate related factors exacerbated by climate shocks such as deforestation for crop farming, overgrazing, settlements, infrastructure, water sources and mining. Moreover, there are no land use plans nor are their implementable physical plans for sustainable management and use. Further, only 1% of the land has been titled.

The unsustainable land use practices accelerate land degradation or productivity loss. Insecure ownership created by conflicting laws, warring customary institutions and insufficient information has left livelihoods of many county residents at risk to climate change that further destabilizes land ownership and management. Such insecurity hampers economic development by discouraging household investment and increasing county internal migration. Unfortunately, there is inadequate pasture/fodder within the county and as a coping mechanism to climate shocks, livestock trek hundreds of kilometers to neighboring counties such as Tana River, Lamu, Kilifi, Taita Taveta, Isiolo, Tharaka Nithi, Meru and Wajir, and at times to Somalia in search of water and pasture.

Environment and land use in Garissa has gradually changed from pure nomadic pastoralism in the 1900s to the current diverse uses (nomadic pastoralism, agro-pastoralism, trade in towns and settlements, and socio-development infrastructure) but all these happened without consideration of the effect of climate change nor on the basis of land use and physical plans. As the population increased and the adverse impacts of climate change set in, settlements and water pans mushroomed throughout the county, leading to a reduction of available communal pasture lands. Furthermore, upon losing livestock to droughts, pastoral fallouts and pastoral dropouts have turned to crop farming, clearing riparian forests. The situation is further aggravated by the invasion of *Prosopis juliflora* (Mathenge) weed, which has been favored by climate change, negatively affecting biodiversity. Poverty levels have also increased leading to cutting down of the much-needed fodder trees for charcoal production, firewood and construction. The Participatory Climate Change Analysis conducted in the County exposes the significant impacts of climate change on the key sectors in the County.

**a. Environment, Natural Resources, Wildlife and Tourism**

The arid environment of Garissa has tree coverage of 13% mostly consisting of the Boni-Ijara

Forest that covers approximately 400,000 Ha, riparian and hinterland woodlands. Boni-Ijara Forest is an indigenous open canopy forest and part of the Northern Zanzibar-Inhambane coastal forest mosaic. It harbors dense plant species, and the forest has been declared a biodiversity hotspot. Unfortunately, the forests and woodlands are threatened with deforestation for wood fuel, fodder, and conversion to irrigated crop farming as a coping mechanism. Although sources of green energy (e.g., solar, wind) are plentiful, the majority of the people of Garissa depend on fuelwood to meet their energy requirements causing environmental degradation and contributing to environmental pollution. Further, the rapid spread of *Prosopis juliflora* exacerbates environmental degradation.

Garissa hosts three major national reserves namely, Boni, Rahole and Arawale game reserves and one conservancy Ishaqbini-Hirola, a sanctuary established to conserve the highly endangered Hirola antelope. The national reserves and conservancies provide a haven for a wide diversity of wildlife and plant species: buffalo, Hirola antelope, Jackson's hartebeest, Grant's gazelle, aardwolf, warthog, reticulated and white giraffes, dik-dik, birds and Somali ostrich, lion, hyena, African wild dogs, cheetah, hippopotamus, bushpig, warthog, buffalo, common duiker, topi and waterbuck and the endemic species such as gerenuk, which roam freely in the plains.

The impacts of climate change on the environment, natural resources, wildlife and tourism sector based on the main hazards are;

- Increased catchment destruction due to charcoal burning, crop farming and extraction of construction materials.
- Wildfire outbreaks due to high temperatures, wind and decrease in rainfall.
- Vegetation covers dry-off exposing the topsoil to agents of erosion, this coupled with poor land use practices in the region such as cutting down of trees for fuel, wood and charcoal burning for income and overgrazing result to land degradation. This situation has also been exacerbated by the growing population pressure and migration of refugees into Dadaab Camp with increased demand for firewood for cooking thus putting a further strain on the environment.
- Though floods provide an opportunity to improve access to water resources in most parts of the County, they pose harm to the livelihoods of the communities living along the Riverine Tana through destruction of crops, property, infrastructure, and vegetation as well as causing soil erosion.
- Conflict over natural resources is commonplace in Garissa especially among pastoralist communities. Their conflicts involve disagreements around water and grazing sites, administrative and constituency boundaries.
- There is also increased resource-based conflicts and insecurity between pastoralist-farmers, farmers to farmers, increased gender-based violence, human-wildlife and inter-community conflicts.
- Loss of life/injuries: Pastoral conflicts in most cases lead to some injuries and often result in considerable loss of life and property and maiming of people, particularly when they are armed conflicts or external-directed.

In terms of energy, an estimated 93.2% of the county's population use firewood and charcoal as a source of energy, and a paltry 1% of the population mainly in towns have access to electricity.

The Government has also installed solar power systems in institutions such ashealth facilities, schools, and watering points. Except for the Chinese-supported Raya Solar Firm that generates 54 MW, the use of renewable sources of energy such as biogas, wind andsolar remain low in the county. Unlike wood biomass and biogas that are affected by climatechange, wind and solar energy are not.

In the onset of drought, pastoralists' children in the county often drop out of school as they move with their parents in search of firewood, water and pasture. This situation impactsmostly the girl child whose education is severely hampered as they are withdrawn from schoolto support their mothers in search of food and water or take care of their siblings as their parents search for food. In other instances, they are married off early for the family to recover livestock and access food.

### b. Water Resources and Waste Management

The county is generally water-scarce with acute water shortages experienced during the dry seasons. Only 23.8% of the population have access to safe drinking water. On waste management, there is no proper waste management as for instance 49.4% of Garissa use toilets while about 50.6% use open defecation in bushes according to statistics at the county. The major water sources in the county are the river Tana, pans, natural ponds, boreholes and seasonal riverbeds (*Laghas*). The river provides an opportunity for small- and large-scale irrigation over large floodplains often covered with alluvial soils rich in nutrients for plant growth. These flood plains are an important resource for pasture during dry seasons and serve as a refuge during drought conditions for pastoralists.

Other sources of water are open sources such as the flood plains of Lagdera and Fafi, water pans, natural ponds and depressions along the many dry riverbeds. People also access water from a few sand dams and boreholes (mainly found north of the county). As a result of climate change, most of the open water sources remain dry for eight months and the few remaining sources are overcrowded with human and livestock populations contributing to gross contamination of the sources. Additionally, because of overgrazing, the catchment remains degraded. There are high costs of water tracking, high cost of borehole maintenance during drought periods to try to match the water demand by residents. Poor water quality and sanitation especially from open water sources leading to water borne diseases e.g., cholera, diarrhea, typhoid especially on the vulnerable (children, elderly and women). Escalation of waterborne diseases including cholera, diarrhea and typhoid and inability for children to attend school are the secondary effects of climate change.

### c. Livestock and Pastoralism

The main socio-economic activity for the residents of Garissa County is nomadic pastoralism. Much of the County's livestock population are indigenous and drought resilient Boran cattle,

Somali/Galla goats and black headed Persian sheep which are found in all parts that receive below average rainfall, while camels (dromedary one humped) occupy mainly the drier northern part of the county. The estimated livestock population as per the 2019 censuses are cattle (1,322,540), sheep (1,684,522), goats (2,318,400), camel (450,000), donkeys (160,000), and poultry (54,010). The main livestock products obtained in the county are meat, milk, hides and skins. In dry seasons livestock productivity decreases due to reduced water and vegetation cover.

The most susceptible to drought are the grazers (sheep and donkeys), goats and camels in that order. However, as the intensity of the drought increases all types of livestock succumb to the disaster. Furthermore, in recent times, locusts and wildfires also contribute to destruction of the much needed already inadequate pastures. To avoid deaths of the livestock, there is a general migration of livestock from the hinterland to areas which have permanent water sources, such as near river Tana and boreholes where water is readily available. As a coping mechanism to drought, some pastoralists move with their livestock to adjacent counties and the neighboring country of Somalia in search of pasture and water.

As drought takes its toll on livestock, pastoral fallouts and pastoral dropouts migrate to major centers and towns within and away from Garissa. Though rare, when beyond normal rainfalls are received, outbreaks of waterborne diseases that negatively impact livestock such as Rift Valley Fever (RVF) are common.

In addition, the spread of Prosopis as an invasive plant species has led to displacing all herbaceous and grass species wherever they are growing which as a result causes livestock suffering due to reduced availability of forage. Land which used to be for cropping and forage production for livestock has been taken over by invasive species hence leading to reduced productivity. Generally, economic losses effects are manifested in control costs and reduced productivity.

### d. Crop and tree farming

Smallholder irrigated farming activities are common along the river Tana with approximately 6,000 Ha of land under irrigation against a potential of 32,000 Ha. The main crops grown include Bananas, mangoes, citrus fruits, pawpaw, watermelons, sweet melons, tomatoes, capsicum, onions, maize, cowpeas, and rice. Except for irrigation along the river Tana, rainfed farming (sorghum, maize, cowpeas, green grams) has not yielded tangible products for the past three years. Unfortunately, it is estimated that 40% of the meagre harvests made are lost to pests, diseases, and wildlife. Wildlife menace and pests and diseases attacks on crops increase with the intensity of the drought. The most problematic pests experienced are the migratory pests which the county has experienced in the recent past. These are the tomato leaf miner (*Tuta absoluta*), the African Armyworm, tree locusts and the Desert Locusts. The locusts invade usually following a period of above normal rainfall season, and usually drawing back on the potential gains to crop productivity.

Moreover, losses in the form of deaths, injuries, yields, irrigation infrastructure and destruction of properties are met from perennial floods especially along the river Tana. In some instances, excessive river floods cause changes of river course, making subsequent irrigation operations more costly in extensions of irrigation infrastructure. The flood prone areas of the county like Garissa Township, parts of Balambala and Ijara are highly impacted both economically and physically in the event of a flood episode. (e.g., total of 293 Group farms were affected with an estimated 3,384 Ha of farmland affected) leading to loss of main livelihood for over 15,000 Households in 2015/2016

### 2.3.2 Summary of Climate exposure and vulnerability of key groups and livelihoods

Changing Climate has the three elements of vulnerability including exposure, sensitivity, and adaptive capacity. According to the IPCC, vulnerability is the susceptibility of a species, system, or resource to the harmful consequences of climate change and other stressors. Sensitivity describes the ability of a species to tolerate and endure in the face of shifting environmental conditions through local or regional adaptation.

Finding out how the prioritized risks might affect various community resources and livelihoodsis the goal of the community vulnerability assessment. The economic assets/resources, physical capital, social capital, and natural capital are used to categorize the community resources and livelihoods. According to the participatory community vulnerability assessments in the wards, drought has the most detrimental consequences on the resources of the community followed by livestock diseases, while floods rank last. In general, these resources' susceptibility to the three main dangers has grown over time.

Physical resources are least sensitive to climate hazards, but human, economic, and social resources are most exposed to priority risks. The most at risk are livestock, petty trade shops and human health assets, followed by families, women's groups, paid labor and co-ops, water and pasture. Migration from other places puts livestock at risk because it increases competition for pasture and herd mixing, which increases disease transmission, particularly in bodies of water. Common climate change related livestock diseases include Acute camel death syndrome (ACDS), upsurge of livestock pest and vector borne diseases.

## 2.4 Policy and Institutional gaps

Garissa is among the few counties that have enacted Climate Change Fund and Environmental Management and Coordination Acts. Similarly, it has put in place a Climate Change Policy. The challenge has been the availability of resources to fully implement and enforce the legislation. Consequently, there is an urgent need to mobilize resources for the implementation and enforcement of the acts to reduce adverse impacts of climate change.

# 3. POLICY ENVIRONMENT

## 3.1 Global, Regional and National Context

The global framework for addressing climate change is primarily guided by the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. These international agreements provide the foundation for global cooperation in combating climate change and its impacts. United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, is a treaty that serves as the foundation for international cooperation on climate change. Its ultimate objective is to stabilize greenhouse gas concentrations in the atmosphere at a level that prevents dangerous human interference with the climate system. The UNFCCC sets out general principles and commitments for addressing climate change, such as promoting sustainable development, facilitating technology transfer, and providing financial and technical assistance to developing countries. Another frameworkis the Kyoto Protocol, adopted in 1997 and implemented in 2005, is an international treaty under the UNFCCC. It establishes binding emissions reduction targets for developed countries and established mechanisms for promoting emissions reductions, including emissions trading and the Clean Development Mechanism (CDM).

The Paris Agreement, adopted in 2015 and entered into force in 2016, is a landmark global agreement aimed at limiting global warming well below 2 degrees Celsius above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius. Unlike the Kyoto Protocol, the Paris Agreement involves contributions from all countries, including both developed and developing nations. Each country sets its own nationally determined contributions (NDCs) to reduce greenhouse gas emissions and regularly reports on its progress. The Paris Agreement also establishes a framework for climate finance, technology transfer, capacity-building support, and transparency in reporting and review.

The Paris Agreement mandates a global stock take to assess collective progress towards achieving the Agreement's goals. The stock take occurs every five years and evaluates the implementation of climate action, including mitigation, adaptation, finance, technology, and capacity-building efforts. It aims to inform the updating of NDCs and facilitate increased ambition over time.

These global frameworks provide a roadmap for international cooperation on climate change, facilitating collective action, knowledge sharing, and progress towards a low-carbon and climate-resilient future. The implementation and effectiveness of these agreements depend on the commitment and actions of individual countries, as well as collaboration among governments, businesses, civil society, and other stakeholders.

At the regional level, Agenda 2063 is a strategic framework for the socioeconomic transformation of Africa over a 50-year period, from 2013 to 2063. It envisions a prosperous and united Africa, driven by its citizens and capable of addressing the continent's challenges, including climate change. The agenda focuses on key priority areas such as sustainable economic growth, infrastructure development, human capital development, good governance, and environmental sustainability. While climate change is not its central focus, Agenda 2063 acknowledges the importance of addressing environmental challenges, including promoting sustainable development practices and transitioning to a low-carbon, climate-resilient future. The East African Community (EAC) is an intergovernmental organization composed of sixEast African countries: Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda. The EAC

Secretariat serves as the executive arm of the community and is responsible for implementingits policies and programs. Within the EAC, climate change and environmental sustainability are key areas of focus. The Secretariat works towards enhancing regional resilience to climate change, promoting sustainable management of natural resources, and coordinating regional efforts in areas such as renewable energy, water management, and climate change adaptation.

African Forest Landscape Restoration Initiative (AFR100): AFR100 is a pan-African initiative launched in 2015 that aims to restore 100 million hectares of degraded landscapes across Africa by 2030. The initiative focuses on forest landscape restoration, which involves rehabilitating degraded forests, promoting sustainable land management practices, and enhancing ecosystem resilience. AFR100 brings together governments, civil society, and private sector stakeholders to drive restoration efforts. It aims to harness the social, economic, and environmental benefits of restored landscapes, such as climate change mitigation, biodiversity conservation, and improved livelihoods for communities.

At the national, the climate change is guided by the country's climate change policy and supported by various strategies, plans, and institutional arrangements. The country's efforts are aligned with international and regional commitments, and they aim to integrate climate change considerations into broader development planning and sustainable growth strategies.

Kenya's National Climate Change Policy provides a comprehensive framework for addressing climate change challenges in the country. It sets out the guiding principles, goals, and strategies for climate change adaptation, mitigation, and mainstreaming across sectors.

Kenya passed the Climate Change Act in 2016, which provides a legal framework for climate change governance and implementation. The Act establishes institutions, defines their roles and responsibilities, and outlines mechanisms for climate change planning, coordination, and financing.

The NCCAP is a strategic plan that outlines Kenya's priority actions for climate change adaptation and mitigation. It identifies specific projects and programs in key sectors, such as agriculture, water, energy, forestry, and infrastructure, to address climate change challenges and enhance resilience.

National Adaptation Plan (NAP)**:** Kenya has developed a National Adaptation Plan that focuses on building resilience to climate change impacts. The NAP identifies priority sectors and regions, assesses vulnerabilities, and provides strategies and actions to mainstream adaptation into development planning and decision-making processes.

**Nationally Determined Contributions (NDCs):** Kenya has submitted its NDCs under the Paris Agreement, which outline the country's mitigation and adaptation contributions. The NDCs include targets for reducing greenhouse gas emissions, renewable energy goals, and strategies for climate resilience in sectors such as agriculture, forestry, and energy.

**Climate Change Directorate:** Kenya has established a dedicated Climate Change Directorate within the Ministry of Environment and Forestry to oversee climate change planning, coordination, and implementation. The directorate coordinates with various stakeholders and provides technical support for climate change initiatives.

**Climate Finance:** Kenya aims to mobilize climate finance from various sources to support its climate change efforts. This includes seeking funding from international climate finance mechanisms such as the Green Climate Fund, as well as domestic resource mobilization for climate projects and programs.

## 3.2 County Enabling Policy and Legal and Framework

Garissa County Government has over time developed various policy and regulatory frameworks for climate change as required by the Climate Change Act, 2016 and other legal frameworks to mainstream climate change in the County Integrated Development Plans (CIDPs). In Garissa County, there are several enabling policies and laws that will govern the implementation of the climate change action plan 2023-2027.

### 3.2.1 County Climate Change Fund Act (2018)

The GCCCF was enacted to facilitate community-initiated Climate Change Adaptation and Mitigation projects, and for connected purposes. The object of this Act is to create a fund in the County for the purpose of facilitating Climate Finance in the County; Establishing Climate Finance mechanisms in the County; Facilitating planning for Climate Change Adaptation and Mitigation in the county planning and budgetary framework; Initiating and coordinating Climate Change Adaptation and Mitigation frameworks at the community level in the County; Facilitating community-initiated Climate Change Adaptation and Coordinating support from National Government Climate; and Mitigation activities in the County among other functions. The Act requires the County Government to set aside 2% of its annual development budget in a special fund for climate change programmes. The fund undertakes programs to assist local people to adapt to climate change. The Act also establishes the Garissa County Climate Change Fund Board, the Fund Administrator, the Fund Steering Committee and the Ward Planning Committee. The climate change Act will be crucial in the implementation of the Garissa County climate change action plan in relation to funding projects related to climate change.

### 3.2.2 County Disaster Risk Management Act (2023)

The law was enacted to provide for the effective management of disaster risks at all levels: mitigation, prevention, preparedness, response and recovery from emergencies and disasters. The objects and purpose of this Act among others, are to establish an efficient structure for the management of disasters and emergencies in the county; ensure preparation and implementation of a County Disaster Management Plan; and take all necessary actions to prevent or minimize threats to life and the environment from natural disasters and other emergencies especially resulting from effects of climate change. The Act also establishes the

County Disaster Risk Management Fund, expected to be utilized towards meeting the expenses for emergency preparedness, response, mitigation, risk reduction, relief and reconstruction in the county after the occurrence of a disaster.

### 3.2.3 Disaster Risk Management Policy (2021)

The Disaster Risk Management Policy provides the County with an effective and efficient framework for disaster risk management focusing on suitable preparedness and response to disasters as part of the county planning mechanism and to facilitate effective and timely response to disasters. The policy outlines elaborate strategies, institutions and funding mechanisms for various interventions for reducing disaster risk through enhanced participation of all stakeholders. It also lays the foundation for effective and better coordination of the stakeholders involved in managing disaster risks at all levels in the county. This policy will be of importance during the implementation of the climate change action plan especially in relation to projects and activities related to disasters in the county. The structures for implementation created by DRM policy will be used in the implementation of the County Climate Change Action Plan.

### 3.2.4 Garissa County Climate Change Policy (2021)

The goal of this Policy is to enhance adaptive capacity and resilience to climate change and promote low carbon development for sustainable development of Garissa County. The Policy establishes key institutions and interventions to respond to climate change appropriately. These include, among others establishing climate change legislation to provide the framework for a coordinated implementation of climate change responses and action plans and mainstream climate change into county planning processes including development plans.

### 3.2.5 Climate Change Action Plan Financing and Resource Mobilization

Financing the implementation of the Climate Change Action Plan is a top priority for the County to achieve low carbon climate resilient development. There exist county funds such as the Garissa Climate Change Fund Act that guide the implementation of climate change related projects and activities and DRM projects. The Act established the County Climate Change Fund Board, the Fund Administrator, the Fund Steering Committee and the Ward Planning Committee. Climate financing from this fund includes all finances that targets low-carbon or climate-resilient development; and includes domestic budget allocations, public grants and loans from bilateral and multilateral agencies, and private sector investment.

### 3.2.6 Garissa County Water Management Act 2018

The law was enacted to provide for a legal framework for implementation of water conservation and water and sanitation services. Overall, effective water policy aims to ensure the sustainable and equitable use of water resources, while protecting the environment, promoting public health, and supporting economic development.

### 3.2.7 Garissa County Water Management Policy 2016

This policy will play an important role in the development of water that is largely anchored in the wider socio-political vision of sanitation and health, disaster risk reduction, livestock, food

security, industries, and employment. The policy will give impetus to the progressive realization of the right to water and sanitation enshrined in the constitution by resolutely focusing on what impedes effective implementation of integrated water development. At the same time deploy coordination, management, and knowledge systems to make it easier and embrace different stakeholder contributions.

### 3.2.8 Garissa County Environmental Management and Co-Ordination Act, 2018

The Act provides a framework for an integrated approach to planning and sustainable management of the County's environment and natural resources, strengthen the legal and institutional framework for good governance and effective coordination and management of the environment and natural resources, and encourage communities within Garissa County to effectively participate in the management of the environment and natural resources. The act also establishes a county environment committee whose function is to supervise and coordinate all matters related to the environment and natural resources and implementation of policies.

## 3.3 Implementation and Coordination Mechanisms

The Council of Governors (COG) has provided guidelines to set out Institutional structures and responsibilities that guide the oversight and coordination of climate change affairs at the County level. For instance, the Guidelines for Establishment and Running County Climate Change Units 2019 provides for sufficient institutional arrangements and enables the environment to achieve low carbon climate resilient development at the County Level. The responsibilities of the main institutions engaged in the oversight, implementation and monitoring of climate change are described in annex 2.

### 3.3.1 County Climate Change Planning Committee

The Garissa County Climate Change Fund Act section 15 establishes the climate change steering committee as one of the core coordinating structures that comprise technical directors from line ministries. the functions of the committee include facilitating and monitoring the implementation of the Climate Finance programs at the ward level, coordinate technical assistance from County departments to projects funded under this Act and ensure that projects approved for funding conform to the Climate Finance Framework

### 3.3.2 Ward Climate Change Planning Committee

The Garissa County Climate Change Fund Act section 19 establishes the Ward Climate Change Planning Committee consisting of local leaders, Public Benefit Organization, Faith Based Organization and eight community representatives. The functions of the committee include consulting the community on relevant climate finance activities, facilitating public participation at ward level, developing project proposals, and monitoring and reporting the implementation of projects at the ward level.

# 4. PRIORITY CLIMATE CHANGE ACTIONS

The Garissa County Climate Change Action Plan (CCCAP) takes cognizance of the climate hazards in the county and their impacts on all the livelihoods and socio-economic sectors that was identified in the County PCRA report and focuses on the adaptation strategies from the data findings in the wards.

The CCCAP takes a cross-sectoral perspective and focus on strategic investment priorities that strengthen the adaptive capacity and resilience of socio-economic systems that are in line with the PCRA strategic adaptation investment/ Action Priorities as well the third generation CIDP. The strategic adaptation investments address the needs of all vulnerable wards/populations/communities to enhance their resilience on these four prioritized areas based on the susceptibility and vulnerabilities of key livelihood sectors. These areas encompass (i) Food and Nutrition Security and enterprise development; (ii) Disaster Risk Management; (iii) Water, health, and sanitation; and (iv) Environment, forestry, wildlife, and tourism. By focusing on these crucial domains, the climate change action plan aligns itself with the Government's Bottom-up Economic Transformation Agenda (BETA) and the attainment of Sustainable Development Goals (SDGs). Additionally, there are twenty crosscutting enabling actions that will be implemented. These actions aim to equip the County government and other stakeholders with the necessary knowledge, skills, technologies, and financial resources required to effectively execute and report on the planned climate change actions.

## 4.1 Priority Area 1: Food and Nutrition Security and Enterprise Development

Climate change is negatively impacting agricultural productivity and the resilience of value chain actors, including households. An increase in the severity and frequency of climate change-related disasters, such as droughts and floods pose threats to food security, and negatively impacts small-scale and large-scale farmers, pastoralists, and fisher communities thereby impacting on the achievement of the big four agenda on food and nutritional security. The achievement of SDG goals number 1, 2, 5, 10, 12, 13 and 15 depends on developing plans to mitigate the impact of climate change on these SDGs. To mitigate these effects, there is a need to increase food and nutrition security and diversification of livelihoods by enhancing productivity, resilience, and enterprise development in the agricultural sector.

To achieve this objective, the county government of Garissa will implement programs that will:

i. Improve productivity in the livestock, crop, and fisheries sectors through Climate Smart Agriculture related interventions.
ii. Enhance climate proof and environmentally friendly crop and livestock enterprise diversification, transformation and commercialization using VC approach.

**Table 2: Priority Area 1: Food and Nutrition Security and Enterprise Development**

| Priority Action | Outcome | Adaptation/Mitigation n |
|---|---|---|
| Improve productivity in the livestock, crop, and fisheries sectors through the | • Sustainable rangeland management supported through improved governance systems and rehabilitation/ restoration of degraded rangelands using CSA technologies | Adaptation |
| | • Increased fodder production, conservation, and marketing in the irrigated areas | Adaptation |

| | | |
|---|---|---|
| implementation of CSA interventions. | • Annual water harvesting and storage Increased through construction of large multipurpose dams in strategic fallback areas and along livestock migratory routes | Adaptation/Mitigation |
| | • Access to underground water increased through development of strategic boreholes in fallback areas and along livestock migratory routes | Adaptation/Mitigation |
| | • Pastoral livelihoods protected against emerging/re-emerging climate change induced pest and diseases through enhanced disease surveillance, control, and management system | Adaptation/Mitigation |
| | • Livelihoods of vulnerable pastoral farmers protected against climate-related risks through implementation of forage-based index insurance scheme | Adaptation |
| | • Manure management improved through the adoption of biogas technology by Households and at abattoirs and borehole watering sites. | Adaptation |
| | • Reduced climate change related human-wildlife and pastoralist farmer conflicts within and outside the county | Adaptation |
| | • Increased households adopting water harvesting technologies for agricultural use/production | |
| | • Increased number of farmers accessing subsidies for appropriate agricultural inputs | Adaptation |
| | • Increased area under integrated soil and water conservation | Adaptation |
| | • Total area under agroforestry at farm level increased | Adaptation/Mitigation |
| | • Reduction in agricultural pre- and post-harvest losses (40% to 15%) | Adaptation |
| | • Increased acreage under irrigated crop production. | Adaptation |
| | • Improved production efficiency in irrigated crop fields increased | Adaptation |
| | • Aquaculture production increased | Adaptation |
| **Enhance diversification and commercializationon of Agricultural Value chains** | • Increased number of households adopting diversified enterprises/value chains for sustained livelihoods and nutrition security | Adaptation |
| | • Small-scale famers, pastoralists, and fisher communities supported to transition to specialized and market-oriented output in 8 priority value chains, including drought-tolerant values chains | Adaptation |
| | • Small scale farmers and pastoralists of priority VCAs supported in accessing markets and market information services | Adaptation |
| | • Crops and livestock priority VCAs linked to financial service providers | Adaptation |

## 4.2 Priority Area 2: Disaster Risk Management

Garissa County faces a wide range of climate-induced hazards including drought, floods, human and animal pests and diseases and resource-based conflicts that impact on the development of the county. These hazards have county economic consequences and extensive socio-economic effects at the household and community levels, especially for vulnerable groups, such as women, older members of society, persons with disabilities, children, youth, and members of marginalized and minority communities. While there are measures in place to counter the effects of disasters in the county, the availability of resources, coordination of Climate Change Adaptation and Disaster Risk Reduction strategies among other issues have always presented a challenge for the county to comprehensively manage disaster risks.

Current responses are reactive rather than proactive and impeded by limited support to build disaster preparedness. Climate related disasters such as flood and drought could prevent the achievement of development agenda (agenda 4), the impacts of climate related disasters are felt at Households level through food insecurity, damage to property and increase of food prices, fuel and other commodities. At the county and national level where resources are scarce, money is re-allocated to address the expense of development. The implementation of this action plan will promote the achievement of food security, affordable housing of the BigFour Agenda and further lead to the attainment of SDG goals 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13 and 17.

Guided by the Sendai Framework for Disaster Risk Reduction (SFDRR 2015-2030), with the overall objective to substantially reduce risks to communities and infrastructure resulting from climate-related disasters, the County Government of Garissa will:

i. Improve the ability of communities to cope with drought.
ii. Increase number of households and entities benefiting from devolved adaptive services.
iii. Improve ability of people to cope with, and infrastructure to withstand floods.
iv. Improve resource-based conflict resolution mechanisms.
v. Establish and strengthen government-led governance and coordination structures.

**Table 3: Priority Area 2: Disaster Risk Management**

| Priority Action | Outcome | Adaptation/Mitigation |
|---|---|---|
| **Improve ability of communities to cope with drought** | • Drought early warning information systems improved, including the promotion of people-centered systems at the County, sub counties and ward levels. | Adaptation |
| | • Enhanced reliability of multi-hazards early warning through Integration of the scientific and indigenous knowledge | Adaptation |
| | • Climate information services disseminated in all 30 wards in the county through ward planning climate change committee | Adaptation |
| | • County Climate Emergency Fund and County Disaster Emergency Fund operationalized and synergized | Adaptation |
| | • Periodic assessment reports generated and updated data on DRM for public use. | Adaptation |
| | • Operationalize database with up-to-date information on disaster losses and social-economic and environmental impact | Adaptation |
| | • Formation and sensitization of CMDRR committees at ward levels | Adaptation |
| **Increase number of households and entities benefiting from devolved adaptive services** | • Social protection beneficiaries identified from single registry created. (Beneficiaries in times of drought and floods) | Adaptation |
| | • Vulnerable households linked to the Climate change fund to be able to cope with climate change (address local adaptation priorities that are identified and monitored by the ward planning climate change committee) | Adaptation |
| | • Vulnerability assessment conducted to identify the affected HHs | Adaptation |
| | • Established community feedback mechanism to address grievances | Adaptation |

| | | |
|---|---|---|
| **Improve ability of people to cope with, and infrastructureto withstand, floods** | • Improved understanding and use of DRM information on floods (through sensitization and capacity building of stakeholders, including community members). | Adaptation |
| | • Existing integrated flood management plans incorporated into county DRM strategies; for example, water storage, drainage networks, reforestation, and rehabilitation of riparian areas construction of dams, and land use restrictions. | Adaptation/Mitigation |
| | • Capacity development of at least 30 Water Resources Users Associations (WRUA), which are community-based organizations that are rights-based groups with female and male membership | Adaptation |
| **Improve resource-based conflict resolution mechanisms** | • Strengthened existing peace committees | Adaptation |
| | • Models for conflict compensation developed | |
| **Establish and strengthen government led** | • Improved coordination of disaster risk management by enacting and implementing the Disaster Risk Management policy and Act that includes the | Adaptation |
| **governance and coordination structures** | strengthening of the Disaster Risk Management Forum to coordinate disaster response. | |
| | • Disaster Risk Management Fund should be enacted to provide funds for disaster preparedness, mitigation of disaster impacts, and disaster recovery measures, particularly for vulnerable groups. | Adaptation |
| | • Improved procedures for implementation of DRM strategies at all levels of government<br>• Train Communities on Community Managed Disaster Risk Reduction | Adaptation |

### 4.3 Priority Area 3: Water, Health, and Sanitation

Climate change negatively affects water, health and sanitation thus increasing the adversity of climate change related diseases due to its impact particularly recurrent drought and floods. The outbreak of water borne, and water related diseases, destruction of water source structures and poor sanitation affects the achievement of both county aspirations and the big 4 agenda on water, health, and sanitation.

The achievement of SDGs goals number 1,2, 3, 6, 9, 10, 12 and 14 depends on developing plans to mitigate the impact of climate change on the SDGs. To mitigate and adapt to the effects, there is a need to improve sanitation, health services and access to clean and safe water.

To achieve this objective, the county government of Garissa will:

i. Increase accessibility and availability of water through the development and rehabilitation of water infrastructure (multipurpose mega water pans, deep and untapped aquifers)
ii. Increase livelihoods system climate proofing, water harvesting, and water storage infrastructure, and improve flood control.
iii. Promote water efficiency (monitor, reduce, re-use, recycle and modelling).
iv. Reduce the incidence of water borne and water-related disease outbreak.

v. Control flooding in human settlements and promote recycling to divert collected waste away from disposal sites.

**Table 4: Priority Area 3: Water, Health, and Sanitation**

| Priority Action | Outcome | Adaptation/Mitigation |
|---|---|---|
| **Increase accessibility and availability of water through the development and rehabilitation of water infrastructure (multipurpose mega water pans, deep and untapped aquifers)** | • 5 multipurpose water pans of capacity 250,000 $m^3$-300,000 $m^3$constructed.<br>• County wide hydrogeological survey undertaken to identify major strategic aquifers.<br>• Drilling and equipping of 10 boreholes in deep and untapped aquifers.<br>• Ground water surveys conducted to establish abstraction levels against recharge.<br>• Desilting of existing water pans<br>• Rehabilitation of water infrastructures complete with auxiliaries | Adaptation |
| **Increase livelihoods system climate proofing, water harvesting, andwater storage infrastructure, and improve floodcontrol** | • Construction of ground level masonry tanks in all water trucking centers.<br>• Integrated catchment approach and ecosystem-based adaptation structural/ mechanical design, such as structural catchment protection along the major rivers in the county.<br>• Promotion of more efficient irrigation system (solarization, closed conduit, drip irrigation and lining of irrigation canals) | Adaptation |
| **Promote water efficiency (monitor, reduce, re-use, recycle and modelling)** | • Promoting awareness on water efficiency to reduce resource-based conflict.<br>• Reduction of non-revenue water through innovation in water tracking, identification, and reporting of leakages.<br>• Solarization of water sources.<br>• Strengthening and operationalization of water management structures<br>• Capacity building of WUA on the impact of climate change on water infrastructure | Adaptation/Mitigation |
| **Reduce the incidence of water borne and water-related disease outbreak** | • Decline in cases of water borne and water-related disease morbidity and mortality.<br>• Community level interventions on water borne and water related disease control with emphasis on Community health workers.<br>• Awareness creation on water borne and water related diseases.<br>• Construction of water laboratory to improve water supply quality, sanitation, and hygiene | Adaptation/ Mitigation |
| **Control flooding in human settlements and promote recycling to divert collected wasteaway from disposal sites** | • Floodway's (man-made channels to divert flood water) constructed in flood zones.<br>• Construction of flood control dams and gabions<br>• Construction of proper sewers and storm water drainage facilities | Adaptation |
| | • Establishment of waste collection sites. | Adaptation/ mitigation |
| | • A county waste management plan and other relevant policies developed | Enabling |

## 4.4 Priority Area 4: Environment, Forestry, Wildlife, and Tourism

The Environment and Forestry have been adversely affected by climate change, through variations in temperature and precipitation. The decline in environmental quality brings social and economic hardship to the people who depend on these ecosystems and increases the

potential of conflict over diminishing natural resources. It also creates a window for rapid spread of invasive species, new pests, and diseases. They are currently under threat from land degradation and desertification caused by climatic variations and human impacts such as overgrazing of livestock, smallholder farming on poor soils, and the creation of urban centers. Impacts include loss of biodiversity, threats to both flora and fauna species, change in vegetation composition and structure, decrease in forest coverage, rapid deterioration of land cover, and depletion of water quality and quantity through the destruction of catchments and underground aquifers. Forest degradation and deforestation, exacerbated by climate change, have led to reduced canopy cover, and altered biodiversity composition. This affects the ecosystem services that forests provide, such as reducing soil erosion, natural pest control, preserving water availability and maintaining water quality. Deforestation and forest degradation also increase Greenhouse Gases (GHG) emissions.

Climate change will equally have potential impacts on wildlife, tourism, and mineral resource stocks in the county. It is expected that there will be increased scarcity of water, over-exploitation, destruction, and disfiguration of the landmass due to unsustainable mining as well as reduced biodiversity for wildlife leading to high human-wildlife conflicts in areas bordering game reserves and community conservancies; there will be drying of major rivers and reservoirs within the parks; frequent droughts are likely to escalate the human-wildlife conflicts.

The attainment of SDG goals number 1, 2, 3, 6, 8,7, 11, 13, 15, 16 and 17 depends on developing plans to adapt and mitigate the impact of climate change on these SDGs. To mitigate these effects, there is a need to increase afforestation and reforestation, range rehabilitation, food, and nutrition security improvement through planting fruit trees, enhancing community livelihood diversification and promotion of sustainable tourism.

Energy and Transport Ensure an electricity supply mix based mainly on renewable energy that is resilient to climate change and promotes energy efficiency; encourages the transition to clean cooking that reduces the demand for biomass.

To achieve these objectives, the county government of Garissa shall:

i. Enhance afforestation and re-afforestation in degraded and deforested areas.
ii. Strengthen the capacities of County climate change governing structures and invest in locally led climate actions that will enhance the resilience of the community.
iii. Enhance sustainable tourism and conservation of wildlife in the County.
iv. Improve access to renewable energy in the rural and urban areas.

**Table 5: Priority Area 4: Environment, Forestry, Wildlife, and Tourism**

| Priority Action | Outcome | Adaptation/Mitigation |
|---|---|---|
| **Enhance afforestation and re-afforestation in degraded and** | • Attainment of 12% forest cover from the current County Forest cover of 11.3% | Adaptation/Mitigation |
| | • Achievement of indigenous species reintroduction | Adaptation |
| | • Deforestation and forest degradation reduced | Adaptation/ mitigation |

| | | |
|---|---|---|
| **deforested areas.** | • Enhancing Climate change research in forestry, rangelands productivity, and invasive species control and management. | Adaptation/ mitigation |
| | • Diversify community livelihood through commercial forestry in collaboration with private sector | Adaptation/Mitigation |
| | • Control and management of invasive species enhanced | Adaptation/Mitigation |
| **Strengthen the capacities of County climate change governing structures and invest in locally led climate actions** | • The capacity of the climate change governing structures Strengthened, and coordination enhanced | Adaptation |
| | • Community resilience enhanced through investment of community led climate actions | Adaptation |
| **Enhance sustainable tourism and conservation ofwildlife in the County** | • Community conservancies management structures Strengthened.<br>• wildlife watering corridors opened.<br>• Conservation of special areas of importance for biodiversity and ecosystem services increased.<br>• Human wildlife conflict incidences reduced | Adaptation/mitigation |
| **Improve access to renewable energy in the rural and urban areas** | • Increased renewable energy for electricity generation and use that is climate resilient investment (solarization, mini grids & solar stand-alone) | Adaptation/Mitigation |
| | • Transition to clean cooking alternative solutions adopted | Adaptation/mitigation |
| | • Increased the uptake of clean and efficient cookstoves and alternatives in rural areas | Adaptation/Mitigation |

# 5. MONITORING, EVALUATION AND ACTION LEARNING

## 5.1 Introduction

Monitoring and evaluation (M&E) are fundamental components of any program that aims to continuously improve and provide better outputs and outcomes. Progress of implementation of this County Climate Change Action Plan will be assessed using existing Electronic County Integrated monitoring and evaluation systems (E-CIMES). The E-CIMES will be linked to the county performance management system, which is involved in strategic planning, work planning, target-setting, tracking performance and reporting. The data to be used as inputs in CIMES targets and indicators will come from baseline surveys and administrative data collected and analyzed by the county statistics/planning office in Collaboration with the Directorate of Climate Change established in the Department of Environment, Energy & Natural Resources. Other County Government departments and agencies working on climate change related matters will also participate in monitoring and evaluating the program's results, activities, outputs, outcomes and impacts.

The overall objective of monitoring and evaluating the implementation of this climate change action plan will be to ensure the achievement of the interventions outlined. The information from the monitoring and evaluation will guide the responsible county government officers and other stakeholders on the necessary actions needed to steer its implementation. Further, the information will be used for reporting on the progress of implementation of this climate change action plan. The office responsible for monitoring and evaluation will set up a county framework to monitor and evaluate the implementation of this climate change action plan. The Directorate responsible for climate change will be the lead office of monitoring the implementation of this climate change action plan.

## 5.2 Climate Change Action Plan Implementation Assessment

In order to assess the implementation of this climate change action plan, constant and progressive monitoring and periodic evaluation will be carried out. The monitoring and evaluation system adopted will be designed to provide feedback and to ensure accountability and transparency in the implementation of the climate change action plan activities and to facilitate appropriate decision making on its future implementation.

The Directorate responsible for climate change will continuously collect and analyze climate change related information under the following thematic areas: disaster risk management; food & nutrition security and enterprise development; environment, forestry, wildlife & tourism; water & sanitation; and energy, infrastructure & human settlement. This will be implemented at all levels to ensure the climate change action plan strategic objectives are achieved. The Garissa County Climate Change Fund Board, County Climate Change Fund Steering Committee and other stakeholders will be kept informed of all climate change related interventions in Garissa County through quarterly and annual reports prepared by the Directorate.

The Quarterly M&E reports will be disseminated through County, Sub counties, ward planning climate change committee forums, intergovernmental, non- state actors, and community fora in order to allow for learning and sharing of lessons from the implementation of the activities as per the climate change action plan.

## 6. DOCUMENTS REFERENCED

i. Garissa County Climate Information Service Plan
ii. Garissa County Government Climate Change Mainstreaming Guidelines
iii. Kenya Vision 2030
iv. Kenya's Updated Nationally Determined Contribution
v. National Climate Change Response Strategy
vi. National Policy for the Sustainable Development of Northern Kenya and other Arid Lands.
vii. WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970–2019)

# 7. ANNEXES

## 7.1 Annex 1: Implementation Matrix: Climate Change Action Plan, 2023/24 - 2027/28

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| **Priority Area 1: Food and Nutrition Security and Enterprise Development** | | | | | | | | | | | | |
| **Strategic Objective 1: Improve productivity in the livestock sector through the Implementation of CSA interventions** | | | | | | | | | | | | |
| Sustainable rangeland productivity supported through improved governance systems and rehabilitation/restoration of degraded rangelands using CSA technologies. | Rangeland resource management committees (RRMCs) established and trained on participatory rangeland management in 27 Wards prone to climate related hazards | Establish, organize, train and support Rangeland resource management committees (RRMCs) in 27 Wards prone to climate related hazards | No. of functional rangeland institutions established and supported, | • Registration documents for RRMCs<br>• Training reports<br>• Action plans in place, | • County Director - Livestock Development<br>• Target Communities and local leaders<br>• WFP/FAO/UNDP/LM/ Mercy Corps/KEFRI/<br>• County Environment and Forestry | X | | | | | 11.2 | • No Locust invasion will be experienced in the project period.<br>• Trespass into the pasture fields by livestock and wildlife<br>• No Wildfires will destroy community established pastures.<br>• Communities and local leaders in participating Wards will be supportive.<br>• Germplasm will be available on time |
| | Rangeland resource management committees supported to develop and implement Ward rangeland spatial and integrated land use action plans | Support the 27 established RRMCs to develop and implement Ward rangeland spatial and land use integrated action plans, | No. of rangeland spatial and integrated land use plans developed and implemented, | • Digitized ward range resource spatial maps<br>• Integrated Ward Range resource management action plans<br>• Intervention Implementation reports, | | X | | | | | 70 | |
| | 2,000 Ha of degraded rangelands restored and sustainably managed | Procure and distribute 10,000 Kgs of assorted rangeland grass seeds, suited for the respective target Wards, to the RRMCs for reseeding | • Kgs of different rangeland grasses procured and distributed to the | Procurement/Delivery/inspection reports,<br>Activity reports,<br>Photos, testimonies, case study reports | | | X | | | | 14.5 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | activities in the degraded areas. | RRMCs.<br>• Ha of degraded rangelands rehabilitated | | | | | | | | | |
| | RRMCs supported to establish seed bulking blocks for propagation of priority indigenous grass species, at risk of extinction, suitable for their respective Wards | Assess the grass and range trees species at risk of extinction in the respective wards and support the RRMCs to establish seed bulking blocks and tree propagation areas, | No. of species of range trees and grasses (including priority indigenous) sustainably restored, managed and utilized | • Assessment/study reports<br>• RRMCs progress reports<br>• Verification and output reports, | | | X | X | | | 14 | |
| | Rangeland health surveys conducted periodically to assess the status of rangelands forages, browse and grasses | Conduct Biennial rangeland health surveys | No. of surveys conducted | Survey reports | | | X | | X | | 2 | |
| Increased fodder production, conservation and marketing in the County through Climate smart irrigation technologies to bridge the annual feed deficits during droughts | Strategic fodder producing farms supported through a PPP model to establish strategic fodder reserves | Support at least 12 large scale fodder (minimum 100 acres) producers with subsidies to establish large scale fodder reserves | • No. of ha of land under fodder - (trees, shrubs, herbs, grasses) for improved livestock nutrition necessary in drought seasons/years<br>• Area of rainfed pastures (1,000 Ha) | • PPP contracts with fodder farms<br>• Monitoring reports | • County Director - Livestock Development<br>• Target farmers<br>• NEMA<br>• Environment<br>• WFP<br>• FAO<br>• UNDP<br>• LMS<br>• Mercy Corps<br>• KEFRI<br>• County Environment& Forestry | | X | X | | | 60 | • Large farmers willing to do PPP agreement with County government to focus on fodder production.<br>• Farms will not be destroyed by floods during the reporting period.<br>• Minimal post-harvest losses on harvested fodder, |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | | established under in-situ water harvesting and conservation structures in the hinterland | | | | | | | | | |
| | Strategic hay reserves established and stocked with at least 500,000 bales of Hay from contracted farmers as drought contingency reserves | Construct 12 strategic hay reserves with capacity of 60,000 bales of Hay, | No. of strategic hay reserves established | Facility inspection reports<br>Construction designs<br>Monitoring reports | | | X | X | X | | 72 | |
| | Annual water harvesting and storage Increased through construction of 3 large multipurpose dams and 2 strategic solar powered boreholes in strategic fallback areas and along livestock migratory routes | Construct 3 large multipurpose dams (250,000 m3) and 3 strategic boreholes in livestock fall back areas and livestock stock routes, | No. of 250,000 m3 dams constructed and functional.<br><br>No. of strategic boreholes developed and functional | • Construction designs<br>• Facility inspection reports<br>• Physical verification, | | | X | X | X | | 00 | |
| Pastoral livelihoods protected against emerging/re-emerging climate change induced pest and diseases through enhanced disease surveillance, control and management system | Enhanced county government capacity to detect and control emerging and re-emerging climate change triggered livestock disease outbreaks | Train 40 Vet surgeons and veterinary paraprofessionals on Participatory epidemio-surveillance (PE) | No of vets and paravets trained, | Activity report | • County Director Livestock Development<br>• Target farmers<br>• NDMA<br>• Save the Children<br>• FAO<br>• Islamic Relief<br>• LMS-ACDI | X | | | | | 2.86 | • Pastoralist positively take up vaccinations.<br>• Vaccines will be available from KEVEVAPI.<br>• Timely availability of resources<br>• No adverse weather conditions will interfere with the logistics of the activity, |
| | | Train and equip 150 Community disease reporters to support n syndromic recognition of livestock diseases, | Number of CDRs trained, equipped and reporting | Activity report | | X | | | | | 7.7 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | management and reporting | | | | | | | | | | |
| | | Facilitate weekly, monthly and quarterly reporting of both passive and quarterly disease surveillance activities | No. of early warning reports produced | Reports submitted. Quarterly feedback reports from VEEU, | | X | X | X | X | X | 1.6 | |
| | | Procure adequate doses of vaccines to undertake targeted Vaccinations. RVF, PPR, CCPP, CBPP, SGP | Number and types of vaccine doses procured | Vaccine procurement and delivery documents, Inspection/verification reports | | X | X | X | X | X | 100 | |
| | | Facilitate quarterly livestock vaccinations to control against the climate changed based endemic trade sensitive diseases - RVF, PPR, CCPP, FMD, CBPP | 70% targeted annual livestock vaccination coverage to attain herd immunity | Activity reports | | X | X | X | X | X | 60 | |
| Livelihoods of vulnerable pastoral farmers protected against climate-related risks through implementation of forage-based index insurance scheme | Increased number of smallholder households benefiting from forage index-based livestock insurance payouts | Support community-based targeting (CBT) of **8,000** additional smallholder households for the forage index-based livestock insurance | Number of additional households registered and benefitting, | Beneficiary register, Activity reports, Payment schedules, | • County director Livestock<br>• Director state departments for Livestock<br>• Private insurance Companies | X | X | X | X | X | 1.6 | • The forage index information and payouts will be done in a timely manner.<br>• There will be no double registration of beneficiaries |
| | | Support biannual payouts for HH targeted | | | | X | X | X | X | X | 640 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| Manure management improved through the adoption of biogas technology by Households and at abattoirs and borehole watering sites. | Model farmers and abattoir operators supported to establish biogas production technology as alternative climate smart energy sources | Support 3 model farmers to establish biogas technology in their farms, | No. of farmers adopting the biogas production and utilization technology | Inspection and verification reports | • County director Livestock<br>• NEMA | | | X | X | | 4.5 | • Lead farmers adopt the technology.<br>• Slaughterhouse's throughput is adequate to maintain the biogas, |
| | | Support 2 abattoir operators to adopt biogas production technology | No. of slaughterhouses adopting the biogas technology | Inspection and verification reports | | | | X | X | | 5 | |
| Reduced climate change related human-wildlife and pastoralist farmer conflicts within and outside the county | Drought related resource-based conflict hotspots assessed and mapped annually | Conduct annual resource-based conflict hotspots mapping | No. of conflict assessment and mapping done | Assessment reports | • County director Livestock<br>• County Commissioner<br>• NDMA/KWS<br>• Religious leaders<br>• Sub County Admins, | X | X | X | X | X | 1.84 | • Communities are willing to dialogue to resolve the conflict.<br>• County leadership supportive of community dialogue and conflict resolution, |
| | | Conduct conflict resolution dialogues and common resource sharing agreements among warring communities | No. of sensitization meetings and early warning reports produced on possible human-wildlife and pastoralists-farmers conflict hotspots.<br>No of common resource sharing agreements signed as conflict resolution mechanism | Activity reports<br>Community written agreements, | | X | X | X | X | X | 8.34 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | Enablers | Enactment of Livestock and Rangeland Management Policy and Bill, Development of Pastoralism and Rangeland Management Strategy, | Policy and bill enacted. Policy implementation matrix developed. Strategy developed | Final Policy and Bills enacted by County Assembly Policy Implementation Matrix Pastoralism and Range management Strategy document, | | X | X | | | | 3 | • Garissa County Livestock Policy approved and Operational.<br>• Rangelands Bill, Livestock marketing bill currently under review |
| **Strategic Objective 2:** | | **Improve productivity in the crop sector through Climate Smart Agriculture related interventions** | | | | | | | | | | |
| Increased households adopting water harvesting technologies for agricultural use/production | Three (3) mega-water pans established in Dadaab, Lagdera and Hulugho sub-counties supporting irrigated crop production; 150Ha of new crop land developed/supported | Conduct feasibility studies, survey & design, ESIA;<br>Pan excavation and equipping.<br>Bush clearing & Land preparation.<br>Layout of irrigation infrastructure procurement of agro inputs<br>Conduct technical extension services | No. of water pans (250,000M3 capacity) excavated for crop production<br>No. of Ha of irrigated crop in hinterlands<br>No. of farmer beneficiaries | Feasibility studies, survey and design reports, departmental crops reports | • Department of Water & Irrigation, Department of Agriculture<br>• WFP<br>• Target communities | | X | X | X | | 00 | • |
| | 500 Farmers practicing crop production under in-situ rain run-off water harvesting & conservation structures in hinterland areas | Pegging and preparation of structures (water spreading basins, semi-circular bunds, sunken beds)<br>Procurement of agro inputs (drought tolerant varieties of cereals & pulses);<br>Conduct technical extension services | No. of Ha of cropland under in-situ water harvesting and conservation structures in the hinterlands<br>No. of farmer beneficiaries | Departmental crops reports, procurement and distribution records | • Department of Agriculture<br>• WFP<br>• Target communities | X | X | X | X | X | 15 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| Increased number of farmers accessing subsidies for appropriate agricultural inputs | More than 50% of farmers using certified crop inputs | Conduct agro-input fairs; procurement and distribution of agro-inputs | % of farmers using appropriate drought tolerant certified food & horticultural crop inputs<br>% increase in crop productivity per acre<br>No. of agro-dealers participating in agro-inputs voucher system<br>No. of farmer beneficiaries | Departmental crop reports, input fairs reports, survey reports; procurement and distribution records | • Department of Agriculture<br>• WFP<br>• Target communities<br>• Partners | X | X | X | X | X | 50 | • Technical Working Group Validation and Stakeholder Input, Including County Attorney Input |
| Increased area under integrated soil and water conservation | More than 50% of farmers applying appropriate soil conservation and fertility improvement practices | Conduct trainings and demonstrations on soil conservation and fertility improvement technologies (mulching, crop rotation, cover or strip cropping, use of farmyard manures) | % of farmers using soil conservation and fertility improvement measures<br>No. of trainings/technology demonstration | Training and demonstration reports, survey reports | • Department of Agriculture<br>• WFP<br>• KCSAP<br>• Target communities<br>• Partners | X | X | X | X | X | 10 | • County Executive Approval (Livestock Department Directors should attend) |
| | Additional 100km of riverbanks conserved | Pegging of river Tana banks; Planting of agro-forestry trees and grasses | Length of riverbanks pegged for conservation<br>Length of riverbanks protected/con | Departmental soil & water conservation reports; procurement and distribution records | • Department of Agriculture<br>• Department of Environment<br>• KEFRI<br>• KFS | X | X | X | X | X | 100 | • County Assembly Committee on Agriculture and Livestock after Publishing and 1st Reading of the Bill |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | | served<br>No. of trees established;<br>No. of Ha of grasses established | | • KCSAP<br>• Target communities<br>• WFP | | | | | | | |
| Total area under agroforestry at farm level increased | Increase % tree cover in farms to over 10% | Conduct farmer mobilization & sensitization; establish 20no. agro-forestry tree nurseries in 4 riverine sub-counties; conduct tree-planting campaigns | No. of fruit and agroforestry tree nurseries established in farms;<br>No. of additional tree seedlings established in farms per year<br>% of tree cover achieved in farms | Departmental reports, number/quantities of seed/seedling materials procured, planted | • Department of Agriculture<br>• Department of Environment<br>• KEFRI<br>• KFS<br>• WFP<br>• Target communities | X | X | X | X | X | 25 | • Wildlife conflicts |
| | Documented agroforestry practices in farms in the County | Conduct survey (including baseline) to assess application of agroforestry practices at farm level | No. of surveys conducted.<br>no. of practices documented | Agroforestry reports - KEFRI, DoEnv, DoAgric | • KEFRI<br>• Garissa University<br>• KFS, Department of Agriculture<br>• Department of Environment<br>• Target communities | | | | | | | |
| Reduction in agricultural pre- and post-harvest losses (40% to 15%) | Six (6) farmer-managed fresh produce handling sheds/stores (Balambala, Saka, Sankuri, Iftin, Nanighi & Bura wards) operational | Mobilization and sensitization of Farmers/Producer Organization/ Cooperatives; designs, construction and equipping of sheds/stores with cooling facilities; Pre- and Post-harvest management | No. of fresh produce handling sheds & stores established at aggregation centres (cold chain)<br>No. of farmers practicing appropriate produce | Departmental reports, building designs and implementation reports | • Department of Agriculture<br>• Department of Cooperatives<br>• KCSAP<br>• ASDSP<br>• Target communities<br>• WFP | X | X | X | X | X | 150 | • Disruption of crop production activities by floods |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | trainings/demos | handling and packaging (e.g., crates) | | | | | | | | | |
| | 100km of farm access roads opened up/improved to motorable standard | Needs assessment/prioritization, survey & design; conduct farm access road works | No. of kms of farm access roads opened No. of schemes/farmers beneficiaries | Departmental reports, roadworks designs and implementation reports | • Department of Agriculture<br>• Department of Roads<br>• WFP<br>• Target communities | X | X | X | X | X | 450 | • Floods |
| Increased acreage under irrigated crop production | 20 new smallholder irrigation schemes established | mobilization of farmers/agro pastoralists; bush clearing; survey and design of schemes; land preparation; layout of irrigation infrastructure (pump sets & canals; support with startup inputs; provision of technical extension services | No. of new irrigation schemes established; No. of additional Ha under crop production; No. of HHs benefitting | Agricultural machinery services data; irrigation schemes records; crops data | • Department of Irrigation<br>• Department of Agriculture<br>• WFP<br>• Target communities | X | X | X | X | X | 300 | • Floods, wildlife conflicts |
| Improved production efficiency in irrigated crop fields | Solar-powered pumping sets installed in 25 smallholder irrigation schemes in the riverine sub-counties | Needs assessment/prioritization, procurement and installation of solar powered pumping unit, including construction of pump house; training of WRUAs, pump attendant | No. of irrigated farms utilizing green energy as source of power (solar-powered pumping sets); No. of farmer beneficiaries | Irrigation schemes reports; crops reports; data surveys | • Department of Irrigation<br>• Department of Agriculture<br>• WFP<br>• Target communities | X | X | X | X | X | 250 | • Disruption of crop production activities by floods |
| | 25km of PvC pipe systems installed in 25 riverine schemes | Needs assessment/prioritization, procurement and installation of closed pipes | No. of farms utilizing weather-proofed water conveyance systems | Irrigation schemes reports; crops reports; data surveys | • Department of Irrigation<br>• Department of Agriculture<br>• WFP | X | X | X | X | X | 15 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | (PvCs); training of WRUAs | (Closed pipes, lined concrete-lined canals) | | • Target communities | | | | | | | |
| | 5no. farmers schemes in the hinterlands (Dadaab, Lagdera) producing high value crops (fruits and vegetables) | survey and design; procurement of irrigation drip kits & shed-nets, installation; start-up agro-inputs; provision of technical extension services | No. of farmers using drip irrigation systems (in open-field or under shed net production) | Irrigation schemes reports; crops reports; data surveys | • Department of Irrigation<br>• Department of Agriculture<br>• WFP<br>• Target communities | | X | X | X | | 30 | • Wildlife conflicts, insufficient rainfall |
| | Enablers | | Irrigation policy, Act and regulations,<br><br>Crops Act and regulations, | | | | | | | | 5 | |
| **Strategic Objective 3** | | **Improve productivity in the Fisheries sector through Climate Smart Agriculture related interventions** | | | | | | | | | | |
| Aquaculture production increased | 25 additional fishponds established in irrigated farms | design and pond installation; stocking with fingerlings and fish feeds; training and demos on appropriate fisheries management practices | No. of additional fishponds established in irrigated farms<br>No. of Households adopting fish farming | Fisheries records; data surveys | • Department of Fisheries<br>• WFP<br>• Target communities | X | X | X | X | X | 75 | • Adoption of fish in local diets |
| **Strategic Objective 4** | | **Diversification and commercialization of Agricultural Value chains** | | | | | | | | | | |
| Small-scale farmers, pastoralists, and fisher communities supported to transition to specialized and market-oriented output in 8 priority value | Farmers/Pastoralist of the PVCAs transitioned /Transformed on market-oriented enterprises | Facilitate common interest groups in the Crop PVCAs (Tomato, Watermelon and Mango) enterprise with innovation grants to enhance their enterprises through adoption of climate smart | No. of crop priority value chain (Tomato, watermelon and Mango) enterprise CIGs/CO-OP societies supported with TIMPs | Grant agreement and fund disbursement documents<br>-Minutes<br>-Reports | • Department of Agriculture & Livestock<br>• ASDSP<br>• KCSAP<br>• LMS<br>• CDDC<br>• NDMA<br>• WFP | x | x | x | x | x | 200 | • Reduced pace of attaining desired increase in productivity ratios |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| chains, including drought-tolerant values chain | | technologies and innovations | grants | | • UNDP | | | | | | | |
| | | Support common interest groups in the Livestock PVCAs (Camel milk, Beef, Meat goat and Honey) enterprise with innovation grants to enhance their enterprises through adoption of climate smart technologies and innovations | No. of Livestock priority value chain (Camel &cattle milk, Beef, meat goat and honey) enterprise CIGs/CO-OP societies supported with TIMPs grants | Grant agreement and fund disbursement documents<br>-Minutes<br>-Reports | • Department of Agriculture & Livestock<br>• ASDSP<br>• KCSAP<br>• LMS<br>• CDDC<br>• NDMA<br>• WFP<br>• UNDP | x | x | x | x | x | 300 | |
| Increased number of households adopting diversified enterprises/value chains for sustainable livelihoods and nutrition security | Improved income of households through diversification and value chain enterprise development | Train 30 FLSPs and Farmers/livestock of PVCAs from 14 targeted wards on the entrepreneurial skill development | No. of households supported No of PVCAs mobilized and supported | Reports of the activity Testimony from communities | • Department of Agriculture & Livestock<br>• ASDSP/KCSAP<br>• LMS/CDDC<br>• NDMA/WFP<br>• UNDP | x | x | x | x | | 75 | • No significant effect of common hazards on the productivity of the value chains |
| Small scale farmers and pastoralists of PVCAs supported in accessing markets and market information services | Small scale farmers/pastoralists PVCAs accessed to Market information | Support and train crop & livestock PVCAs on market information services | No. of crop and livestock priority value actors accessing market and market information | Training reports | • Department of Agriculture & Livestock | x | x | x | x | x | 100 | • Limited Network coverage |
| | PVCAs sharing market information services | Establish Market information platforms for the PVCAs | -No of PVCAs access to market information platform | Market updates | | | | | | | | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| Crops and livestock of PVCAs linked to financial service providers | Crops and livestock PVCAs accessed to financial Products and services | -Hold workshop conference for PVCAs and financial institution agents | -No. of crop and livestock priority value actors utilizing financial services | -Workshop reports | • Department of Agriculture & Livestock | | | | | | 50 | • Lack of proper defined Sheria compliance financial products |
| | **Subtotal for Priority Area 1** | | | | | | | | | | **725.00** | |
| **Priority Area: 2 Disaster Risk Management** | | | | | | | | | | | | |
| **Strategic Objective 1** | | **Improve the ability of communities to cope with drought and floods** | | | | | | | | | | |
| Reliability of multi-hazards early warning enhanced | Drought and flood Early warning information improved Integrated advisories developed for flood and drought | Integration of the scientific and indigenous knowledge into the early warning system | -Number of community engagement on early warning information dissemination held Number of community early warning knowledge integrated into scientific Number of integrated advisories disseminated | Reports, Attendance lists | • Department of Special Programmes (lead)<br>• Kenya Meteorological Department<br>• NDMA<br>• Department of environment | x | | | x | | 5.5 | • The willingness of the community to disclose information; Community inaccessibility; Communities don't belief scientific warning |
| Enhanced understanding of drought and its impact | Drought trend monitored and documented twice a year | Review and update drought and flood risk profile and maps | Number of reviews done, and maps developed | maps, validation meetings report | • Department of Special Programmes (lead),<br>• Kenya Meteorological Department/NDMA<br>• Department of environment | | x | | x | | 2 | |
| Enhanced understanding of vulnerabilities in the county | vulnerability assessment conducted twice a year | Conduct regular assessment to monitor and document drought trend | number of assessments conducted | Assessment reports, Departmental checklists, Stakeholder Mailing list | • Department of Special Programmes (lead),<br>• Kenya Meteorological Department<br>• NDMA, Department of environment | x | x | | x | x | 2 | • Low interest from the community, insecurity |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| Enhanced capacity of stakeholders to identify, assess and communicate disaster risks | 10 Training programs Conducted for DRM stakeholders on yearly | Conduct training on DRM for stakeholders at all levels | Number of trainings undertaken, | Training reports, Participant lists | • Department of Special Programmes (lead),<br>• Kenya Meteorological Department<br>• NDMA<br>• Department of environment | x | x | x | x | x | 20 | • Unavailability of funds |
| Improved understanding and use of DRM information. | DRM information disseminated to the to all stakeholders bi-annual | Disseminate DRM information through DRM forums, community dialogues, social media; and print Materials | Number of community dialogues, number of Radio talk shows conducted, - Number of social media campaigns conducted | radio recordings, social media posts, Community participant lists | • Department of Special Programmes (lead),<br>• Kenya Meteorological Department<br>• NDMA<br>• Department of environment | x | x | x | x | x | 3 | • Lack interest from the community |
| improved information accessibility on issue of drought and floods | Functional and easy to access DRM database and Website | Develop and operationalize the county DRM website and database | Functional DRM database and website | Number of website visits/clicks, county DRM website | Department of Special Programmes (lead), Kenya Meteorological Department, NDMA, Department of environment | x | x | x | x | x | 2 | • Unavailability of funds, county website dormant, county website dormant |
| Enhanced community participation in DRM | 30 CMDRR committees at ward levels sensitized on participatory climate risk assessment | Sensitization of CMDRR committees at ward levels | Number of DRM committees formed | Training reports, Committee membership lists | Department of Special Programmes (lead), NDMA, Department of environment | x | x | x | | x | 15 | • Unavailability of funds |
| Effective flood management planning and minimized damage and losses during floods | Existing integrated flood management plans incorporated into county DRM strategies; for example, water storage, drainage networks, reforestation and rehabilitation of riparian areas, | Integrating existing flood management plans in DRM and CC strategies | number of drainage channel constructed | Flood management plans, Workshop reports | Department of Water, Department of Special Programmes, Line National MDAs, NDMA | | x | | x | | 4 | • Low priority in the integration |
| Improved capacity to manage water | 30 water user associations to be | Capacity development of | Number of WRUAs | Training reports, Attendance lists | Department of Special Programmes (lead), | | x | | x | | 12 | • lack of funds |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| resources | trained | Water Resources Users Associations (WRUAs), | trained, | | Kenya Meteorological Department, NDMA, Department of environment | | | | | | | |
| **Strategic Objective 2** | | **Increase number of households and entities benefiting from devolved adaptive services** | | | | | | | | | | |
| Vulnerable households benefit from an efficient county safety net program. | Harmonized Social protection beneficiary registry developed (drought and floods) | Harmonize/developed social protection registry (beneficiaries in times of drought and floods) | Operational and efficient registry/database | Information accessed through Social Protection Registry; Number of beneficiaries supported through registry | Department of Social Services, Department of Special Programmes, National MDAs | x | | | x | | 5 | • Political interference |
| | Targeting and registration guidelines developed | Develop guidelines for qualification, targeting and registration of social Safety Net beneficiaries. | Guideline for targeting and registration developed | Copies of guidelines | Department of Social Services, Department of Special Programmes, National MDAs | x | | | | | 3 | • Lack of funds |
| Highly vulnerable group are mapped to improved resilient to the impacts of climate change | 200 Vulnerable groups identified and supported from the Climate change fund | Identify vulnerable community groups to be supported by the Climate Change fund (address local adaptation priorities that are identified and monitored by ward planning climate change committee) | Number of Community groups benefiting from Climate Change fund | Beneficiary list | Department of Environment, Department of Social Services, Department of Special Programmes, National Government | x | | x | | x | 3 | • Insecurity, vested interests |
| Enhanced public participation in the utilization of Climate Change Funding | Complaint and feedback mechanisms developed | Establish community feedback mechanism | Operational feedback structure | Number of meetings held Copies of structure reports | Department of Environment, Special Programmes | | | x | | x | 2 | • Illiteracy, high cost of transport |
| **Strategic Objective 3** | | **Improve resource-based conflict resolution mechanisms** | | | | | | | | | | |
| Enhance peaceful coexistence between the communities | profile of conflict hotspot developed | mapping of conflict hotspots | conflict hotspot profile | reports, travel work ticket | special program, intergovernmental, County Commissioner | x | | | x | | 20 | • lack of fund, insecurity |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| strengthened local conflict resolution | local community conflict resolution structure documented | Identify existing local community conflict resolution structures in place | No of community engagement | Reports, minutes | special program, intergovernmental, County Commissioner office | | x | | x | | 2.5 | • Community unwilling to give information |
| Improved capacity amongst peace committee | 7 sub counties peace committees trained on conflict resolution | Build capacity of existing peace committees | No. of training conducted | list of trainees, report | special program, intergovernmental, County Commissioner office | x | | | x | | 10 | • lack of fund |
| Improve peaceful coexistence and reduce incidence of revenge | compensation model developed | Develop models for conflict compensation | copies of the models | MoU, reports | Department of special program, intergovernmental, County Commissioner office | | x | | x | | 4 | • lack of fund, political support, lack of trust between communities |
| **Strategic Objective 4** | | **Establish and strengthen government-led governance and coordination structures** | | | | | | | | | | |
| Enhanced coordination and community participation in DRM activities | DRM Forums, strengthened at all 7 sub-counties and 30 ward levels | Strengthening of DRM forums at all levels (county, ward) and link them to existing structures | number of trainings conducted | list of participants, reports | Department of Special programmes, Environment, NDMA | x | x | | x | | 6 | • Lack of Funds, low interest from key stakeholders and partners |
| Skilled forum members on DRM strengthened | 30 ward committees' capacity on DRM enhanced | Build the capacity of DRM members at all levels on DRM | No. of training meetings held. | list of participants, reports | Department of Special programmes, Environment, NDMA | x | | x | x | | 9 | • Low interest from members |
| DRM mainstreamed in sectoral and annual plans | sensitized all departmental heads on DRM mainstreaming into sector plans once a year | Conduct periodic sensitization forums for county departments on mainstreaming and integration of DRM into their sectoral/program plans and budgets | No. of sensitization meeting held | Reports, plans | Department of Special programmes, environment, NDMA | x | | x | | x | 6 | • Low key interest |
| Improved funding for DRM activities | 200 M allocated for DRM adaptation and mitigation activities | Lobby for the allocation of DRM fund | No. of Consultative engagement | Minutes, copy of the fund approved and allocated | Department of Special programmes, environment, NDMA | x | | x | x | | 2 | • Political goodwill |
| Enhanced and sustainable financing of DRM interventions | a profile of partners dealing with DRM matters developed | Mapping of partners to finance DRM Activities | DRM partners profile | DRM partners profile, list of partners | Department of Special programmes, environment, NDMA | x | | | | x | 3 | • Funds |
| | | **Total for Priority Area 2** | | | | | | | | | | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| **Priority Area 3: Environment, Forestry, Wildlife and Tourism** | | | | | | | | | | | | |
| • Strategic objective 1: To Facilitate Management, Utilization and Conservation of Forestry Resources | | | | | | | | | | | | |
| achievement of 10% tree cover through afforestation and forestry research | 6,000 Ha of land afforested and sustainably managed | Planting of 1.5 million indigenous fodder and fruit trees | Percentage of forest cover increased | Annual afforestation report | • Environment<br>• Communities<br>• WFP<br>• UNDP<br>• KEFRI<br>• KFS | | | | | | 25 | • Locust invasion<br>• Wildfires<br>• Failure of seasonal rain |
| | 3,000 Ha of degraded rangelands rehabilitated | preparation of land and planting of 1 million trees in degraded sites | Hectarage of rangeland rehabilitated | Restoration activities report | | | | | | | 20 | |
| | Six extinct species of indigenous grass and plants s re-introduced | Baseline study conducted to identify the threatened and extinct grass and plants, collection and procurement of germplasm and establishment on identified model farms | No of baseline survey conducted | Baseline Report/Procurement report | | | | | | | 6 | • Failure of seasonal rain |
| | Household tree planting sensitization achieved | Conduct awareness campaign | No of awareness campaign conducted | Sensitization report | | | | | | | 5 | |
| | Reduced deforestation and forest degradation | Fast tract the Enact of the Forest Bill | Forest Act Gazettement notice | Forest Act publication | | | | | | | 2 | |
| | | Formation of ten CFAs | No of CFAs formed | Functional CFA's operating | | | | | | | 2 | |
| | | Develop forest management plan | Number of forest Management plan developed | Forest management plan document | | | | | | | 3 | |
| | | Conduct quarterly forest patrols | No. of forest patrols undertaken | Patrol report | | | | | | | 2 | |
| | Publication of High value Drought tolerant indigenous plant and grass | Conduct a baseline study on the high value ASALs trees and | Number of baseline survey undertake | Baseline report/booklet publication | | | | | | | 3 | • Lack of sufficient rain<br>• Plant diseases<br>• flooding |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | species | grass species | | | | | | | | | | |
| | 1 seed center (gene bank) Established | Establish seed Center | No. of seed centers established | Operational seed center with diverse seeds stored | | | | | | | 5 | |
| | 3 modern tree nurseries established | Construct modern nurseries | No. of modern nurseries established | Operational nursery | | | | | | | 15 | • Plant diseases<br>• flooding |
| | 4 on farm demonstration plots established | Establish on farm demonstration plots | Number of demonstration plots established | well fenced and managed demo plots | | | | | | | 5 | |
| | invasive species control & management plan Developed | Develop Prosopis management and control strategy | No. of management plans developed | Forest management plan document | | | | | | | 5 | |
| | Community livelihood diversified through commercial forestry in collaboration with private sector by Introducing Melia volkensi, Bamboo, Acacia and Comiphora species | Identification of private partners for collaboration | No. of private partners identified | List of committed partners identified | | | | | | | | • Wildfires<br>• Illegal logging<br>• Drought<br>• Locust invasion |
| | | Development and signing of MoU | No. of MoU documents | Signed MoU document | | | | | | | 2 | • lack of political support |
| | | Identification of model farms for planting and growing the indicated commercial trees | No. of model farms identified | community agreements | | | | | | | 5 | • lack of adequate land |
| | | Planting of the tree's species on the identified farms | No. of seedlings planted | Established operational farms | | | | | | | 10 | • Lack of water<br>• Diseases and pathogens<br>• Drought<br>• Locust invasion |
| | | Procurement of Germplasm | No. of tree seedlings and bags of grass seeds procured | Procumbent plan and report | | | | | | | 5 | |
| | | Capacity building on existing opportunities in timber and non-timber forest | No. of trainings conducted | Training report | | | | | | | 5 | • Diseases and pathogens<br>• Drought |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | investments | | | | | | | | | | |
| | | Participatory monitoring of the growth of the species | No. of field visits carried out | field report | | | | | | | 3 | |
| **Strategic objective 2: To enhance climate change governance in the county and invest in local led climate actions** | | | | | | | | | | | | |
| The capacity of the climate change governance enhanced | Quarterly meetings of climate change governing structures conducted. | Conduct quarterly WCCPC meetings in all the 30 wards. | No. of quarterly WCCPC meeting undertaken in all the wards | Minutes of WCCPC Attendance list | • FLLoCA<br>• CCU<br>• CCD<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | 4 | |
| | | Conduct the County Technical climate change planning committee meeting | No. of quarterly CTCCPC meetings undertaken | Minutes of the CTCCPC Attendance list | • FLLoCA<br>• CCU<br>• CCD<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | 2 | |
| | | Conduct the County Climate change steering committee meeting | No. of quarterly CCCSC meeting undertaken | Minutes of the CCCSC Attendance list | • FLLoCA<br>• CCU<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | 2 | |
| | Enhanced capacity building on climate change | Training County climate change governing structures | No. of trainings undertaken | Attendance list<br><br>Training reports | • FLLoCA<br>• CCU<br>• CCD<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | 2 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Training conducted for the County technical staff on climate change governance, budgeting, and financing | No. of capacity building undertaken | Training reports<br><br>Certificates | • FLLoCA<br>• CCU<br>• CCD<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | **2** | |
| | | Undertake county wide awareness creation in all the wards | No. of awareness creation undertaken | Awareness campaign reports<br>Attendance list<br>Phots | • FLLoCA<br>• CCU<br>• CCD<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | **2** | |
| Community resilience enhanced through investment of community led climate actions | Reduced community vulnerabilities to climate change | Undertake the investment of community led climate proofed water infrastructure complete with auxiliary services (solarization & draw off systems) | No. of mega dams, water pans constructed.<br>No of water pans desilted.<br>No. of boreholes drilled. | Sites visits.<br><br>Hydrological reports<br><br>ESIA reports<br><br>M&E reports | • FLLoCA<br>• CCU<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC | | | | | | **210** | |
| | | Undertake the investment of community led climate smart agriculture | No. of new CSA technologies upscaled<br>No. of drought tolerant & early maturing crops promoted.<br>No. of livestock breed improvement promoted.<br>Acreage of fodder production. | Sites visits.<br><br>Hydrological reports<br><br>ESIA reports<br><br>M&E reports | • FLLoCA<br>• CCU<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP<br>• Mercy Corps<br>• DRC<br>• Agriculture<br>• Livestock | | | | | | **120** | |
| | | Undertake the investment of community Environmental restoration | No. of afforestation undertaken.<br>No. of greenbelt established.<br>No. of | Sites visits.<br><br>Hydrological reports<br><br>ESIA reports<br><br>M&E reports | • FLLoCA<br>• CCU<br>• Communities<br>• WCCPC<br>• WFP<br>• UNDP | | | | | | **80** | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | community tree nurseries established. | | • Mercy Corps<br>• DRC<br>• KFS<br>• KEFRI | | | | | | | |
| **Strategic objective 3: To enhance management and conservation of environment.** | | | | | | | | | | | | |
| Enhanced capacity of the County Environment committee | Two trainings conducted for the county environment committee | Conduct training for the County Environment Committee and Ward committees | No of training conducted | Training report | • County Directorate of ENV & forestry<br>• Communities<br>• WFP<br>• UNDP<br>• GAU | | | | | | 8 | |
| Improved solid waste management | Community awareness carried out | Carry out environmental education and awareness programmes (waste management etc) | No of awareness programmes carried out | Sensitization report | • County Directorate of ENV & forestry<br>• WFP<br>• UNDP<br>• County department of urban planning | | | | | | 5.5 | Hostility |
| | Waste disposal bins distributed | Procurement and distribution of waste disposal and segregation bins | No. of waste disposal bins distributed | Waste disposal bins distributed | | | | | | | 10 | vandalism |
| | Waste management dumpsite constructed | Identification of land for construction of a well-managed dumpsite | Waste disposal and management infrastructure developed. | No. of dumpsites | | | | | | | 45 | lack of appropriate land |
| **Strategic objective 4: To promote wildlife conservation and sustainable tourism development** | | | | | | | | | | | | |
| Enhanced sustainable tourism and conservation of wildlife in the County | Community conservancies management structures trained | Trained conservancy management & conservation committees | No. of Trainings undertaken | Training report | County Directorate of ENV & forestry<br>WFP<br>UNDP<br>KWS | | | | | | 5 | poor attitude |
| | National reserves | Develop Garissa | Game reserve | Management plan | | | | | | | 5 | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | revived | County game reserve management plan | Management plan developed | document | | | | | | | | |
| | Enhanced protection of endemic wildlife species to support local tourism | Create awareness on endemic wildlife protection, conservation and management | Increased number of endemic wild animals | Sensitization report Increased population of wild animals | | | | | | | 5 | |
| | | Conservation of special areas of importance for biodiversity and ecosystem services | Number of awareness programmes carried out | Sensitization report | | | | | | | 8 | |
| | | Train Community scouts | No. of scouts trained | Training report | | | | | | | 3 | |
| | | Opening of wildlife watering corridors | No. of water corridors opened | Watering corridors opened | | | | | | | 10 | |
| | | Enact wildlife conservation and management bill | Wildlife bill enacted | Gazettement Notice | | | | | | | 2 | |
| **Total for Priority Area 3** | | | | | | | | | | | | |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| **Priority Area 4 Water, Health and Sanitation** | | | | | | | | | | | | |
| **Strategic Objective 1** | | **Strengthen the resilience of the water sector by ensuring access to, and efficient use of water for sanitation, agriculture, cottage industry, domestic, wildlife and other uses.** | | | | | | | | | | |
| Increased accessibility and availability of water through the | Increased water storage, availability through multipurpose mega | Feasibility and design studies | No. of Feasibility and design report produced | Project reports | Department of water, Irrigation, Environment, Agriculture and Livestock | √ | | | | | 20 | Economic risk- value for money Technological risk |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| development and rehabilitation of water infrastructure and enhance climate change resilience. | water pans, deep and untapped aquifers. | 5 Multipurpose water pans of capacity 250,000-300,000m3 constructed | No. of water pans constructed. | Design report | Department of water and Irrigation<br>WFP<br>HoAGDA | | √ | √ | √ | | 125 | Economic risk- value for money /Risk with procurement/Ensuring sustainability/Political will reduced or change/Fraud and Corruption |
| | | County wide hydrogeological survey undertaken to identify major strategic aquifers: | No. of hydrogeological survey undertaken | Hydrogeological report | Department of water | | √ | | | | 20 | Economic risk- value for money/Technological risk |
| | | Drilling and equipping of 10 boreholes in deep and untapped aquifers. | No of boreholes drilled and equipped | · M&E report | Department of water<br>KDRDIP<br>UNHCR | | √ | √ | √ | | 500 | Economic risk- value for money/Risk with procurement/Ensuring sustainability/Political will reduced or change |
| | | Desilting of 20 No. existing water pans | No. of water pans desilted | · M&E report | Department of water<br>Development partners | | √ | √ | √ | | 100 | Economic risk- value for money/Risk with procurement/Ensuring sustainability/Political will reduced or change |
| | | Rehabilitation of 40 No. existing boreholes equipped with complete auxiliaries | No. of boreholes rehabilitated and equipped with auxiliaries | · M&E report | Department of water | √ | √ | √ | √ | √ | 120 | Economic risk- value for money/Risk with procurement/Ensuring sustainability/Political will reduced or change |
| | | Ground water surveys conducted to establish abstraction levels against recharge | No of ground water Surveys conducted | Hydrogeological report | Department of water | | √ | | | | 20 | Economic risk- value for money/Technological risk /Ensuring sustainability/Political will reduced or change |
| | Increase livelihoods system climate proofing, water harvesting, and water storage infrastructure, and improve flood control | Construction of ground level masonry tanks in all water trucking centres. | No of ground masonry tanks constructed | Feasibility reports | Department of water<br>NWWDA<br>CDA | | √ | √ | | | 200 | Economic risk- value for money/Risk with procurement/Ensuring sustainability/Political will reduced or change |
| | | Construction of flood control dams and gabions along the rivers | No. of dams/gabions constructed | Flood control dams and gabions constructed | Department of water<br>WRA<br>Urban planning/municipality | | √ | √ | | | 100 | Economic risk- value for money/Risk with procurement/Ensuring sustainability/Political will |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | | | | | | | | | | | reduced or change |
| | | Construction of proper sewers and storm water drainage | No. of sewers & drainage facilities constructed | Flood control sewers and drainage facilities constructed | Department of water WRA Urban planning/municipality | | √ | √ | | | 100 | Economic risk- value for money/Risk with procurement/Ensuring sustainability/Political will reduced or change |
| | | Integrated catchment approach and ecosystem-based adaptation structural/ mechanical design, such as structural catchment protection along the major rivers in the county. | No of catchment protection structures constructed | Feasibility Report, Project Reports, M&E reports | Department of water, Irrigation, Environment, Agriculture and Public Health | | √ | √ | √ | √ | 400 | Economic risk- value for money/Technological risk /Risk with procurement/Ensuring sustainability/Political will reduced or change/Fraud and Corruption |
| Increased Reliability, functionality and sustainability of water supplies | Improved water efficiency, Reduced emission of greenhouses, | Promoting awareness on water efficiency to reduce resource-based conflict | No of awareness campaigns conducted | Reports | Department of water WRA | | √ | √ | | | 10 | Economic risk- value for money/Ensuring sustainability |
| | | Reduction of non-revenue water through innovation in water tracking, identification and reporting of leakages. | Proportion of non-revenue water reduced | Consumer feedback | Department of water/GAWASCO/ GARUWASCO | | | √ | √ | | 60 | Economic risk- value for money/Ensuring sustainability |
| | Reduced emission of greenhouses | Solarization of water sources. | No of water sources solarized | Participant's list | Department of water and Energy | | √ | √ | √ | | 150 | Economic risk- value for money/Technological risk /Risk with procurement/Ensuring sustainability/Political will reduced or change/Fraud and Corruption |
| | Improved water | Strengthening and | No of water | Certification of | Department of water | | √ | √ | √ | | 45 | Economic risk- value for |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | efficiency | operationalization of GARUWASCO through sensitization of WRUAs | management structures operationalized | trained staff | | | | | | | | money/Ensuring sustainability |
| | | Capacity building of WUA on the impact of climate change on water infrastructure | | | Department of water | | √ | √ | | | 10 | Economic risk- value for money/Ensuring sustainability |
| Heightening surveillance of diseases outbreaks | Reduced incidence and prevalence of water borne, and water related disease | Keep track of water borne and water related disease incidence and prevalence. | Data for disease prevalence and incidence | Reports | Department of Health | | √ | √ | √ | √ | 20 | Emergency Health Occur/Economic risk- value for money/Ensuring sustainability |
| | | The awareness of community health workers and volunteers strengthened by developing materials on climate-related health risks, and the impacts on women, children, and persons with disabilities. | No of awareness campaigns conducted | Testimony from the community | Department of Health | | √ | √ | √ | √ | 10 | Emergency Health Occur/Economic risk- value for money/Ensuring sustainability |
| | | Procure and purchase supplies and medical equipment required for the anticipated water borne and water related disease outbreaks. | Stock of goods and supplies procured | Delivery Note/Register | Department of Health | | √ | √ | | | 100 | Economic risk- value for money/Technological risk/Risk with procurement/Ensuring sustainability/Fraud and Corruption |
| | | Promote community awareness on proper waste | No of awareness campaigns conducted | Testimony from the community | Department of Health | | √ | √ | | | 10 | Economic risk- value for money Technological risk with procurement Ensuring sustainability Political will |

| Expected outcome | Expected output/Results | Key Activities | Indicators | Means of Verification | Responsibility | Time frame (Year) | | | | | Indicative Budget (KES 'Mil) | Risks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| | | management practices. | and communities sensitized | | | | | | | | | reduced or change Fraud and Corruption |
| **Strategic Objective 2 Encourage climate-resilient waste management systems especially in urban centers** | | | | | | | | | | | | |
| Reduction of climate change impacts on the environment | Improve environmental hygiene and reduce ozone layer depletion | Establishment of waste collection sites. | No of collection sites established | M&E Report Physical verification (existence of recycling site) | Department of Urban Planning | | √ | √ | √ | | 100 | Economic risk- value for money Technological risk with procurement Ensuring sustainability Political will reduced or change Fraud and Corruption |
| | | Procurement and purchase of dump collection trucks | No. of trucks procured/ purchased | M&E Report Physical verification (existence of recycling site) | Department of Urban Planning | | √ | √ | √ | | 100 | Economic risk- value for money Technological risk with procurement Ensuring sustainability Political will reduced or change Fraud and Corruption |
| **Strategic objectives 3 Mainstream climate change adaptation strategies into county policies and plans to reduce climate related diseases, morbidity, and motility** | | | | | | | | | | | | |
| Enabling actions (policies, regulations & capacity building | Improved governance and accountability | Implement water harvesting policy for institutions and households | Proportion of policies, strategies, registration procedures developed and operational | Policy document | Department of water | | √ | √ | | | 10 | Economic risk- value for money Technological risk with procurement Ensuring sustainability Political will reduced or change Fraud and Corruption |
| | | Trained healthcare workers and community health volunteers on climate related disasters | Proportion of staff trained | Certification | Department of Health | | √ | √ | √ | √ | 20 | Economic risk- value for money Technological risk with procurement Ensuring sustainability Political will reduced or change Fraud and Corruption |
| | | A county waste management plan and other relevant policies developed. | Proportion of policies, strategies, registration procedures developed and operational | Waste management plan developed | Department of Health/ Urban planning | | √ | √ | | | 50 | Economic risk- value for money Technological risk with procurement Ensuring sustainability Political will reduced or change Fraud and Corruption |

## 7.2 Annex 2: County Climate Change Action Plan Institutional Arrangement