

# COUNTY GOVERMENT OF KITUI



## KITUI COUNTY CLIMATE CHANGE ACTION PLAN (KCCCAP)

2023-2027

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## **DEFINITION OF TERMS**

**Adaptive capacity:** Adaptive capacity is the property of a system to adjust its characteristics or behavior, in order to expand its coping range under existing climate variability, or future climate conditions.

**Climate change:** Means a change of weather patterns which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

**Coping:** refers to the use of existing resources to achieve desired goals during and immediately after climate-induced hazards.

**Disaster:** A disaster can be defined as a serious disruption of the functioning of the society causing widespread human, material or environmental damage and losses which exceed the ability of the affected community to cope using their own resources.

**Hazard:** Hazard is the potential for harm or an adverse effect (for example, to people as health effects, to organizations as property or equipment losses, or to the environment).

**Impacts:** Specific effects of hazards or disasters also referred to as consequences or outcomes.

**Mitigation:** Short and long-term actions, programs or policies implemented in advance of a natural hazard or in its early stages, to reduce the degree of risk to the people, property, and productivity capacity.

**Preparedness:** Pre-disaster activities designed to increase the level of readiness or improve operational capabilities for responding to an emergency.

**Response:** Actions taken immediately before, during or directly after a disaster to reduce impacts and improve recovery.

**Risks:** Risk is the chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard. It may also apply to situations with property or equipment loss, or harmful effects on the environment.

**Vulnerability:** The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

## **ACRONYMS**

**CBOs**-Community Based Organizations

**CCCAP**-County Climate Change Action Plan

**CCIS**-County Climate Information Service plan.

**CIDP**-County Integrated Development plan.

**CIS**-Climate Information Service

**CSAS**-Climate Smart Agriculture Strategy

**CSOs**-Civil Society Organizations.

**ECDE**-Early Childhood Development Education

**EMCA**-Environment Management and Coordination Act

**GHG**-Greenhouse gas

**KIMWASCO**-Kiambere-Mwingi Water and Sewerage Company.

**KITWASCO**-Kitui Water and Sewerage Company.

**NAP**-National Action Plan

**NCCAP**-National Climate Change Action Plan.

**NCCFP**-National Climate Change Framework Policy

**PCRA**-Participatory Climate Risk Assessment.

**SDG**-Sustainable Development Goals

**SEKEB**-South Eastern Kenya Economic Block



## **Foreword**

Kitui is a semi-arid county characterized by high rainfall variability and prolonged droughts. The county experience impacts of climate change such as high temperatures, unpredictable rainfall patterns, increased incidences of droughts and diseases, reduced crop and livestock production, and loss of lives and diminishing livelihoods. Kitui County was among the first five counties in Kenya to initiate climate change mainstreaming and institutionalization of county climate change finance mechanism. Climate change action in Kenya is guided by the Climate Change Act, (No. 11 of 2016), provides a framework for mainstreaming climate change in the County Governments' policies, plans and programmes. The Act further requires the Governments to develop action plans to guide resource allocation for both adaptation and mitigation measures. Climate change presents a major threat to Kenya's socio – economic development. County Government of Kitui has formulated Kitui County Environment and Climate Change Policy 2023 and Kitui County Climate Change Fund Regulations, 2018. Kitui County Climate Change Fund has been established and operationalized and county climate change institutions created. County Government of Kitui is allocating at least 1.5% of our annual development budget for supporting climate change actions. Kitui County Climate Change Action Plan (KCCCAP) 2023 – 2027 was prepared through an extensive participatory and consultative process and sets out bold measures and strategies to ensure that our peoples' resilience and adaptive capacity is enhanced. The plan also ensures our development remains sustainable in the event of any adverse climate change impacts, including droughts, environmental degradation, Pest and disease outbreaks and other extreme climate events that have in the recent past occasioned far-reaching negative implications on our development and economy.

KCCCAP 2023 – 2027 aims to further and contribute in the delivery to Kenya's Nationally Determined Contributions (NDCs) to the Paris Agreement and development

goals by providing mechanisms and measures that achieve low carbon climate resilient development. A low carbon climate resilient development pathway emphasizes sustainable development and prioritizes adaptation, recognizing the importance of increasing the climate resilience of vulnerable groups, including women, youth, persons living with disabilities, marginalized and minority communities.

The collective contributions of all the County Government of Kitui departments, Civil Society Organizations, non-state actors and individual citizens to this County Climate Change Action Plan will help deliver the expected transformational outcomes. The plan will also require the support of our development partners and other well-wishers to ensure its effective implementation for the benefit of the present and future generations.

H.E. Dr. Julius Malombe E.G.H

**The Governor, Kitui County**

## **ACKNOWLEDGEMENT**

The Kitui County Climate Change Action Plan 2023-2027 is the first Kitui county climate change action plan. The plan has been developed through a series of engagements with various stakeholders and screened through to reflect and align to the National Climate Change Action Plan 2018-2022. The plan has been developed within the general framework of the National Climate Change Response Strategies (NCCRS) 2010 and National Adaptation Plan (NAP) 2015- 2030) as they relate to the fragile Arid and Semi-Arid Lands.

This Climate Change Action Plan was developed with assistance of relevant national and county government departments, Non-Governmental Organizations, Civil Society Organizations and with the support of funds from the financing locally led climate actions.

I would also wish to thank the Financing Locally Led Climate Action (FLLoCA) Program team for the financial and technical support towards preparation of this action plan. I would also wish to extend my appreciation to the Chief Officer for Environment, climate Change and Forestry; Mr. David Masai Soi for the effective coordination of the process leading to this Climate Change Action plan.

Last but not least, I wish to thank all those who participated in the development of this Climate Change Action Plan from inception to Validation. In particular I would like to recognize the efforts of the Director for Environment and Climate Change, Mr. Fredrick Kimwilu; Deputy Director for Environment, Energy and Mineral Resources - Mr. Benjamin Mukulo; Assistant Director for Environment– Mr. Dominic Mumbu; Environment Officer, Ms. Marian John; and Climate Change Desk Officer, Mr. Jackson Mwendwa. Indeed, this is a clear demonstration of the commitment that the ministry of Energy, Environment, Forestry, Natural and Mineral Resources has towards building the climate resilience of Kitui People.

I therefore extend my humble invitation to all partners and stakeholders to collaborate in bringing to life this Climate Change Action Plan.

Richard John Mwendandu

**CECM for Energy, Environment, Climate Change, Forestry, Natural and Mineral Resources.**

## **EXECUTIVE SUMMARY**

Kitui County has various climate change impacts attributed to hazards such as drought, environmental degradation, livestock diseases, crop pests and diseases, human wildlife conflicts, human diseases and social risks. These have immense impacts, affecting the economic and human developments of people in rural and urban areas. These impacts disproportionately affect vulnerable populations such as the elderly, poor, and minorities.

Section 13 of the Climate Change Act, 2016 provides for the development of National Climate Change Action Plans (NCCAPs); the development of specific county climate change actions plans to prescribe measures and mechanisms to mainstream adaptation and mitigation actions into sector functions of the National and County Governments.

In identifying climate change risks and hazards communities are required to be engaged through a well-structured and meaningful participatory approach. Participatory Climate Risk Assessment approach was used to establish climate change risks affecting the Kitui County communities and subsequently used to inform the development of this action plan.

The plan outlines goals, strategies, and actions to reduce greenhouse gas emissions, increase energy efficiency, and increase resilience in the face of a changing climate. The plan also includes public engagement, education, and outreach efforts to ensure broad community support and participation in climate action.

Chapter two of this Action Plan highlights the legal and regulatory framework on which this plan is anchored. These frameworks include: The Constitution of Kenya 2010; Kenya Vision 2030 (2008) and its Medium Term Plans; Kenya Climate Smart Agriculture Strategy (2017-2016); National Climate Change Action Plan (2018-2022); National Climate Change Response Strategy (2010); Climate Risk Management Framework (2017); Kenya National Determine Contribution (NDC) (2016); National Climate Finance Policy (2018); National Climate Change Policy (2016); and Climate

Change Act (No 11 of 2016) among others.

In Chapter three the plan focuses on identifying the priority strategic actions across the different sectors in the county. This is guided by the identified ward actions during the PCRA process through a combination of community participatory tools including interview surveys, inputting and validation workshops. These strategies identified per sector have been used in the proposition of the climate change actions and guided in the development of the implementation matrix.

The subsequent chapter four provides an analysis of the enabling environment putting into consideration the legal provisions within the county, the governance and resource mobilization strategies that will support the execution of this action plan. In addition, the chapter explores how the Action plan has been mainstreamed within the county integrated development plan and it aligns with the national climate change action plan.

## **CHAPTER ONE**

### **CONTEXT OF THE CLIMATE CHANGE ACTION PLAN**

#### **1.1. Introduction & Background**

The National Government and other key players led and guided the process of developing KCCCAP 2023 - 2027, and worked with County Governments during this process in line with the Constitution of Kenya (2010). County Governments are responsible for a number of devolved functions whose actions will contribute to the achievement of Kenya's responsibility to deliver on its Nationally Determined Contribution (NDC) under the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC).

Section 13 of the Climate Change Act, 2016 provides for the development of National Climate Change Action Plans (NCCAPs); development of specific county climate change actions plans to prescribe measures and mechanisms to mainstream adaptation and mitigation measures. Further section 19 of the Climate Change Act, 2016 requires counties to integrate and mainstream climate change actions and interventions in their policies, plans and programmes.

Kitui county climate change action plan is a comprehensive plan designed to reduce emissions, create other climate-related resilience measures that help protect vulnerable populations and combat potential effects of climate change. This Kitui County Climate Change Action Plan 2023 – 2027 presents detailed actions that Kitui County will embark on to address climate change.

KCCCAP 2023 – 2027 builds on National Climate Change Action Plan framework by which considerable progress was made including scaling out County Climate Change Fund mechanism from the pilot five counties between the year 2013 – 2017, to all counties in Kenya; Establishment of County Climate Change Units in all the forty-seven counties; and Development of Financing Locally-Led Climate Action (FLLoCA) Program. KCCCAP 2023 – 2027 is a framework for Kitui County to build resilience and enhance communities' adaptive capacity besides ensuring the environment is conserved.

Climate change has increased the frequency and magnitude of extreme climate events in the county. These events have led to loss of lives, diminished livelihoods, reduced crop and livestock production, and damaged infrastructure, among other adverse impacts. Lack of sufficient rains, increased temperatures and prolonged droughts are some of the common phenomena that have been witnessed in the county. Climate change is a significant threat to Kitui's future development, including achievement of the Kenya Vision 2030. This KCCCAP emphasizes sustainable development, while prioritizing adaptation, and recognizing the importance of enhancing climate resilience of vulnerable groups, including children, women, youth, persons with disabilities, the elderly, marginalized and minority communities.

### **1.1.1 Purpose and Process of the CCCAP**

Kitui County Climate Change Action Plan (CCAP) is a strategic document that outlines the priorities, goals, and actions to address climate change challenges. The primary purpose of the CCAP is to enhance climate resilience, promote sustainable development, and safeguard the well-being of communities and ecosystems. KCCCAP identifies ways to reduce greenhouse gas emissions in the county, as well as to adapt to the impacts of climate change. The development of the County Climate Change Action Plan typically involves a participatory and inclusive process to ensure that diverse stakeholders, including women, youth, people living with disabilities and other vulnerable groups have an opportunity to contribute their perspectives, knowledge and experiences. The interventions/priority actions will therefore benefit the vulnerable groups the most.

Further, the KCCCAP provides a roadmap for integrating climate considerations into development planning, resource allocation, and policy formulation. It prioritizes locally-led climate actions for resilience building. The process seeks to empower these groups and enable them to actively participate in decision-making and planning processes.



The forty-seven County Governments in Kenya are required to establish both County Climate Change Units (CCCU) and County Climate Change Funds (CCCF). These structures alone are not adequate in building climate change resilient community. To address this gap, county climate change action plan was developed. Development of county climate change action plan requires identification of climate hazards and associated risks through a well-structured and meaningful participatory approach. Participatory Climate Risk Assessment approach was used to establish climate change risks affecting the communities in Kitui County. During the PCRA process it was ensured that women, youth, ethnic minorities, people living with disabilities and other marginalized and vulnerable groups were given priority to participate. County climate change action planning process included; literature review (existing participatory vulnerability capacity assessment reports, CIDP, ADP, CISP, NCCAP, EMCA, National Climate Change Framework Policy, National Climate Change Act 2016 and Kitui County Energy Outlook), public inputs through the PCRA process, development of zero draft, subjecting the zero draft to public participation, development of the final draft, presentation to the county executive committee for approval and submission to the county assembly for adoption.

## **1.2 Underlying Climate Resilience Context**

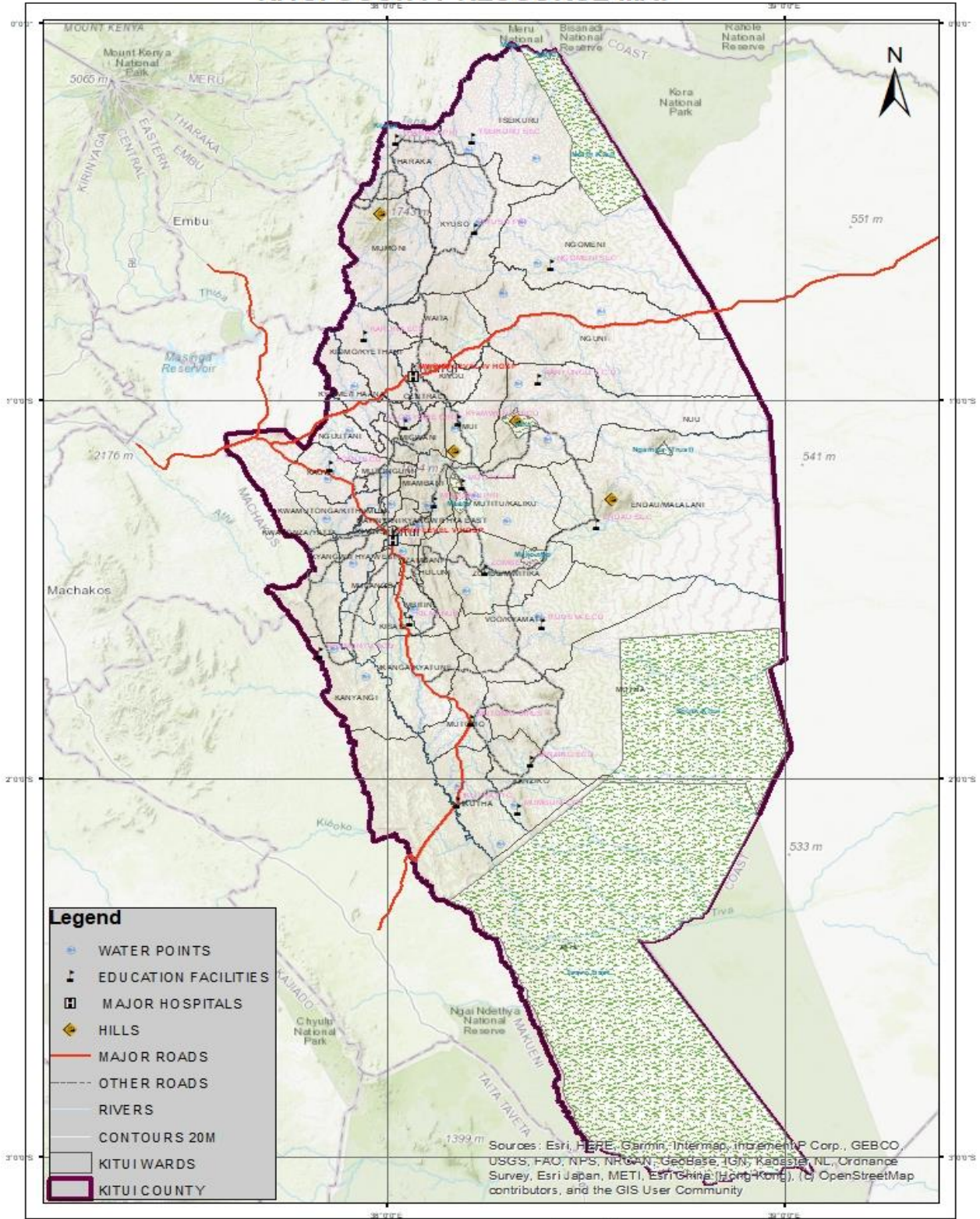
Kitui County experiences climate change and variability manifested through depressed rainfall, recurrent drought, extreme temperatures and flash floods. This affects sectors; agriculture, water, public health and environment. This climate variability coupled with population increase impacts negatively on the livelihoods of the people. Most of the livelihoods for the communities are interlinked to ecosystems and weather dependent mainly rainfall.

Kitui County has arid and semi arid climate, with erratic and unreliable rainfall distribution and extreme temperature variations. The rainfall received is bimodal with two main seasons namely March – April– May (MAM) long rain season and October – November – December (OND) short rainseason. Severe drought events have been recurring in most parts of the county while occasional flash floods have been experienced along major

seasonal rivers. The total number of months with average temperature greater or equal to 25°C serves as an indicator of heat stress. The months of January to May, October and November, are months that experience heat stress. (Source: meteorological department, kitui office)

The impacts of climate change in the county are largely felt by crop and livestock farmers. At the household level, climate change impacts are associated with food insecurity, water scarcity and emergence of livestock and human diseases. In the event of prolonged drought resulting to water scarcity and food insecurity, the most affected vulnerable groups are women, children, youth, elderly, PWD and critically sick.

### KITUI COUNTY RESOURCE MAP



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, OpenStreetMap contributors, and the GIS User Community

Prepared by:  
County GIS Department  
22.05.2023

Coordinate System : GCS Arc 1960  
Datum : Arc 1960  
Units : Degree

Figure 1 Kitui County Resource Map

### **1.2.1 Impacts of Climate Hazards in the County**

Kitui County is inhabited by agro-pastoralists whose livelihoods depended on rainfed agriculture and livestock farming, mostly in the range land areas. Most of the county's sub-counties are characterized as semi-arid. Due to climate change, the farming lands no longer suitable for rain-fed agriculture. Climate resilience in these areas is built more on the net incomes generated from mixed farming, rather than distinct crop and livestock farming.

Kitui County has the following hazards; Drought, Environmental Degradation, Floods and Extreme temperatures. These have immense impacts, affecting the economic and human development in rural and urban areas. These impacts will disproportionately affect vulnerable populations such as the women, youth, elderly, poor, and minorities.

Drought has been identified as serious climatic hazard in the county, whose impacts is; water scarcity, food insecurity, lack of pasture and fodder, human-human conflicts, human-wildlife conflict, wildlife-wildlife conflict, rural-urban migration, increased crime and breakdown morals, outbreak of diseases, school dropouts and early mariages.

Environmental degradation such as deforestation, poor waste management, point source pollution and land degradation. The impacts include; loss of biodiversity, drying of water sources, outbreak of diseases, human-wildlife conflict, loss of natural resources, loss of ecosystem services and loss of aesthetic value.

Flash floods experienced in lowland areas have resulted to breaking of water infrastructure, communication channels, road network, property destruction, habitat loss, scour out new channels, loss of crop land, destruction of crops, death of livestock, loss of human lives and outbreak of diseases.

Extreme temperatures have been associated with incidences of emergence of crop

pests and diseases, low livestock production, increased incidences of snake bites, heat stress and discomfort.

### **1.2.2 County Climate Hazard Map**

Based on the ward level climate risk assessment report, 4 climate hazards were identified and ranked as follows;

1. Drought
2. Environmental degradation
3. Floods
4. Extreme temperatures.

# 1. Drought Hazard Map

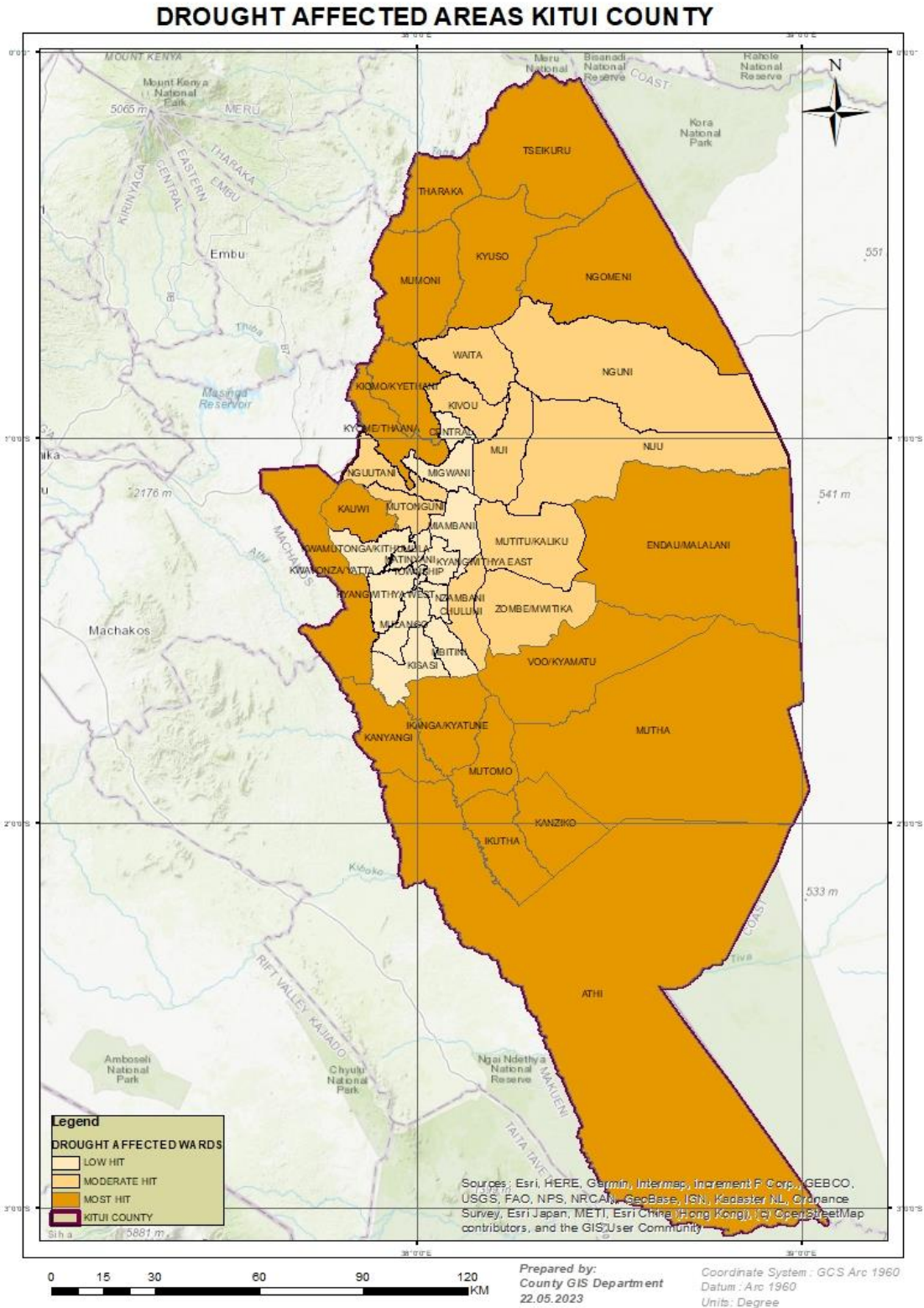


Figure 2: Map of Kitui County showing levels of drought distribution across the wards

2. Environmental Degradation Hazard Map

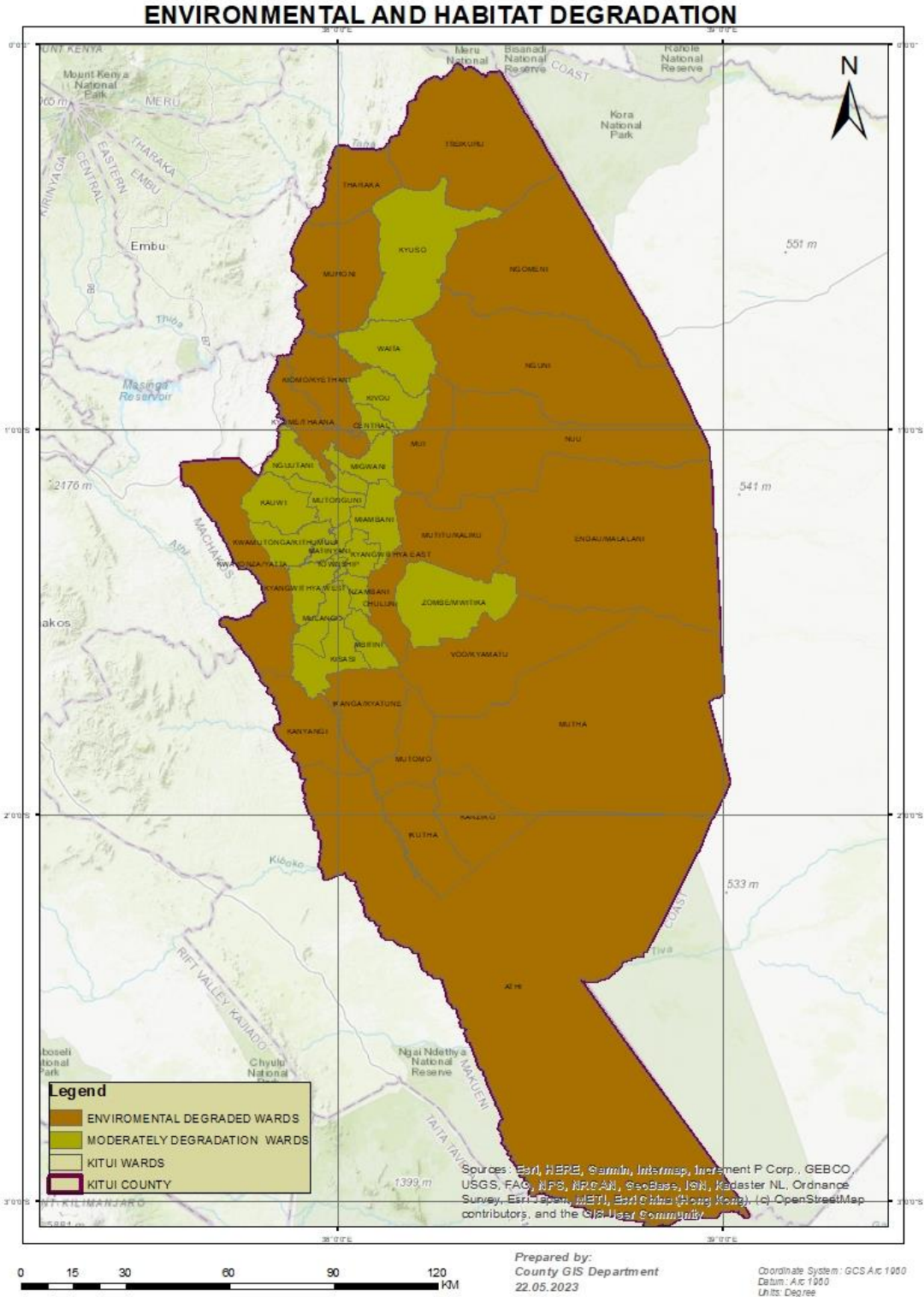
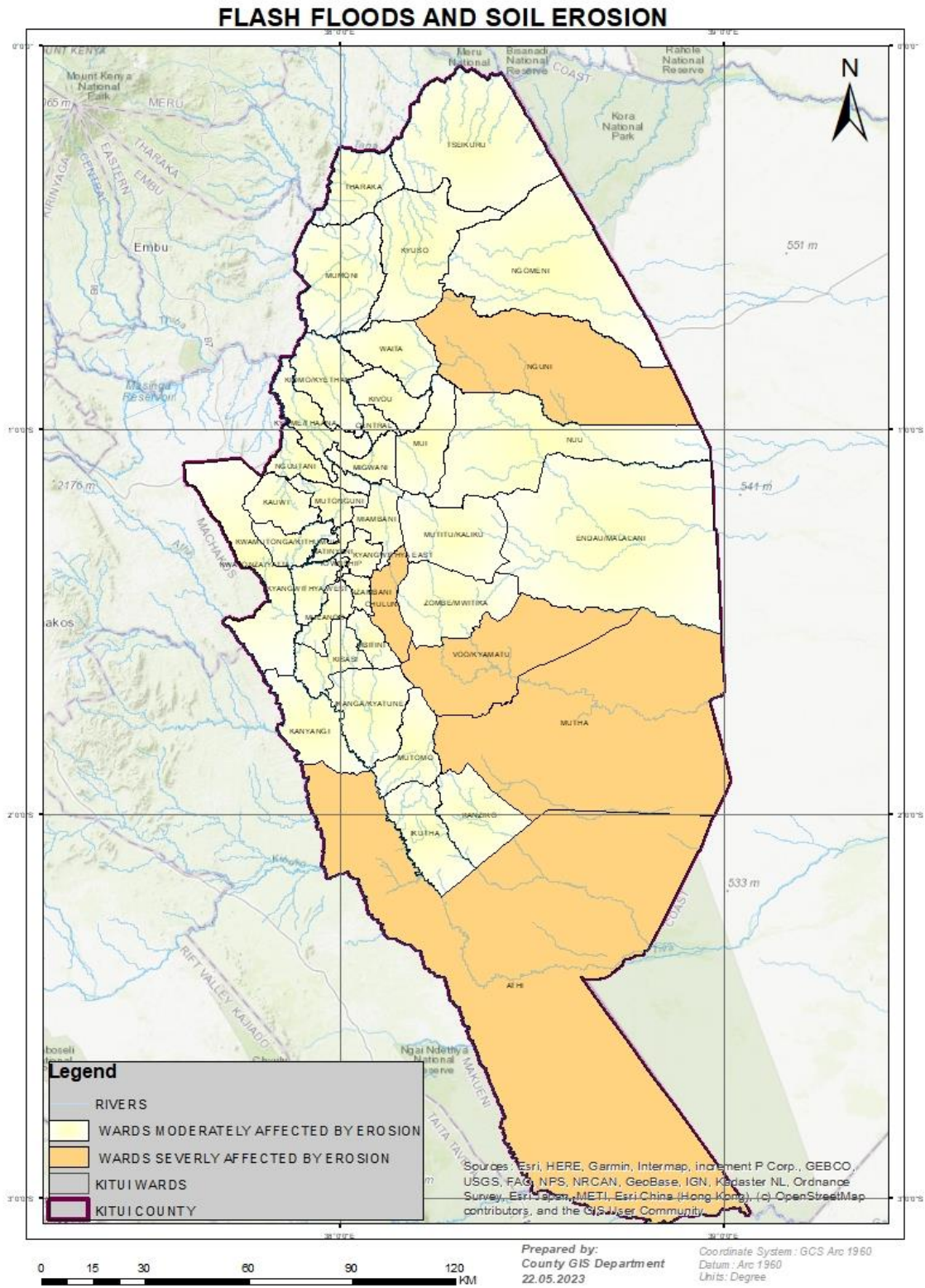


Figure 3: Map of Kitui County environmental degradation spatial distribution

**3. Flash Floods Hazard Map**



*Figure 4: Map of Kitui County showing the soil erosion affected areas across the wards*



### 4. Extreme Temperature Hazard Map

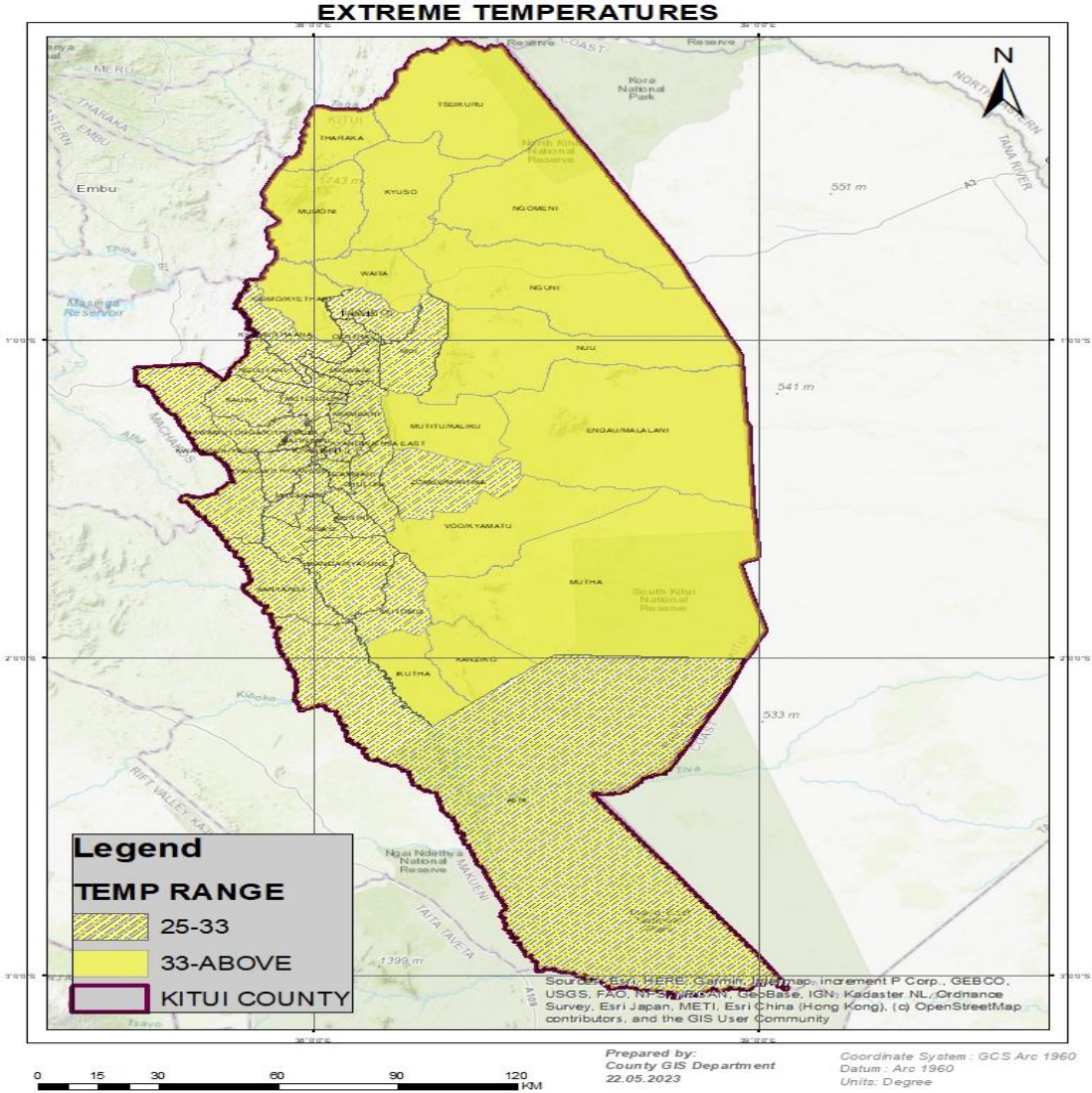


Figure 5: Map of kitui county showing areas hit by extreme temperature events

### **1.2.3 Summary of Differentiated Climate Exposure and Vulnerability of key groups and Livelihoods in the County**

The differentiated exposure and vulnerability of key groups refer to the notable effects of climate hazards, while paying attention to the specific groups in the society who have been affected the most. The vulnerable groups that are affected by the hazards are women, elderly, youth, children, and PWD. Table 2 highlights the vulnerable groups and their livelihoods against the hazards and the associated impacts (Annex 1)

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

### **1.3.1 Mainstreaming of NCCAP in County Actions**

Mainstreaming national climate change action plans into county action plans is essential for Kenya to successfully address the impacts of climate change since each county in Kenya has a unique experience with the impacts of climate change. The National Climate Change Action Plan (NCCAP) 2018-2022 is a five-year plan to steer the country towards a low carbon development pathway. The Plan is derived from the Climate Change Act (Number 11 of 2016), which requires the Government of Kenya (GoK) to develop Action Plans to guide the mainstreaming of climate change into sector functions.

NCCAP 2018-2022 will further the achievement of Kenya's development goals by providing mechanisms to realize low carbon climate resilient development. It emphasizes sustainability, while prioritizing adaptation and enhanced climate resilience for vulnerable groups, including women, youth, persons with disabilities, and marginalized and minority communities. The Kitui County Climate Change Action Plan is in line with the National Climate Change Action Plan.

Kitui County has adopted a climate-sensitive budgeting plans and strategies that prioritize climate-related actions in order to ensure that necessary resources are being allocated for county-level climate change initiatives. The county has prioritized allocating up to 2

% of its annual development budget for climate change in subsequent financial years. It has aligned climate change actions with the government's development agenda while guided by the principles of consultation and cooperation, equity and social inclusion.

The process of identifying the County Climate Change Action plans was participatory, through involvement of development partners, private sector, civil society, and vulnerable groups including PLWDs, youth, women and the marginalized communities.

### **1.3.2 Climate Change in CIDP**

Kitui County has included climate change as a primary consideration in all aspects of planning. The County in its CIDP 2023- 2027 has identified climate change as one of the major risks impacting on the county's development. Adaptive strategies have been incorporated in all aspects of planning, and appropriate departments allocated resources to implement adaptive strategy to ensure that development initiatives are resilient to the impacts of a changing climate.

The other County Sectors have mainstreamed and identified programs for implementation of climate actions. The priority actions in the CIDP link with county climate actions identified during the participatory climate risk assessment process. Climate change in Kitui County has been mainstreamed through various programmes and projects spread across sectors. In the water sector, the CIDP has planned for the development of climate proof infrastructure and promotion of water harvesting storage and conservation.

In the agriculture sector, promotion of climate smart technologies including growing of drought tolerant food crops has gotten a node in the CIDP. Afforestation and reforestation programmes are well planned for in the CIDP. One of the important elements in the CIDP is the recognition of the climate change impacts, and proposing contingency funds in the event of climate shocks through the establishment of a department of performance contracting, disaster and emergency services by the county executive.

### **1.3.3 Other key climate actions/strategies in the County**

Kitui County has made a considerable stride in addressing the key energy gaps through the Kitui County Energy Outlook and Kitui County Energy Masterplan. The plan outlines the status of energy access in Kitui County and has identified priority actions. It proposes strategies to effectively provide access to clean energy solutions in all sectors of the economy including at the household level.

## **2.0 POLICY ENVIRONMENT**

### **2.1 National Policy Context**

#### **2.1.1 The National Perspective**

Climate change is a global challenge that requires a multidisciplinary coordinated effort. The International political response to climate change begun with the adoption of United Nations Framework Convention on Climate Change (UNFCCC) in 1992. The convention sets out the framework for international co-operation to combat climate change by limiting average global temperature increases and resulting climate change, and coping with impacts that were, by then, inevitable. By 1995, countries launched negotiations to strengthen the global response to climate change, and two years later, adopted the Kyoto Protocol. The Kyoto Protocol legally binds developed country Parties to emission reduction targets. There are now 197 Parties to the Convention and 192 Parties to Kyoto Protocol. The 2015 Paris Agreement marks the latest step in the evolution of the UN climate change regime and builds on the work undertaken under the Convention. The Paris Agreement charts a new course in the Global effort to combat climate change. Kenya is a low-income, predominantly rural country located in East Africa. Its climate risk context is predominantly characterized by aridity, dry spells, floods, drought, desertification, sea-level rise, heat waves, and extreme weather.

Around 3.1 million Kenyans are directly affected by climate variability and change, due mainly to the effects of floods, droughts, and food insecurity. In order to reduce its vulnerability to climate change, Kenya has set a number of ambitious targets to reduce emissions of greenhouse gases by 30-35% below 2015 levels by 2030, as set out in its Nationally Determined Contributions (NDCs). Additionally, Kenya has committed to increasing renewable energy production from 10% to 20% of the total national electricity mix by 2030 and to expanding its renewable electricity production capacity from 310MW in 2018 to at least 740MW by 2030. Finally, the country has also expressed a strong intent to conserve ecosystems, increase green infrastructure, promote sustainable land use and agriculture, and invest in adaptation patterns.

### **2.1.2 National Legal and Policy Framework**

Globally, Kenya is a party to the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement. Considerable efforts have been made to integrate climate change considerations into the country's policies and programmes. Kenya's NCCAP (2018-2022) aims at achieving a low carbon climate resilient development pathway through mitigation and adaptation strategies. The NCCAP provides a range of actions to reduce GHGs emissions within the agriculture sector, Industry and manufacturing sector, including agroforestry, sustainable land management, and efficiency in livestock management. The NCCAP further calls for adaptation strategies including increased water harvesting, sustainable land management. Several other climate related legislations and policy frameworks that guide the Kenya climate change landscape.

Some of these critical legislations have existed longer and they include; The Constitution 2010, Kenya Vision 2030 (2008) and its Medium Term Plans, Kenya Climate Smart Agriculture Strategy (2017-2016), National Climate Change Action Plan (2018-2022), National Climate Change Response Strategy (2010), Climate Risk Management Framework (2017), Kenya National Determine Contribution (NDC) (2016), National Climate Change Policy (2016), Climate Change Act (No 11 of 2016), National Adaptation Plan (NAP) (2015-2030), National Climate Change Finance Framework Policy (2018), Public Finance Management (Climate Change Funds) Regulation (2018), Sustainable Waste Management Act 2022, Environmental Management and Coordination Act (EMCA) (2015), The Agricultural Sector Development Strategy (2010-2020) and the County Governments Act (2012).

#### **2.1.2.1 Constitution of Kenya, 2010**

Article 42 of CoK 2010, provides for the right to clean and healthy environment for every Kenyan. This includes the right to have the environment protected for the benefit of the present and future generations, thereby establishing commitment to ecologically sustainable development. Further, Articles 2(5) and 2(6) of the CoK also provide for the rules of international laws and any treaty ratified by Kenya shall form part of the domestic legal system. Thus, the UNFCCC and the Paris Agreement, which provide for

commitments made by countries towards Climate Change Assessment Actions form part of Kenyan Laws.

### **2.1.2.2 Climate Change Act, 2016**

The main objective of this law is to enhance climate change resilience and low carbon development for sustainable development in Kenya. The Act establishes institutional structures including the Climate Change Fund, National Climate Change Council headed by the president of Kenya as well as the Climate Change Directorate. The Council is the overarching national institution on climate change with a role of providing strategic and policy direction for climate change to national and county governments as well as to manage the climate change fund established under the Act.

### **2.1.2.3 National Climate Change Response Strategy**

This was the first national planning document addressing the threats posed by climate change while at the same time taking advantage of potential climate change related opportunities. Its long-term strategy was to be implemented from 2010-2030 strengthening and focusing on national wide actions towards Climate Change assessments and adaptations and GHG emissions mitigation by ensuring commitment and engagement of all stakeholders in view of the vulnerable nature of Kenya's natural resources and society. The National Climate Change Response Strategy provided a framework for integrating climate concerns into development priorities, government planning and budgeting.

### **2.1.2.4 National Climate Change Action Plan**

The 2013-2017 Action plan was developed with the aim of implementing the National Climate Change Response Strategy. Envisaged as the first series of 5year action plans, the documents aimed to further the country's sustainable development goals through setting out priority adaptation, mitigation and enabling actions and promoting mainstreaming of climate change actions into development planning and budgeting process. The objective of the first plan was to encourage low carbon climate resilient development throughout the country. The second action plan 2018-2022 aimed to further Kenya's development by providing mechanisms and measures to achieve low carbon

climate resilient development in a manner that prioritizes adaptation. It also considers the impact of climate change on Kenya's socio-economic sectors and further identify strategic areas where climate action can be linked to the vision 2030 strategic goals.

#### **2.1.2.5 National Climate Change Framework Policy, 2018**

The document provides a framework to guide the development and implementation of detailed climate change interventions listed in the climate change action plans. The policy aims to integrate climate change considerations into planning, budgeting, implementation and decision making at the national and county level and across all sectors. It also established a funding mechanism and strategy that enables implementation of priority actions for climate resilience adaptive capacity and low-carbon growth.

#### **2.1.2.6 National Adaptation Plan (2015-2030)**

National Adaptation Plan details institutional arrangements, including monitoring and evaluation process. It also provides and analysis of the current and future climate trends in Kenya, highlighting key institutional and policy coordination relevant to climate change and presents climate risk profile for the country. It further identifies priority actions in key planning sectors for the short, medium and long in line with the country's development plan.

#### **2.1.2.7 Climate Smart Agriculture Strategy (2017-2026)**

The broad objective of the strategy is to adapt to climate change resilience of agriculture systems while minimizing emissions for enhanced food and nutritional security and improved livelihoods. In this respect the strategy aims at enhancing the adaptive capacity and resilience of the actors in the agriculture sector by addressing cross cutting issues that adversely impact climate -smart agriculture. The strategy recognizes the role of the Climate Change Act and NAP in improving coordination and collaboration among institutions and stakeholders in climate smart agriculture.

#### **2.1.2.8 Climate Risk Management Framework (2017)**

Outlines the government intention to harmonize its climate change and disaster risk policies. According to the framework, there are ten priority areas that overlap between climate change and disaster risk policies.



### **2.1.2.9 National Climate Finance Policy**

To finance these laws and policies, the country adopted the National Climate Finance Policy that aims to improve the nation's ability to mobilize, track and effectively manage climate change finances through enhances mobilization of climate finance that contribute to low-carbon.

### **2.1.2.10 Education Sector Disaster Management Policy**

The Ministry of Education developed this policy which primarily underscores the importance of early warning systems and coordination during Disaster Risk Management activities within the education sector. The policy also emphasizes the role of educational institutions in providing physical psychological protection to the affected as well as the importance of their reconstruction in times of disasters.

### **2.1.2.11 Sustainable Waste Management Act, 2022**

The Act provides for the management of waste through segregation and establishment of the Material Recovery Facilities (Facilities) that will help reduce the amount of waste deposited at the site. The MRFs will act as central places where waste collected will be further sorted to enhance reduction, recycling and re-use generating a circular economy. The aftermath is reduced GHG emissions within the county

### **2.1.2.12 Environmental Management and Coordination Act (EMCA) 1999 Rev 2015**

It is an act of the Kenyan Parliament that provides a legal framework for environmental management and conservation, including climate change mitigation and adaptation. The act provides for the establishment of the National Environment Management Authority (NEMA) which is responsible for coordinating and supervising all matters related to the environment. The Act provides for environmental protection through; Environmental impact assessment, Environmental audit and monitoring and Environmental restoration orders, conservation orders, and easements.

## **2.2. County Enabling Legal & Policy Framework**

Through the constitution of Kenya 2010, county governments are mandated to legislate over the county devolved functions and domesticate national laws to guide in the development of the county. The county of Kitui has embraced this mandate through the formulation of the following legal frameworks.

### **2.2.1 Kitui County Integrated Development Plan (C.I.D.P. 2023 – 2027)**

The 5-year plan integrates the long-term spatial, sector and urban plans with inputs from the Governor's manifesto, national government plans and programs, past county development performance and the views and expectations of other development actors and the public at large. The CIDP sets the priorities and guides all county government spending and various sectors. The CIDP was crucial in aligning key climate change priority actions

The CIDP (2023-2027) has identified climate change with all its manifestations as a key hindrance to the county development and the need to mainstream it in various county plans such as the County Spatial Plan (CSP) as well as Cities and Urban Areas Plan which are the basis for county budgeting and expenditures.

### **2.2.2 Kitui County Climate Change Fund Regulations, 2018.**

In addition to the CIDP, the County Government of Kitui enacted the Kitui County Climate Change Fund Regulations in 2018 to give effect to section 19 of the national Climate Change Act, 2016. This operationalized Kitui County Climate Change Fund (KCCCF) and

put in place structures for implementing county specific climate actions. The regulations established the County Climate Change Steering Committee (KCCCSC), County Climate Change Technical Committee (KCCCTC) and Ward Climate Change Planning teams (WCCPTs) in the county wards.

### **2.2.3 Kitui County Environment and Climate Change policy, 2023.**

Early 2023, the county passed the Kitui County Environment and Climate Change Policy (KCECCP) to give impetus to the existing frameworks. These structures have placed Kitui County in a vantage position in mobilizing resources and/or building partnerships for implementation of adaptation and mitigation programmes and projects to build resilience of her citizens against the effects of climate change.

The Kitui county environment and climate change policy 2023 recognizes the impacts of climate change on the key sectors of development namely; water, health, education, agriculture, livestock, infrastructure, transport, and communication including sports and culture. The policy outlines inadequate policies and regulatory frameworks in addition to low community adaptive capacity to climate change as the biggest challenge in building resilience to climatic shocks. The policy recommends structured community capacity building including strengthening of human and ecosystem resilience and deliberately moving to mobilize resources towards climate change actions.

### **2.2.4 Kitui County Charcoal Management Act, 2014.**

This Act is formulated to regulate and manage the production, use and trade of charcoal in Kitui County. It establishes the County Charcoal Management Committee. The act strives to enhance the sustainable use, conservation and management of forests and trees; to promote the participation of the communities, private sector and other stakeholders in forest management; conserve water catchment areas; promote dry land forestry; produce wood fuel, charcoal and non-wood forest products; promote forest extension to enable farmers and other forest stakeholders to benefit from forest management approaches and technologies and; promote climate change adaptation and mitigation efforts. All commercial charcoal producers are required to organize themselves in charcoal producers associations. The Act defines the functions of such associations and

provides with respect to their formation and licensing. The Act also provides responsibilities of the charcoal transporters association and the formation of an enforcement team.

#### **2.2.5 Kitui County Climate Change Unit.**

To further give effect to section 19 of the national Climate Change Act, 2016. The county government of Kitui has established the Kitui county Climate Change Unit. The unit is headed by the director in charge of climate change and domiciled in the Ministry of Energy, Environment, Climate Change, Forestry, Natural and Mineral Resources. The unit is composed of technical officers from the county climate sensitive departments of water, agriculture, livestock, forestry, public health and economic planning. In addition the unit has also the environmental and social focal point officers. The role of the unit is to spearhead locally led climate change actions, support county departments in mainstreaming climate change actions into their planning processes and overall coordination of climate change programmes in the county both from the county government and non-state actors.

### **3. Priority Climate Change Actions**

#### **3.1 Identification of strategic climate action priorities in the PCRA**

Priority strategic actions were identified in the PCRA process through a combination of community participatory tools including interview surveys, inputting and validation workshops. By exploring local perceptions of climate-related risks, the PCRA process identified climate solutions that are best suited to each specific context. The process also employed quantitative methods such as cost-benefit analyses to identify the most effective and feasible climate strategies for a given area. This helped to ensure that the selected actions will provide the most benefit in terms of long-term climate risk reduction, cost-effectiveness, and/or short-term emissions reduction.

#### **3.1.2 Priority County Climate Change Actions**

##### **3.1.2. 1 Environment and Natural resources Sector**

Kitui county economy primarily depends on natural resources where over 95% of the population live in rural areas and derive their livelihoods mainly from these resources. The environment and natural resources have in the past years been under threat due to overexploitation to meet basic needs, negative coping mechanisms such as charcoal production and shift cultivation practices. The situation is aggravated by the rising poverty levels. Climate change and variability are likely to increase the pressure that environment and Natural resources are already facing; Intervention proposed will include:-

##### **Reforestation of Degraded Forests**

- ✓ Undertake mapping out of degraded forest hotspots in county for rehabilitation;
- ✓ Develop participatory management plans for all forests in the county
- ✓ Develop a comprehensive afforestation plan of all county forests with an emphasis on indigenous tree species;
- ✓ Upscale the current Programme on greening of urban centers including schools, hospitals and roads;
- ✓ Develop specific county forest management plans in every county gazetted forest;
- ✓ FastTrack gazettement of county forest and hilltops for conservation;

- ✓ Initiate/Strengthen early warning systems in reduction of fire outbreaks (fire towers, fire drills).
- ✓ Mapping of biodiversity in all forests in the county
- ✓ Promote tree growing in county forests through establishment of community cooperatives, self-help groups and Community Based Organizations
- ✓ Capacity building and sensitization of communities on restoration of degraded lands and forests conservation

### **Re-Afforestation of Degraded Lands**

- ✓ Develop guidelines that restrict cultivation on 45<sup>0</sup> elevated land to prevent soil erosion and loss of biodiversity
- ✓ Promote forest management through natural regeneration
- ✓ Capacity building of community on tree nursery establishment and management as an alternative source of livelihood
- ✓ Restoration of forests/woodlands on the degraded rangelands through tree growing of climate adaptive species and in-situ and ex-situ water conservation to create favorable conditions for regeneration of indigenous tree; and
- ✓ Strengthening capacity of communities living adjacent to forests on forest management;
- ✓ Identification and Protection of Significant environmental Ecosystems such as springs, riverine areas, wetlands and watersheds;
- ✓ Support Nature based livelihood solutions suitable for the environment including bee keeping, commercialize plants of medicinal value, tree crops and forages of economic value;
- ✓ Promote urban greening in towns to enhance clean air and a conducive environment for business
- ✓ Facilitate surface/flood water harvesting technologies;
- ✓ Provision of services that will promote the utilization of local raw materials such as hides and skins; and
- ✓ Support alternative livelihood opportunities to charcoal/firewood as a source of income.

### **Protection of riparian ecosystems**

- ✓ Restore riverbanks and construct check dams to control soil erosion.
- ✓ Regulate and streamline management of sand harvesting in rivers and streams.
- ✓ Train and capacity build communities on riverine protection and buffer zones.
- ✓ In collaboration with water resource authority undertake pegging of riparian zones.

### **Enhancement of environmental management**

- ✓ Promote enforcement and compliance of environmental laws and regulations.
- ✓ promote environmental education and awareness and intensify environmental conservation efforts
- ✓ Promote and enhance environmental safeguards in all the new projects and programs such as EIAs and EA
- ✓ Promote sustainable management of waste including promotion of reduce, reuse and recycle of waste.
- ✓ Promote closed/circular economic models in production models.
- ✓ Promote environmental education and awareness in schools and other institutions;
- ✓ Reinforce the authority of traditional natural resource management system that promote sound environmental practices.

#### **3.1.2.2 Agriculture and Water Sector**

The economy of the County is dependent on agriculture, which contributes to rural employment, food production and rural incomes. The sector plays a major role by contributing about 87.3% of income earned by the rural population. Agricultural production in the county is mainly rain dependent with the rains received annually ranging from 500-700mm and not able to support crops to reach maturity thus limiting agricultural production in the County. This coupled with effects of climate change is adversely affecting the agricultural production. This action plan proposes the following Interventions in the sector.

#### **Scale out already positive Adaptation Actions production Systems such as:-**

- ✓ Promotion of community-based adaptation strategies, like seed bulking of drought

tolerant traditional food crops with greater adaptations to extreme temperatures and rainfall events;

- ✓ Promotion of Conservation Agriculture (CA) to achieve sustainable production through the application of the four CA principles of No till, Farming Gods way, permanent soil cover and crop rotation;
- ✓ Promote crop insurance to cushion farmers against climate related shocks;
- ✓ Provision of financial and technical assistance to expand area under high value traditional drought tolerant crops (DTC) and Orphaned crops; and
- ✓ Support to peer-to-peer learning through the famer field school approach and farmer field shows.

### **Enhancing climate smart land-based practices**

This involves increasing agricultural productivity through adoption of various technologies and practices that enhance the adaptive capacity of farmers to climatic stresses such as low soil fertility, erratic rainfall, low soil moisture content, increased temperatures, outbreak of pests and diseases among others. Some of the strategies proposed are:-

- ✓ Assessment of the status agro-forestry and water harvesting structures and make recommendations for scaling out; and
- ✓ Promotion of agro-ecology to increase rainwater infiltration, reduced floods, increase soil fertility and improve soil ecology.
- ✓ Promote climate smart pasture development;
- ✓ Promote on-farm water harvesting technologies such as farm ponds, retention ditches bunds, stone bunds, grass strips, contour levelling and terracing;
- ✓ Promote growing of drought tolerant short cycle food crops such as sorghum, millet and short cycle crops such cow peas and green grams;
- ✓ Promote seed bulking and village seed banks for traditional crops;
- ✓ Promote construction of mega dams for surface water harvesting and drilling of boreholes
- ✓ Promote supplemental and precision irrigation technologies to conserve water and increase output per unit such as drip irrigation systems and hydroponic systems;



- ✓ Promotion of appropriate water harvesting technology for household level crop production; Kitchen gardens, shade nets, sustainable green houses and Zai Pits.

### **Reduce post-harvest losses of produce.**

A lot of produce is lost due to poor handling of the produce during harvesting from the farm and subsequent storage. The action plan proposes the following interventions to address these gaps.

- ✓ Train farmers on the right periods of harvesting, drying, treatment and preliminary handling of produce before storage;
- ✓ Train farmers on pest control and storage facility conditions;
- ✓ Strengthen community groups for collective marketing and negotiation; and
- ✓ Formation of cooperatives to enhance service delivery and marketing channels.

### **Improve Extension services through:-**

- ✓ Strengthening of agricultural extension services including E-extension to mainstream climate change information and technologies into the farming system;
- ✓ Community capacity building on climate change adaptation;
- ✓ provision of climate information to farmers for timely planting and harvesting; and
- ✓ Establish climate resilience resource centers for technology and knowledge transfer.

### **Livelihood Diversification.**

- ✓ Support value addition to agricultural products and financial support for investment in agro processing through cooperatives;
- ✓ Promote weather nondependent livelihoods such as mining, weaving, construction industry, brick making and pottery.
- ✓ Promote establishment of SMES; and
- ✓ Promote the jua kali and transport sector through loans and grants.

### **Livestock and Apiculture production**

Livestock is a key potential sector as demonstrated by the 177,701 households that practice it. The main livestock types kept in the County are cattle (beef and dairy), goats (meat and dairy), sheep and poultry (indigenous and exotic). Farmers have also ventured

into apiculture. The interventions proposed by the action plan include:-

### **Livestock Breed Upgrade**

- ✓ Management and conservation of drought tolerant livestock breeds suitable for the County ecosystems;
- ✓ Promotion of economic diversification among livestock farmers (emerging livestock / game farming);
- ✓ Promote livestock artificial insemination services;

### **Improve livestock production systems.**

- ✓ Strengthen insurance for livestock;
- ✓ Promote commercial pasture production, seed banks and strategic feed reserves including alternative feed resources as part of contingency planning;
- ✓ Enhance extension services including E-extension;
- ✓ Capacity building on livestock / livestock by-products value addition and production system that responds to market demand; and
- ✓ Promote fodder and pasture production including harvesting and storage.

### **Apiculture**

Promote bee keeping in the county through:

- ✓ Capacity build of farmers in various issues of management especially hive stocking through colony division, queen rearing
- ✓ Avail high quality hives and other equipment through training of artisans on hive making, making of bee suits, smokers, and swarm catcher boxes among other issues
- ✓ Capacity build both staff and farmers on hive products value addition to maximize on farmers returns
- ✓ Promote and strengthen bee keeping farmer organization eg famer groups and SACCOs to improve on aggregation and market linkages and ensure good prices for honey and other hive products

- ✓ Promote the capacity of bee keepers SACCOs to purchase honey through provision of loans/grants and capacity building on finance and SACCO management.
- ✓ Create honey quality control center(lab) in the county to fight against adulteration of honey which is very common
- ✓ Operationalize the 16 existing honey collection and processing centers
- ✓ Fund farmer exchange tours for bench marking purposes

### **Integrated Watershed Management**

- ✓ Water resource mapping, documentation and dissemination of necessary information to stakeholders for inclusion in their planning and interventions;
- ✓ Promotion of water harvesting, retention and re-charge technologies through construction of various water harvesting structures such as sand dams, pans, dams, rock catchments, under-ground tanks, spate-irrigation and roof catchment to ensure availability of water during drought season;
- ✓ Establish strategic and contingency boreholes ;
- ✓ Conserve water catchment areas/watersheds, rivers banks, spring / water ways and flood plains from degradation and contamination;
- ✓ Develop water catchment and sub catchment management action plans;
- ✓ Enforcement and or enactment of laws for environmental compliance including (water policy and bill, Enactment of Water Act,/EMCA);
- ✓ Conduct regular water quality testing & monitoring based on WRA / NEMA guidelines; Install hydrometric network to monitor river flows and flood warning; and
- ✓ Promote conservation and use/recycling technologies that increases water use efficiency.

### **Strengthen water schemes management.**

- ✓ Enhance the capacity of water resource user associations / WUAs on water harvesting, storage, conservation measures and maintenance and operations;
- ✓ Review and update water & sanitation training manuals to strengthen WUAs/WRUAs;
- ✓ Reduce water losses and non-revenue water
- ✓ Facilitate formation and strengthening of existing of Water Service Providers; and train

on operation and management of facilities.

- ✓ Enhance financial accountability of water schemes;
- ✓ Mainstream Climate Change into all water resource management plans and actions.

### **Promote Sanitation and Hygiene**

- ✓ Develop and connect the urban population to proper sewerage systems;
- ✓ Increasing urban & rural domestic water supplies & urban sewage services to help combating water borne diseases, their social & economic impacts;
- ✓ Improve access to clean water and sanitation facilities to limit outbreaks of water borne diseases;
- ✓ Community awareness for promotion of better hygiene;
- ✓ Heightened surveillances of new disease outbreaks with subsequent rapid responses to control epidemics;
- ✓ Promotion of vaccination and immunization campaigns against diseases aggravated by climate change and climate variability; and
- ✓ Formulation of relevant policies and guidelines to ensure sustainable water management.

### **3.1.2.3 Energy sector**

The core sources of energy in Kitui County are biomass, which is mainly in the form of firewood particularly within rural areas while in urban centers it is sold and used as charcoal. There are other Petroleum products such as kerosene/paraffin, liquefied petroleum gas (LPG), motor gasoline, diesel oil, fuel oil, electricity and biogas. To enhance energy access and conservation the action plan proposes the following interventions.

#### **Improve Access and conservation of energy**

- ✓ Promote hybridization of water source pumping systems;
- ✓ Enhance solar electrification program to meet public institutions and rural households' energy demand;
- ✓ Promotion of clean energy efficient cook stoves to reduce demand on biomass energy
- ✓ Installation of improved institutional cook stoves to reduce GHG emissions to take advantage of carbon markets;

- ✓ Develop green energy (wind and solar) through private public partnerships sector investment;
- ✓ Implement the Kitui county energy masterplan priority actions;
- ✓ Investments in renewable energy technologies (briquettes, bio-gas);
- ✓ Investments in efficient and sustainable charcoal production through conservation technologies;
- ✓ Promotion of LP gas for cooking, florescent light bulbs used by households through subsidies and or tax waivers;

#### **3.1.2.4 Social Protection and Education Sector.**

- ✓ Strengthening disaster preparedness through contingency plans and budget;
- ✓ Adoption and dissemination of climate change information such as early warning systems;
- ✓ Support spatial planning in urban centers and areas prone to disasters;
- ✓ Promote inclusion of marginalized and vulnerable populations into development programmes;
- ✓ Establishment of disaster management response committee in towns and municipalities;
- ✓ Promote access to education through pro-poor education bursary fees; and
- ✓ Promote access to affordable and sustainable preprimary education.

#### **3.1.2.5 Health services sector**

The wellbeing of the people is a key drive towards building climate resilience of the community. It is the anchor upon which other development actions can be implemented and should be a drive for any action plan. This action plan proposes the following interventions to achieve this agenda.

##### **Promote preventive services.**

- ✓ Improve access to clean water and sanitary facilities to limit outbreaks of water borne dis-eases and awareness promotion on better hygiene;
- ✓ Strengthen participatory community dialogues surveillances actions of new disease outbreaks and rapid responses to control them;
- ✓ Promote food security and nutrition of the population especially the under five years;

- ✓ Promote community health worker services at village level; engage CHVs at village levels to create civic awareness on health related issues, and
- ✓ Promotion of vaccination and immunization campaigns against diseases aggravated by climate change and climate variability.
- ✓ Prioritize UHC (Universal Health Coverage) in partnership with National Government.
- ✓ Promote Research on new treatment technologies
- ✓ Upgrading the KCRH and Existing health facilities to level 2 , 3 , 4 and 5
- ✓ Mobile clinics ,outreaches and inreaches to undeserved areas
- ✓ Develop and implement polices to address public health issues.

**Improve treatment and curative services.**

- ✓ Enhance access and supply of medical drugs in all the health facilities;
- ✓ Enhance medical support diagnostic services through procurement of equipment and machines;
- ✓ Increase access to ambulance services for referral cases;
- ✓ Increase number of medical specialists and consultants for complicated cases;

**3.1.2.6 Transport, ICT, Trade, and Industry Sector.**

Transport and communication infrastructure is an enabler to access to other development services. Enhanced transport and communication infrastructure will build the climate change resilience capacities of the communities. This action plan takes cognizance of this and proposes the following actions.

- ✓ Assessment of status of the County roads network to determine impact of climate change on their condition including storm water drainage systems.
- ✓ Provide for contingency funds for roads maintenance in the event of disasters occasioned by climate related events such as flash floods;
- ✓ Promote construction of climate proofed Road construction technologies and designs including bridges and drifts;
- ✓ Periodic maintenance/unclogging of road drains in urban areas.
- ✓ Assess and document network stability of existing communication service providers; and
- ✓ Promote access to fiber optic network for data access.

## **4.0 DELIVERY MECHANISMS FOR COUNTY CLIMATE ACTION PLAN**

### **4.1 Enabling Factors**

To reap the benefits of Kitui County Climate Change Action Plan, there is a need for involvement and commitment of all the stakeholders. Partnerships between the National government and county government need to be strengthened and maintained. Synergies must be created between county departments for successful implementation.

#### **4.1.1 Enabling Policy and Regulation**

The County Assembly of Kitui has established the committee on environment that will be overseeing the implementation of this action plan and allocate resources for its full implementation. On the other hand, The County Executive has established the department of environment, Climate change and forestry where climate change unit is domiciled. The climate change unit is charged with the responsibility of coordinating the implementation of this action plan including resource mobilization and reporting.

The County has developed Kitui Climate Change Fund Regulations, 2018 and Kitui County Environment and Climate Change Policy 2023.

The fund regulations outlines provisions upon which climate change actions will be financed. The regulations require that the county government allocates 2% of her annual development budget to the climate fund. The regulations have additionally established county climate change fund management structures. These structures (County climate change fund steering committee, county climate change fund technical committee and ward climate change planning teams) ensure effective implementation of this action plan. The KCECCP,2023 objective is to build resilience and enhanced adaptive capacity of human and ecosystem, ensure effective information management and dissemination system (including early warning alerts), enhance county resource mobilisation capacity for climate change financing and promote robust mechanisms for collaboration that facilitate County Climate Change research and development.

#### **4.1.2 Mainstreaming in the CIDP**

Kitui County is extremely vulnerable to climate change. The production systems are climate sensitive, and large segment of the population is least able to buffer and bounce

back from climatic stress.

To respond to this situation, the CIDP has factored mainstreaming of climate change action across all the sectors of the livelihoods of the people. Proposed interventions in the Environment, Agriculture, Water and public health sectors points towards this mainstreaming.

The CIDP proposes to have the following sector specific adaptation strategies as enlisted below;

### **Environment**

- ❖ Afforestation and restoration of degraded ecosystem
- ❖ Watershed management plans
- ❖ Climate information service system
- ❖ Legislative framework development
- ❖ Adoption of green energy sources

### **Water**

- ❖ Construction of sand dams
- ❖ Construction of sump wells
- ❖ Landscape restoration
- ❖ Excavation of earth dams
- ❖ Construction of rock water catchments.
- ❖ Development and implementation of water sub-catchment management plans (SCMPS)
- ❖ Spring water protection
- ❖ Capacity building of water resource users' associations (WRUA'S)

### **Agriculture**

- ❖ Drought-tolerant crops
- ❖ Conservation agriculture ( No till)
- ❖ Agroforestry
- ❖ soil conservation.

### **Public Health**



- ❖ Increasing and capacity building of health personnel
- ❖ Provision of drugs
- ❖ Improving accessibility to health facilities
- ❖ Recruitment and training of CHV's
- ❖ Equipping of health facilities
- ❖ Promote sustainable waste management practices.
- ❖ Promotion of disease surveillance and monitoring systems,
- ❖ Promotion of mobile clinics

#### **4.1.3 Multi-stakeholder participation processes**

Kitui County Climate Change Action Plan involved multi-stakeholder participation. The process involved engagement of various stakeholders from different sectors in the development and validation stages of the plan. This was done to ensure a wide range of perspectives, expertise, and interests are considered, and that the resulting plan reflects the needs and priorities of the local community in the county.

The stakeholders identified included County government line departments such as Agriculture, Livestock, Health, Water and sanitation, Finance and economic planning. National government agencies that work closely with the climate change unit i.e. Kenya Meteorological Department, NEMA, National Drought Management Authority (NDMA), Kenya Forest Service (KFS), and KEFRI among others. Local community groups such as Ward Climate Change Planning Committees, Community forest associations and water resource users associations. Academic institutions including SEKU and KEWI, non-governmental organizations (NGOs), private sector and CBOs.

The CCCAP was prepared by following an 8 step development process that involved;

#### **Review of key documents**

This involved review of all the necessary available information to ensure effective action planning and alignment of the county action plans to national plans. The documents reviewed included NCCFP-2018, CSAS 2017-2026, NAP 2015-2030, EMCA 1999, NCCCA, 2016, NCCAP, NDC'S, CISP, CIDP, kitui County Energy Outlook and PCRA Report.

### **Collection of public input**

Technical WG developed a communique that summarized: the content of the climate risk assessment, the strategic adaptation priority areas and proposed investment types for presentation to the public. The modalities for public input was done through sub-county public participation workshops and radio talk shows. The public workshops brought together different interest groups including community representatives (women, youth, PWD and elderly), ward climate change planning committee representatives, civil society organizations, faith-based organizations, gender interest groups, government agencies, and research organizations.

### **Drafting of the 1<sup>st</sup> CCCAP document**

Based on the inputs received from stakeholders through Participatory Climate Risk Assessment with the support of technical experts, the first draft of the County Climate Change Action Plan was developed. This plan outlines the goals, objectives, strategies, and specific priority actions to address climate change challenges within Kitui County. The CCCAP 1<sup>st</sup> draft included key parameters such as timing, actors responsible for various actions, sub-actions, budget, and key performance indicators. In addition, the draft CCCAP reflected the principles for locally led climate action, and explicitly addressed the climate resilience needs and priorities of women, youth, ethnic minorities, and people with disabilities, marginalized and vulnerable groups.

### **Validation of the 1<sup>st</sup> CCCAP**

The validation workshop was held at the county level and involved multi-sectoral experts and a representation of participants from women, youth, ethnic minorities, people with disabilities. Draft CCCAP was presented for analysis and validation to ensure quality control by addressing gaps in the plan and refining proposed actions based on realistic situational assessment drawn from the PCRA report.

### **Public feedback**

This involved circulation of the validated draft plan to a list of identified stakeholders, including CSOs, community representatives and ward climate change planning committees. This provided a critical opportunity for professional experts, officers and neighboring counties to make comments, suggestions, and recommendations on

transboundary climate risk management actions. Detailed public feedback collected from various stakeholder groups supported drafting of the final CCCAP.

### **Development of the Final CCCAP**

Based on the material put together in steps 4 and 5, the CCCAP technical working group convened to finalize drafting of the document. At this stage, an implementation framework or matrix and summary budget projections for delivering the plan were developed.

### **Presentation of CCCAP to CEC**

The final draft CCCAP was submitted to the County Executive Committee for consideration of approval.

### **Presentation of CCCAP to CA**

The County Executive Committee submitted the approved CCCAP 2023-2027 to the County Assembly for adoption. This was done because the County Assembly oversees reporting on implementation of climate change activities by executive and approves the county budget, which includes the CCCF allocation.

### **4.1.4 Finance - County Climate Change Fund**

The environment in which resources are mobilized is increasingly competitive given the rise of numerous development actors coupled with scarcity of resources resulting from the recent global economic crisis. In order for our county to take advantage of these opportunities, the right institutional and financial mechanisms must be in place so that resources are directed efficiently toward county climate and development priorities.

The purpose of this County climate change Action Plan is to improve our ability to mobilize and effectively manage and track adequate and predictable climate change finance. This plan sets out a guiding framework to enhance our county financial systems and institutional capacity to effectively access, disburse, absorb, manage, monitor and report on climate finance in a transparent and accountable manner. This plan is county's third step towards a coordinated effort to identify, attract and use climate finance to further climate change and sustainable development goals.

The Kitui County Government Climate Change Unit has established the Kitui County Climate Change Fund (KCCCF) which is a distinctive fund established specifically to finance tangible climate change adaptation programmes and projects that meet the felt needs of the people of Kitui County based on their views and priorities.

The Kitui County Climate Change Fund (KCCCF) is a depository for funds solicited from development partners including National Government Ministries, Departments and Agencies (MDAs), national and international civil society organizations (NGOs and INGOs), bilateral and multilateral development partners.

The County Government will continue to support the fund from its internal resources, especially staff time, to ensure sustainability of the projects initiated. An extract of the establishment of the county climate change fund is hereby presented below

**Extract 1: County climate change fund**

The Kitui County Climate Change Fund is established under the Kitui County Climate change fund regulations 2018. Sources of the fund shall include—

1. monies appropriated by the Kitui County Assembly;
2. grants and donations;
3. endowments and bequests;
4. monies from any other source as approved by the County Executive Committee Member for the time being responsible for County Treasury; and

The purpose of the Fund shall be—

1. to finance climate change resilience and its assessment;
2. to finance implementation of approved climate change projects;
3. to finance monitoring and evaluation exercises including documentation, photography and video recording of climate change projects;
4. for administrative costs which shall not exceed three percent of the total fund per financial year;
5. capacity building activities at county level, national level and international level as approved by the Steering Committee; and

6. To provide funding for integration and mainstreaming of climate change programs, actions, interventions and duties as identified in the Kitui County Integrated Development Plan, the Climate Change Act, 2016, the National Climate Change Action Plan and for connected purposes.

#### **4.1.5 Governance - County Government Structures.**

The county government of Kitui is headed by the governor deputized by the deputy governor. The county governance is further downscaled to 10 ministries namely ministry of finance, economic planning and revenue management; ministry of water and irrigation; ministry of health and sanitation; ministry of education, training and skills development; ministry for culture, gender, youth, ICT, Sports and social services; ministry of trade, industry, MSMEs, innovation and cooperatives; ministry of roads, public works and transport; ministry of lands, housing and urban development; and the ministry of energy, environment, climate change, forestry, Natural and mineral resources. The ministries are headed by the respective county executive committee members. There are 26 county departments headed by the chief officers.

#### **4.1.6 Governance - Climate Change Planning Committees**

The Kitui County Climate Change Fund regulations 2018 establishes the Kitui County Climate Change Technical Committee. The technical committee is composed of

- (a) Chief Officer for the time being responsible for Environment and Natural Resources, who shall be the chair, Committee
- (b) Chief Officer for the time being responsible for County Treasury;
- (c) Chief Officer for the time being responsible for Agriculture, Water and Livestock Development;
- (d) One representative of the youth;
- (e) One representative of women;
- (f) One representative of persons living with disability;
- (g) Two representatives from development partners actively involved in climate change work in the County;
- (h) One representative of the National Drought Management Authority;
- (i) One representative of the National Environmental

Management Authority;

- (j) One representative of the Kenya Meteorological Services;
  - (k) One representative of the Kenya Forest Research Institute;
  - (1) The Fund Administrator who shall be the Secretary to the committee; and
  - (m) One representative of the Teams.
- (2) The members of the Technical Committee shall be appointed by the County Executive Committee Member for the time being responsible for Environment and Natural Resources.

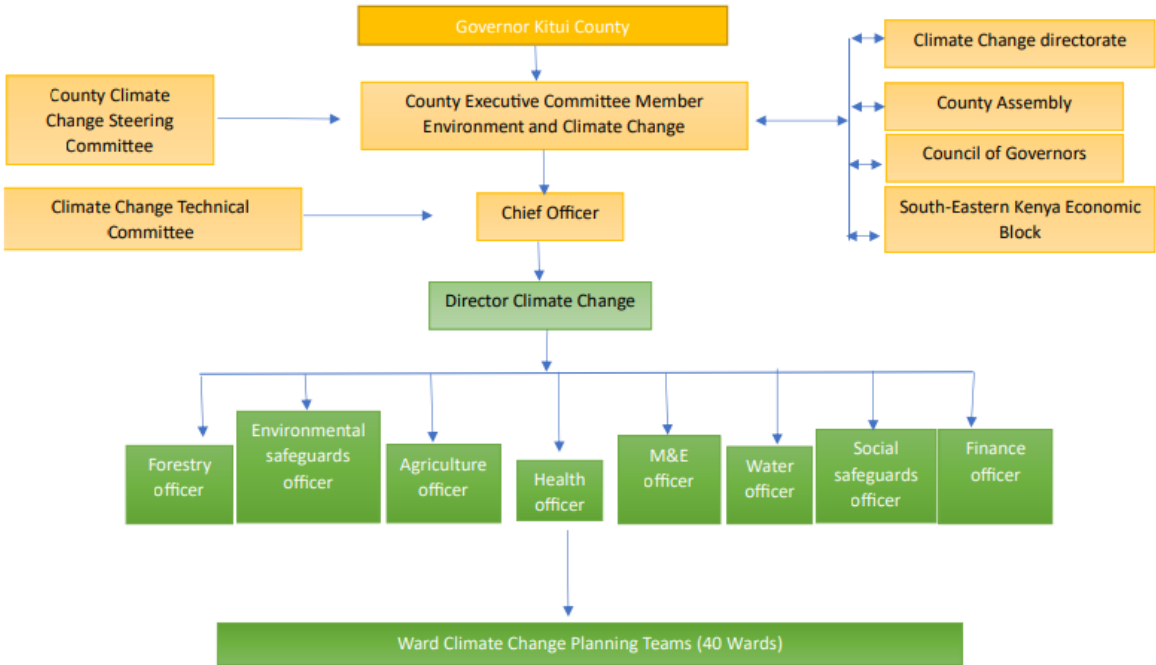
The functions of the technical committee are —

- A) review, prioritize, and sequence projects and activities submitted by the Teams based on the approval criteria;
- b) Provide technical support to the Teams;
- c) Co-ordinate capacity building activities at ward and county levels;
- d) Review and evaluate project proposals received from the Teams;
- e) Submit the evaluated Teams' proposals to the Steering Committee;
- f) Oversee implementation of climate programs and projects;
- g) Develop quarterly progress reports to the Steering Committee; and
- h) Any other role assigned to it by the Steering Committee.



KITUI COUNTY GOVERNMENT

CLIMATE CHANGE UNIT ORGANOGRAM



## **4.1.7 Climate Information Services & Climate Data Access**

### **4.1.7.1 Kitui County Climatic Conditions**

Kitui county is an Arid and Semi-Arid Land (ASAL); prone to frequent droughts due to unreliable and erratic rainfall. The county experiences two rainy seasons in a year. The long rains are experienced during the March-April-May season with the volume of rainfall averaging at 125mm over the last five years while the short rains are experienced during the October-November-December season with higher volumes of precipitation being realized with a five-year average of 350mm. The mean annual temperatures in Kitui range from 25 Degrees Celsius to 28 Degrees Celsius over the last 5 years.

### **4.1.7.2 General Use of Climate Information Services**

The county has climate service information plans. Climate information service plan provisions are used to inform decisions in many areas:-

Farmers use this information in making decisions on when and what to plant. Business community use climate information services to forecast energy demand, predict customer buying habits, and create strategies for managing natural resources.

County Government use climate information to predict and prepare for disasters, including El-nino, La-nina, floods, drought, and extreme temperatures. Climate information is also used to guide decisions related to public health, climate change policies, and conservation efforts.

### **4.1.7.3 Relevance of Climate Information under FLLoCA**

Climate information is essential in designing FLLoCA investments projects and programs. The programme objectives are geared towards adaptation and mitigation of climate change. In this regard, climate information will be used in designing projects on climate change adaptation, climate resilience, disaster risk management, early warning systems, climate resilient agriculture, water resource management and public health.

## **4.1.8 Resilience Planning Tools**

Climate-resilient planning uses different tools and incorporates climate resilient concepts across sectors to aid in designing resilience projects among communities. The approach



used in this action plan was largely driven by the smart climate approach geared towards creating opportunities for low-carbon pathways. While planning for the resilience projects the team focused on the six principles of building community resilience namely, prioritization of the community needs and allocating resources; inclusive targeting of communities and support communities to bounce back much faster; consideration of existing spatial plans and review where necessary; and involvement of all parties in undertaking their obligations.

In the urban centers we employed the Multisector Evaluation Tool for identifying Resilience Opportunities (METRO) a tool that measures urban communities' resilience to climate change.

The action process also used largely the participatory rural appraisal tools such as the historical hazard calendar, the seasonal calendar, the social resource maps and Venn diagram. The ward climate change action plans will also be key planning tools.

#### **4.1.9 Measurement, Reporting and Verification**

Planning is all important and a plan that has no provisions for measuring its success is not yet complete. In this regard this action plan will be measured and reported based on the county performance monitoring frameworks as developed by the ministry of finance, economic planning, and revenue management. The action indicators already identified in the action implementation matrix will be the used for measuring the success of the project against the target.

#### 4.1.10 Institutional Roles and Responsibilities

*Table 1: Summary of Institutional Roles and Responsibilities*

<b>Institutions</b>	<b>Roles/ responsibilities</b>
Kitui County Climate Change Steering Committee	<p>provide policy co-ordination for climate change planning and implementation in the County;</p> <p>provide guidance on cross-ward and cross-county climate change projects and programs;</p> <p>provide a forum of the key stakeholders on climate change in the County which shall comprise of representatives of the two levels of Government, financing partners and representatives of other stakeholders;</p> <p>mobilize funds and resources for projects and interventions; approved by the Technical Committee;</p> <p>promote climate change interventions advocacy among stakeholders in both levels of government;</p> <p>review and make recommendations for adjustments to intermediate objectives and outputs of the climate change fund programmes on advice from the Technical Committee; approve all payments of climate</p>

	<p>change funded projects and programs;          receive and approve project proposals for funding;          analyzing the progress report from the Technical Committee;          approve capacity building activities for the Steering Committee, Technical Committee and the Teams;          appoint ad hoc sub committees to support its operations; and          Perform any other duties that may arise from time to time.</p>
<p>Kitui County Assemblies</p>	<p>-Enactment of relevant laws and legislation          oversight function          Adoption of climate change action plan</p>
<p>County Executive</p>	<p>-Approval of the County Climate Change Action plan</p>

<p>County Climate Change Unit (CCCU)</p>	<ul style="list-style-type: none"> <li>-Oversee and implement climate actions</li> <li>-Facilitate and coordinate planning and budgeting for County Climate Change Fund</li> <li>-Organize and facilitate community level participatory vulnerability and capacity assessment.</li> <li>-Facilitate and support ward -level climate risk vulnerability and capacity assessments</li> <li>-Facilitate and support ward-level consultations for the annual Climate Change Action Plans</li> </ul>
<p>Ministry of Environment and Forestry, CCD and NEMA</p>	<ul style="list-style-type: none"> <li>-Promote the integration of environmental considerations into development policies, plans, programs and projects.</li> <li>-Identify projects and programs for which environmental audit and monitoring must be conducted</li> <li>-Monitoring and assessing activities conducted.</li> </ul>
<p>National Drought Management Authority</p>	<ul style="list-style-type: none"> <li>-Resilience building in the entire PCRA process.</li> </ul>

National Treasury and Planning	<ul style="list-style-type: none"><li>-Strengthen financial and fiscal relations between national government and county government</li><li>-Mobilizing domestic and external resources</li><li>-Assist county governments to develop their capacity for efficient, effective and transparent financial management.</li></ul>
Kenya Meteorological Department(KMD)	<ul style="list-style-type: none"><li>-Provision of Climate Information for guiding sectoral planning</li></ul>

## **4.2 Implementation and Coordination Mechanisms**

### **4.2.1 Directorate of Climate Change.**

The county climate change directorate is housed in the ministry of energy, environment, climate change, and forestry, natural and mineral resources. The directorate has other related functions of the ministry in the directorate of environment, climate, and forestry. The climate change unit is therefore coordinated through the office of the director environment and climate change and the climate change desk officer. The directorate is headed by the chief officer with climate change director leading the technical operations of the ministry.

### **4.2.2 County Climate Change Steering Committee**

There is established the Kitui County Climate Change Fund Steering Committee shall comprise of—

County Executive Committee Member for the time being responsible for Environment and Natural Resources or a representative, who shall be the Chair;

County Executive Committee Member for the time being responsible for County Treasury or a representative, who shall be the Secretary;

County Executive Committee Member for the time being responsible for Agriculture, Water and Livestock Development or a representative;

1. The Fund Administrator;
2. The person in charge of legal matters in the County;
3. Two representatives of Public Benefits Organisations involved in climate change activities;
4. Kitui County Drought Co-ordinator of the National Drought Management Authority or a representative;
5. One representative of youth;
6. One representative of women; and

7. One representative of persons living with disability.

8. The Steering Committee may co-opt such members as may be required

(3) The members under regulation 15 (l) (f), (h), (i), and (j) shall be appointed by the Governor.

The functions of the Steering Committee are to :-

1. provide policy co-ordination for climate change planning and implementation in the County;
2. provide guidance on cross-ward and cross-county climate change projects and programs;
3. provide a forum of the key stakeholders on climate change in the County which shall comprise of representatives of the two levels of Government, financing partners and representatives of other stakeholde,
4. mobilize funds and resources for projects and inter,'ertion.; approved by the Technical Committee;
5. prohi0te climate change interventions advocacy among stakeholders in both levels of government;
6. review and make recommendations for adjustments to intermediate objectives and outputs of the climate change fund programmes on advice from the Technical Committee; approve all payments of climate change funded projects and programs;
7. receive and approve project proposals for funding;
8. analysing the progress report from the Technical Committee;
9. approve capacity building activities for the Steering Committee, Technical Committee and the Teams;
10. appoint ad hoc sub committees to support its operations; and
11. perform any other duties that may arise from time to time.

#### **4.2.3 County Climate change technical committee**

The Technical Committee is Composed of the (a) Chief Officer for the time being responsible for Environment and Natural Resources, who is the chair of the Committee and the following members

1. Chief Officer for the time being responsible for County Treasury;
2. Chief Officer for the time being responsible for Agriculture, Water and Livestock Development; (d) One representative of the youth;
3. One representative of women;
4. One representative of persons living with disability;
5. Two representatives from development partners actively involved in climate change work in the County;
6. One representative of the National Drought Management Authority;
7. One representative of the National Environmental Management Authority;
8. One representative of the Kenya Meteorological Services;
9. One representative of the Kenya Forest Research Institute;
10. The Fund Administrator who shall be the Secretary to the committee; and
11. (m) One representative of the Teams.
12. (2) The members of the Technical Committee shall be appointed

by the County Executive Committee Member for the time being responsible for Environment and Natural Resources.

The committee has the following responsibilities.

1. review, prioritize, and sequence projects and activities submitted by the Teams based on the approval criteria;
2. provide technical support to the Teams;
3. co-ordinate capacity building activities at ward and county levels;
4. review and evaluate project proposals received from the Teams;
5. submit the evaluated Teams' proposals to the Steering Committee;



6. oversee implementation of climate programs and projects;
7. develop quarterly progress reports to the Steering Committee; and
8. any other role assigned to it by the Steering Committee.

#### **4.2.4 Ward climate change Planning teams**

There is established the Ward Climate Change Planning Team shall be composed of the following—

1. chairperson who shall be elected from among the members;
2. the Ward Administrator, who shall be the Secretary;
3. two youth representatives of opposite gender;
4. (one representative of women;
5. one representative of each of the three key economic activities in the ward;
6. a representative of people living with disability; a representative of religious groups; and two representatives of Community Based Organizations actively operating in the ward;

The functions of the teams will be as presented below:-

- (a) mobilize and hold consultative meetings with communities together with relevant government planners, agencies and other relevant stakeholders
- (b) capacity build on the climate change within the community;
- (c) conduct participatory livelihood and local economy resilience assessments;
- (d) utilize the assessment reports to guide the community in project prioritization based on projects that will promote climate change resilience, growth and adaptive livelihoods;
- (e) prepare program and project proposals through aggregation and coordination of climate change resilience building needs after identification and prioritization through community participation;
- (f) prioritize proposals and submit them to the Technical Committee for evaluation and review;

monitor the implementation of projects under its supervision and ensure the service providers comply with the terms of the contract in accordance with the approved implementation monitoring plan and disbursement program for each project;

(h) monitor implementation of climate change projects and programs;

(i) recommend for payment of completed project;

(i) carry out any other duty as may be required by the Technical Committee.

### 4.3 Implementation Matrix

Table 2: Implementation Matrix

#### Water Sector

Strategic Objectives	Priority Actions	Expected Outputs/Outcomes	Key Performance Indicators	Responsible Institutions	Targeted Groups	INDICATIVE BUDGETS					
						Total	23/ 24	24/ 25	25/ 26	26/ 27	27/ 28
To enhance and sustain crop production	Develop irrigation clusters	Irrigation clusters development	Irrigated area under clusters irrigation (Ha)	- Ministry of water and irrigation. - National Irrigation Board - NGOs - National Government	- Community members - Farmers	2600	400	400	500	500	800

			ministry of water.								
Hybridiza tion of irrigation clusters	Irrigation clusters Hybridization	Irrigation clusters solarized			58	6.4	6.4	12.8	16	16	
Develop ment of irrigation schemes	Medium and Large scale irrigation scheme development	Irrigated area under clusters irrigation (Ha)			350	0	50	100	100	100	
Construct ion of sand dams	Construction of 2,400no. sand dams/sub surface dams	No. of sand dams/sub surface dams constructe d			408 0	816	816	816	816	816	
Establish ment of water	Water harvesting for	No of water pans/Farm			580	40	64	128	160	192	

	harvesting structures	kitchen garden initiative	Ponds Developed								
	Repair and rehabilitation of irrigation clusters	Irrigation clusters maintenance, repairs & rehabilitations	No. Irrigation clusters repaired & rehabilitated			216	32	32	32	80	40

**Public Health Sector**

<b>Strategic Objectives</b>	<b>Priority Actions</b>	<b>Expected Outputs/Outcomes</b>	<b>Key Performance Indicators</b>	<b>Responsible Institutions</b>	<b>Targeted Groups</b>	<b>Indicative Budget (KES million)</b>					
						<b>Total</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>	<b>27/28</b>
To improve access to clean water and sanitary facilities	- Install water and sanitary facilities in public institutions.	- Reduced outbreaks of water borne diseases and awareness promotion on better hygiene;	- Number of cases of water borne diseases reported. - Number of public institutions installed with water facilities.	-MOH - CIHEB - PATH - World Vision Kenya	- School going children - Children under 5 years - Women	50M	10 M	10 M	10 M	10 M	10 M
	- Sensitization of community				- School Going Children	8M	1.6M	1.6M	1.6M	1.6M	1.6M

	ies on safe water and proper disposal of human waste				Children under 5 years - Youth - Erderly - PLWD - Persons with Chronic diseases						
Enhanced access to quality health care in the county.	- Provision of drugs to all health facilities	- Reduced number of out of stock days in public health facilities.	- Quantity of drugs procured - Number of facilities with enough drugs	- MOH - KEMSA	- Patients	1750 M	350 M	350 M	350 M	350 M	350 M
	- Training Health	- Enhanced capacity of	- Number of health care	- MOH - CIHEB	- health care	50M	10M	10M	10M	10M	10M

care workers	health care workers	workers trained	- PATH - World Vision Kenya - Red Cross - AMREF - UNICEF	workers							
- Mobile clinics outreaches	- Increased access to healthcare in undeserved areas	- Number of outreaches done.	- MOH	- Patients in undeserved areas	12.5M	2.5M	2.5M	2.5M	2.5M	2.5M	2.5M
- Upgrading of Health facilities to level 2,3,4	- Enhanced access to healthcare services	- Number of health facilities upgraded.	- MOH	- Patients deserving specialized services	500M	100M	100M	100M	100M	100M	100M



To Promote community health services	- Conduct community dialogues on health talks sessions	- Reduced cases of communicable diseases in communities	- Number of HH reached with health messages	- MOH	- Community members	444.5 M	88.9 M	88.9 M	88.9 M	88.9 M	88.9 M
	- Train CHPs	- Enhanced capacity on CHPs	- Number of CHPs trained	- MOH - CMMB - CIHEB	- CHPs	30.5	6.1 M	6.1 M	6.1 M	6.1 M	6.1 M
	- Conduct Outreach activities in hard-to-reach areas.	- More children reached with immunization services.	- Reduced Number of cases of vaccine preventable diseases.	- MOH - Red cross - World Vision - AMREF	- Children under 5 years of age - Pregnant mothers	63M	12.6 M	12.6 M	12.6 M	12.6 M	12.6 M

## Energy Sector

Strategic Objectives	Priority Actions	Expected Outputs/Outcomes	Key Performance Indicators	Responsible Institutions	Targeted Groups	Indicative Budget (KES million)					
						Tot al	23/24	24/25	25/26	26/27	27/28
Promotion and adoption of renewable energy technologies	To establish energy centers.	Established energy centers	No. of energy centres established	- Kitui Energy Center - MEEFNMR	- Community Members	50	10	10	10	10	10
	Install and rehabilitate security lights	Increased number of Installed security lights	No. of security lights installed	- MEEFNMR	- Urban population	1200	240	240	240	240	240
		Rehabilitated security lights	No. of lights rehabilitated	- MEEFNMR	- Urban population	400	80	80	80	80	80
	Install solar	Installed solar powered pumps	No. of solar powered	- MEEFNMR	- Commun	600	120	120	120	120	120

	powered pumps		pumps installed		ity Members						
	To prepare PPA and gazette notice for establishing solar power plant	Prepared PPA and gazatted notice to establish a power plant(40 Mw solar power plant establishment)	No. Of PPA, Approval of EOI, Gazettement of the notice to establish the power plant	- MEEFNMR	- Community Members	5	1	1	1	1	1
	Solarize masinga and Kiambere water pumping systems	Solarized masinga and kiambere water pumbing system	No. of solar systems installed	- MEEFNMR	- Community Members	100			50		50
	- Create awareness	Conducted sensitization	No. of sensitization	- MEEFNMR	- Community Members	200	40	40	40	40	40

	s on forest conservation and sustainable biomass utilization	meeting on forest conservation & sustainable biomass utilization	n meetings held	- KFS - NGOs	ity Members						
	- Conduct research on Biomass and Utilization	Reports generated on Researchs on Biomass sustainable & utilization	No. of research reports prepared	- MEEFNMR - SEKU	- Community Members	5	1	1	1	1	1
	- To install clean cook stoves	Households with Installed clean cook stoves(Sensitized and trained on the benefits)	No.of households installed with clean cook stoves	- MEEFNMR - NGOs	- Community Members	50	10	10	10	10	10
	- To	Conducted	No. of	-	-	10	2	2	2	2	2

	conduct community trainings on Energy Conservation and efficient technologies.	community trainings on Energy conservation and efficiency technologies	training conducted	MEEFNMR - NGOs	Community members						
	- Develop policies on energy management and regulation	Formulated policies on Energy management and Regulation	No. of policies and regulating, No. of reviews	- MEEFNMR	- Community members	25	5	5	5	5	5
	- Establish	Established Biogas plants	No. of biogas	- Kitui Energy	- Commun	10	2	2	2	2	2

	Biogas plants		plants	Center - MEEFNMR	ity members						
	- Install wind powered generators	Procured and installed wind powered generators	Number of wind powered generators	- MEEFNMR	- Community members	5	1	1	1	1	1

**Agriculture Sector**

Strategic Objectives	Expected Outputs/Outcomes	Key Performance Indicators	Responsible Institutions	Targeted Groups	Indicative Budget (KES million)					
					Total	23/24	24/25	25/26	26/27	27/28
To promote of drought	Farmers supported to access appropriate farm inputs	No. of farmers supported with farm inputs	Ministries of Agriculture & livestock	Farmer						

tolerant (Farm input support)	Quantity of inputs accessed by farmers	Quantity of inputs (Mt)	,Partners, National government		324	54	60	70	72	78
	Produced Quantity	Quantity of Produce (Mt)			0	0	0	0	0	0
Postharvest management	Cold rooms installed in key market centers	No. of cold rooms			30	10	10	10	0	0
Pest and Disease management	Farmers supported with afla-save	No of Kits			78	0	17	19	20	22
Food safety (aflatoxin management)	Quantity of afla-save procured and distributed	No of farmers			0	0	0	0	0	0
	Farmers supported with pesticides & seeds	Quantity of afla0save (Mt)			120	0	24	28	32	36

horticulture production promotion		No. of farmers			0	0	0	0	0	0
	Quantity of seeds procured and distributed	Quantity of seeds (Mt)			0	0	0	0	0	0
	Quantity of pesticides procured and distributed	Quantity of pesticides (Mt)			13.38	0	2.8	3.22	3.64	3.72
Administration and support services	Kitchen gardens supported for production of nutrient dense vegetables	Number of kitchen gardens supported			53	0	11	13	14	15
	Families with under five years supported with production of bio-fortified foods	Number of families supported.			0	0	0	0	0	0
	Procured Quantity of planting materials procured	Quantity of planting materials			85	0	18	20	22	25



		procured and distributed(Mt)								
	Promoted utilization of diverse locally produced foods	No of Promoted utilization of diverse locally produced foods			29.64	0	7.41	7.41	7.41	7.41
	Farm input subsidy advocacy undertaken	Number of farm inputs under subsidy			4	0	1	1	1	1
	Financial, business and insurance service providers lobbied	No. of Financial, business and insurance service providers lobbied			4	0	1	1	1	1
	Community Crops seed banks established	Number of seed banks established			5	0	0	5	0	0

Sustainable land use management	Levelling Kits procured and distributed	Number of kits procured			0.25	0.25	0	0	00	0
	Farm ponds developed for crop production	No. of ponds developed			84	0	12	18	24	30
Agro-forestry Promotion	Ago-forestry seedling nursery supported	Number of agro-forestry/fruit seedlings planted.			18.3	1.8	3	4	4.5	5
Agricultural and Extension services	Build capacity of extension staff	No. of extension Staff trained			36	0	6	8	10	12
	Trained farmers	No. of farmers capacity build			153	0	33	36	40	44
	Hosted Kitui Agricultural show and trade fair	Number of Kitui Agricultural			115	10	30	25	25	25

		show and trade fair hosted								
	Acquired high yielding dairy animals	number of High yielding dairy animals acquired			2	2	0	0	0	0
	Improved forage resource base (establish pasture and fodder, construct barns and silos, purchase bailers, mower, tractor and rake)	Number of forage resource base improved			40	20	20	0	0	0
Livestock pests and diseases Control and management	Controlled and managed of livestock pests and diseases	% of Reduced disease prevalence			150	20	26	30	34	40

		Number of livestock vaccinated			0	0	0	0	0	0
		No. of Vector control(Motorized pumps)			15	3	3	3	3	3
		No of times Acaricides procured			12.5	2.5	2.5	2.5	2.5	2.5
	Conducted Livestock disease surveillance	Number of surveillance and reports undertake			10	2	2	2	2	2
	Constructed and Established diagnostic laboratory	Number of laboratory constructed			140	0	50	40	50	0
	Installed cold chain equipment (fridges, cooler boxes and freezers) and	Number of cold chain equipment installed			80	0	20	20	20	20

	hybridization of existing equipment									
	Disease free zone established	number of diseases free zones established			100	100	0	0	0	0
Livestock Improvement and Development	Purchased shawl bulls	Number of bulls procured			24	5	5	5	5	4
	Purchased assorted pasture seeds	Number of seeds procured			30	6	6	6	6	6
	Purchased dairy in calf heifers	Number of heifers procured			15	3	3	3	3	3
	Purchased improved hives and accessories	Number of hives and accessories purchased			25	5	5	5	5	5

	Undertaken Artificial insemination and synchronization	Number of cows Inseminated			100	10	15	20	25	30
	Purchased Local goats	Number of goats purchased			20	4	4	4	4	4
	Purchased Dairy goats	Number of Dairy goats purchased			10	2	2	2	2	2
	Purchased cockerels	Number of cockerels Purchased			35	7	7	7	7	7
	Purchased Rabbits to promote production	Number of rabbits procured			15	0	2	3	4	6
	Constructed livestock sale yards	Number livestock sale yards constructed			400	0	100	100	100	100
Food Safety and Quality	Compliance with food safety standards	No of slaughter facilities			5	1	1	1	1	1

Improveme nt- Veterinary		,flayers, inspected, trained and licensed								
	Improve meat hygiene knowledge and quality	Number of meat inspectors trained			7.5	1.5	1.5	1.5	1.5	1.5
	Upgraded and constructed slaughter houses	number of slaughter houses upgraded			30	0	0	10	10	10
	Retrained Staff and flayers	Number of flayers and staff retrained			5	1	1	1	1	1
	People better able to cope with drought because of: a. Improved Climate	<u>Adaptation</u> ✓ Number of recipients of CIS	County Governmen ts; WRMA; Kenya Metrological Departmen t	Farm ers; Pasto ral and agro- pasto	10,310	2,054	2,058	2,062	2,066	2,070

	Information Services (CIS), with number.	✓ Number of early warning systems ✓ National Drought		ral communitie s in ASALs ; Margin alised						
	of recipients of CIS increased from 1,000,000 to 2,000,000 b. Improved and increased No. of early warning systems c. NDEF operationalised	Emergency Fund (NDEF) disbursed	(KMD); CCD; NGOs/CB Os; Water Services Trust Fund (WSTF); MoE; Media for Education and Developme	comm unities ; Wome n and childre n in droug ht prone areas						



			<p>nt (Media),                  Intergovern                  ment al                  Authority                  on                  Developme                  nt Climate                  Prediction                  and                  Application                  s Center                  (ICPAC);                  African                  Centre of                  Meteorolog                  ical                  Application                  s for                  Developme                  nt                  (ACMAD)</p>							
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<p>People better able to cope with floods and damage to infrastructure reduced via:</p> <p>a. Establishment of early warning systems</p> <p>b. Establishment of Dam Safety Control System</p> <p>c. Improved capacity of at least 50 WRUAs</p>	<p><i>Adaptation</i></p> <p>✓ Number of early warning systems</p> <p>✓ Dam safety needs assessment, safety manual and codes of practice published</p> <p>✓ No. of WRUAs participating in training sessions</p>	<p>County Governme nts; WRMA; MWS; MOH; NDMA; KMD; CCD; NTP; NGOs/CBOs ; KMD; WSTF; MALFI; KenGen; CoG; Media for Education and Developme nt (Media), ICPAC;</p>	<p>Comm unities living in flood prone areas, like Lower Tana and Lake Victori a basin regions, and towns that experi ence</p>	<p>1,000</p>	<p>500</p>	<p>125</p>	<p>125</p>	<p>125</p>	<p>125</p>
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		ACMAD	flash floods						
The coordination of disaster management is centralised and improved by: - a. Enactment of Disaster Risk Management Bill b. Operationalisation of the National Disaster Risk Management	<u>Adaptation</u> ✓ National Disaster Risk Management Authority established ✓ DRMF established ✓ Amount of funding allocated through DRMF	County Governments; NDMA; Disaster Operation Centre (DOC); MoICNG; KMD; Disaster Management Council, Disaster	Communities living in flood prone areas, like Lower Tana and Lake Victoria basin regions, and	3,250	650	650	650	650	650

				towns that experi ence flash floods						
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Environment and Tourism Sector

Strategic Objectives	Priority Actions	Expected Outputs/Outcomes	Key Performance Indicators	Responsible Institutions	Targeted Groups	Indicative Budget (KES million)					
						Total	23/24	24/25	25/26	26/27	27/28
. Promote and support establishment of community tree nurseries	Increase the number schools, churches, individuals, CBOs, cooperatives, urban	Increased forest cover with drought tolerant tree species  Involvement of tree planting and conservation	No. of schools, churches, individuals, CBOs, cooperatives and urban centers.	National and county government Schools CBOs Chamb	Communities living close to gazzeted forests , Farmers, vendors, Institutio	1790	358	358	358	358	358

<p>. Roll out tree growing programmes towards improvement of tree cover</p> <p>. Promotion of drought tolerant and multi-economic value tree species</p> <p>. Initiate tree growing and forest conservation</p>	<p>centers involved in tree growing.</p> <p>Increase the no. of protected areas.</p> <p>Increased volume of rehabilitated land.</p> <p>Increase no. of protected and rehabilitated forests.</p> <p>Curbing air pollution</p>	<p>champions and tree growing awareness</p> <p>Increase adoption of commercial tree growing for wealth creation</p> <p>Increase nurseries of tree seedlings aimed at increasing forest cover</p> <p>Adopted policies on streamlining and harmonization of forest management.</p>	<p>No. of tree nurseries established</p> <p>. No. of champions involved and identified.</p> <p>No. of policies and bills developed</p> <p>No. of public forest units protected.</p> <p>No. of protected land and forests.</p>	<p>er of commerce</p>	<p>ns Urban centers Business people</p>						
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<p>competition and award scheme</p> <ul style="list-style-type: none"> <li>Initiate carbon trade and REDD++ initiatives in Kitui County.</li> <li>Support tree growing at public learning institutions, market centres, and riverine</li> </ul>		<p>Protected county public forest covers</p> <p>Increased tree and forest cover.</p> <p>Restoration of degraded forests and improve conservation..</p> <p>Improved air quality</p>	<p>No. of towns grown trees</p>								
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and at household level. Sphere head tree growing in all forests in the county Fencing of critical catchments and ecosystems Promote greening of urban centres											
Environmental education and	Increase the number of	Establishment of Environmental clubs and eco	No. of environmental clubs and	County and nation	Schools with active	88	16	16	18	18	20



awareness	schools doing environmental conservation through environmental clubs	schools in public institutions	eco schools Established No.of Eco schools established	al govern ment. NGOs. School s. comm unity	environm ental activities communit ies						
		Public participations held on Sensitization, training and capacity building	No. of public participation meetings Held								
		Developed and revised documents on public sensitization, training and capacity building.	No. of legal documents reviewed and developed								
		Commemoration of international	Number of international environment								

		environmental days	al awareness days Commemor ated									
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## Annex: 1 impacts of climate hazards in the county

<b>S/N</b>	<b>Hazard</b>	<b>Associated Risk</b>	<b>Ward</b>
1.	Drought	Water scarcity	Most hit Areas: (Mui. Ikanga, Kauwi, Chuluni, Ikutha, Kanyangi, Kiomo/Kyethani, Yatta/Kwa vonza, Kiomoe/Thaana, , Endau/malani, Voo/KyamatuKanziku, Athi, Mutomo/KibweaKyuso, TharakaNgomeni, TseikuruMumoni, Mutha, Moderate Hit areas(Mutitu/Kaliku, Nguni, , Waita, Nzombe/Mwitika, , Kivou, Nu, Ngutani, Mutnonguni, ) Low Hit Areas: (Kyangwithya East, Kithumula/Kwa mutonga, , Kisasi, Mulango, Miambani, , Mwingi central, Nzambani, Mbitiniand Kitui townshipMatinyani, MigwaniKyagwithya west)
		Lack of pasture	Most hit areas: (Ngomeni, Mutha, Kanziko, Endau/Malani,Mumoni, Tharaka, Tseikuru, Nguni,Athi, Ikutha, Nzombe/Mwitika, Mutitu/Kaliku, Yatta/Kwa vonza) Moderate hit areas(Chuluni, Ikanga, Kanyangi, Mutomo, Waita, Ngutani) Low hit areas(Miambani, Kyangwithya east, Kyangwithya west, Mulango, Kisasi, Mbitini, Nzamabni and Kitui township)
		Low crop yields	Most hit Areas: (Mui. Ikanga, Kauwi, Chuluni, Ikutha, Kanyangi, Kiomo/Kyethani, Yatta/Kwa vonza, Kiomoe/Thaana, , Endau/malani, Voo/KyamatuKanziku, Athi, Mutomo/KibweaKyuso, TharakaNgomeni, TseikuruMumoni, Mutha, Moderate Hit areas(Mutitu/Kaliku, Nguni, , Waita,

			Nzombe/Mwitika, , Kivou, Nuu, Ngutani, Mutnonguni, ) Low Hit Areas(Kyangwithya East, Kithumula/Kwa mutonga, , Kisasi, Mulango, Miambani, , Mwingi central, Nzambani, Mbitini and Kitui township Matinyani, MigwaniKyagwithya west)
		Human/wildlife conflict	Areas: Ngomeni, Endau/malani, Tseikuru, Mutha, Athi, Ikutha, Kanyangi, Chuluniamdmutomo
2.	Environmental degradation	Degrading ecosystems/habitats	(Mui. Ikanga,, Chuluni, Ikutha, Kanyangi, Kiomo/Kyethani, Yatta/Kwa vonza, Kiomoe/Thaana, Endau/malani, Voo/KyamatuKanziku, Athi, Mutomo/KibweaNgomeni, TseikuruMumoni, Mutha,nuu and nguni)
		Pollution of air, water and soils	Kitui township, Mwningi central, Mutomo/kibwea, Kyuso, Kauwi, Kyagwithya west, Kyangiwithya East, Mulango, yatta/Kwa vonza
3.	Flash Floods	Landscape changes	Nguni, Chuluni, Voo/Kyamatu,Mutha, Athi
		Soil erosion	Areas:- Nguni, Chuluni, Voo/Kyamatu,Mutha, Athi
4.	Extreme temperatures	Emergence of crop pests and diseases	Ngomeni, Kyuso, Mumoni, Tseikuru, Tharaka, Waita, Nguni, Mwingi central and Kivou ward.

Annex:2 Summary of Differentiated Climate exposure and Vulnerability of key groups and livelihoods in the County

<b>Hazard</b>	<b>Vulnerable Groups</b>	<b>Livelihoods</b>	<b>Direct and Indirect Impacts</b>
Drought	Women, youth, PWD, elderly	<ul style="list-style-type: none"> <li>- Crop farming</li> <li>- Fruit farming</li> <li>- Livestock farming</li> <li>- Retail businesses</li> <li>- Poultry farming</li> <li>- Horticulture farming</li> </ul>	<ul style="list-style-type: none"> <li>- Water shortage for households and livestock</li> <li>- Increased distances to water points/sources</li> <li>- Low or no crop yields</li> <li>- Death of livestock</li> <li>- Loss of household incomes</li> <li>- School dropouts</li> <li>- Rural-urban migration</li> <li>- Family conflicts and breakups</li> <li>- Increased crime (theft issues)</li> <li>- Human-human conflict</li> <li>- Human-wildlife conflict</li> <li>- Resource-based conflict</li> <li>- Increased pressure on resources</li> </ul>

<p>Environmental degradation</p>	<p>Women, youth, PWD, elderly</p>	<ul style="list-style-type: none"> <li>- Crop farming</li> <li>- Fruit farming</li> <li>- Livestock farming</li> <li>- Retail businesses</li> </ul>	<ul style="list-style-type: none"> <li>- Low crop yields</li> <li>- Death of livestock</li> <li>- Loss of household incomes</li> <li>- Human-human conflict</li> <li>- Human-wildlife conflict</li> <li>- Loss of biodiversity and destruction of habitats</li> <li>- Overreliance on forests products as alternative livelihood (such as charcoal trade)</li> </ul>
<p>Floods</p>	<p>Women, youth, PWD, elderly, children</p>	<ul style="list-style-type: none"> <li>- Market days</li> <li>- Transport businesses (boda boda &amp; matatu)</li> <li>- Crop farming</li> <li>- Horticulture farming</li> </ul>	<ul style="list-style-type: none"> <li>- Destruction of crops</li> <li>- Destruction of farming lands</li> <li>- Loss of lives</li> <li>- Destruction of infrastructure and property</li> <li>- Outbreak of waterborne diseases</li> </ul>

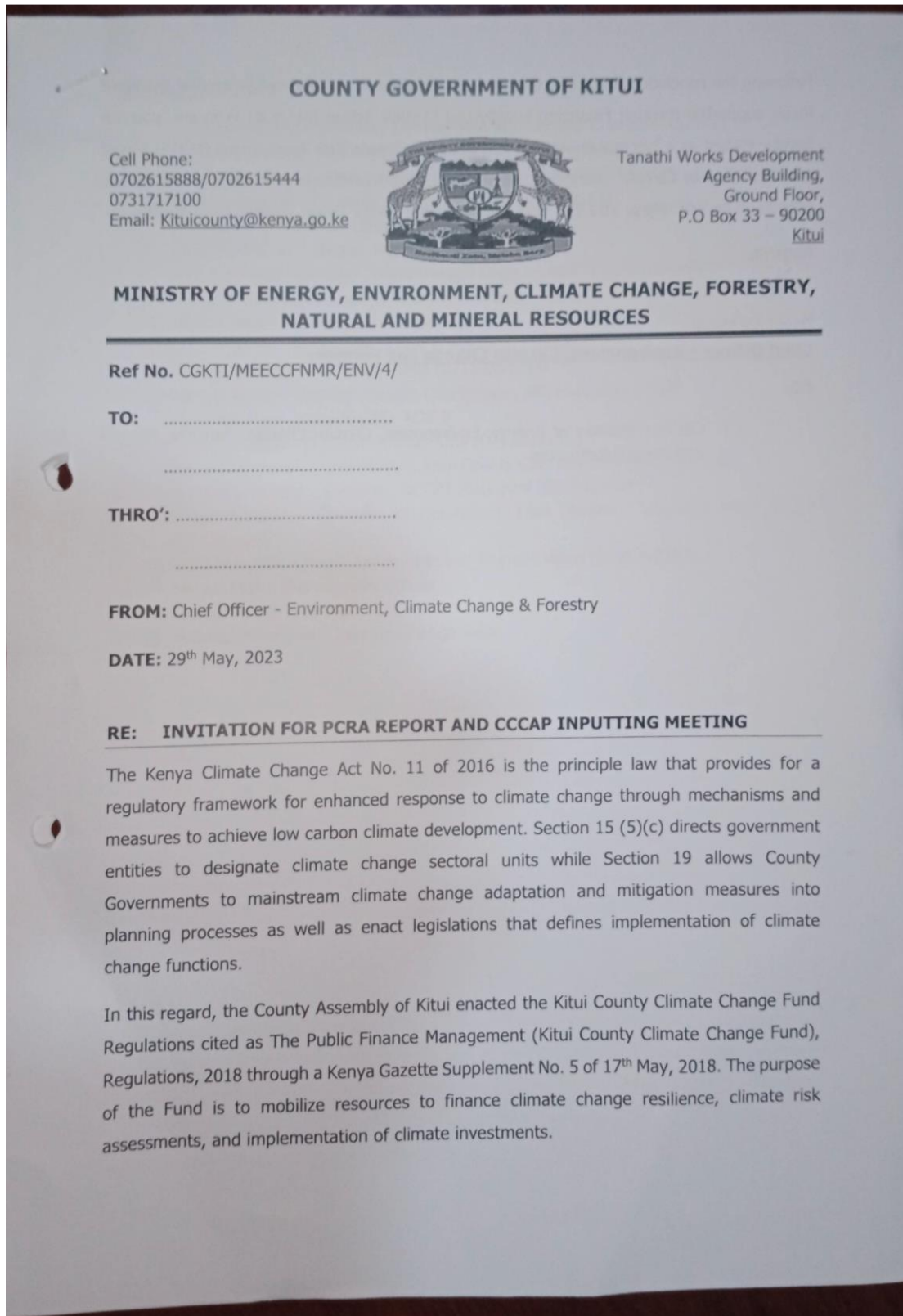
			<ul style="list-style-type: none"> <li>- Increased pressure on health facilities</li> </ul>
Extreme temperature	Women, youth, PWD, elderly, children	<ul style="list-style-type: none"> <li>- Horticulture farming</li> <li>- Market days</li> <li>- Transport businesses (boda boda)</li> <li>- Masonry businesses</li> </ul>	<ul style="list-style-type: none"> <li>- Drying of crops</li> <li>- Low yields</li> <li>- Loss of income</li> <li>- Heat stress</li> <li>- Headaches and human suffering</li> <li>- Low productivity</li> <li>- Increased snake bites</li> </ul>

Annex 3 Photo of technical working group team





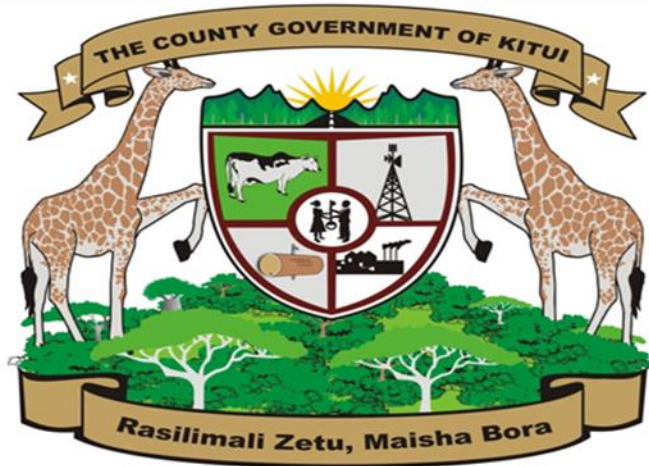
Annex 4 Invitation letter for participation





*Annex 5 PCRA report*

# Kitui County



## Participatory Climate Risk Assessment Report

May 2023