



OFFICE OF THE COUNTY SECRETARY  
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EMBU

**EMBU COUNTY GOVERNMENT**

**EMBU COUNTY CLIMATE CHANGE ACTION PLAN**

*For a climate resilient County*

**2023-2027**



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## **Foreword**

Climate Change is a global problem that has increased the frequency and magnitude of extreme weather events globally leading to loss of lives, diminished livelihoods, reduced crop and livestock production, damages on infrastructure among other adverse impacts that demands global solutions and international efforts. The international response to climate change is founded upon the United Nations Framework Convention on Climate Change (UNFCCC). The Paris agreement under UNFCCC aims to strengthen the global responses to the threats of climate change by setting out the Nationally Determined Contributions (NDCs) to be adhered to by nations in order to achieve the global goals set out in the Paris Agreement that includes both adaptation and mitigation measures. Various intergovernmental panels on climate change emphasize on the need to strengthen the resilience and adaptive capacity of developing communities who have continued to bear the blunt impact of climate change.

In Kenya, the efforts to address climate actions are set out by the NCCAP 2018-2022 and the National Climate Change Act 2016, whose objective is to promote low carbon climate resilient development and investments. The Act provides a regulatory framework for enhanced responses to climate change and promotes mainstreaming of climate change actions into the various government functions, levels and sectors. Climate change is likely to negatively impact Kenya's future development and achievement of the goals of Kenya Vision 2030 – the long-term development blueprint as well as the sustainable development goals (SDGs).

Counties are considered to be the first line of defense and therefore the best placed to implement climate action plans that best address the needs of local communities. Climate change has taken a toll on various economic aspects of Embu County. The Embu County Government has therefore enacted the Climate Change Regulations and the Climate Change Policy. Through this policy, the County Government has developed a five-year Climate Change Action Plan (ECCAP) covering 2021-2026 to guide in mainstreaming climate change adaptation and mitigation actions into her sectorial functions. This plan builds onto the CIDP 2023-2027 and provides a framework for the county to contribute towards achievement of NDCs at the national level. The plan and the regulations bring together various stakeholders such as private sector, civil society and other climate change actors in order to develop pathways for climate resilience and adaptation addressing the negative impacts of climate change. These actions include tree planting programmes, protection and conservation of forests and hills, clean energy programmes and drought management interventions. Significant financial resources need to be mobilized and channeled towards climate-resilient activities. To enable the county to take advantage of available opportunities, the right institutional and financial mechanisms have been put in place so that resources are directed efficiently towards county climate resilient development priorities.

The county government leadership is looking forward to creating partnerships with local and international development partners and non-state actors to mobilize adequate resources to implement the Embu County Climate Change Action Plan.

**H.E. CECILY MBARIRE MGH**  
**GOVERNOR, EMBU COUNTY GOVERNMENT**

## Acknowledgement

This Embu County Climate Change Action Plan (ECCCAP) 2023-2027 is a five-year plan to guide climate change actions, including the reduction of greenhouse gas emissions. The Plan is a requirement by the Climate Change Act, 2016, which seeks to further Embu county's development goals by providing mechanisms and measures to achieve low carbon climate resilient development, in a manner that prioritizes adaptation. The Plan also sets out initiatives that foster movement towards the County's contributions to the Nationally Determined Contribution (NDC) under the Paris Agreement. The NDC include greenhouse gas emission reductions of 30% by 2030 from the "business as usual" scenario, mainstreaming of climate change adaptation into the Government's planning processes, and implementation of adaptation actions.

The development of ECCCAP 2023-2027 was guided by a Taskforce that was appointed by the Chief Officer for climate change. It also involved the participation of the academic institutions and Agencies of the National Government, County Government departments, Civil Society, the private sector, and the faith-based organization. A wide range of individuals and institutions participated in the development ECCCAP 2023-2027. I take this early opportunity to recognize their efforts. Technical inputs to ECCCAP 2023-2027 were enriched through the Adaptation and Mitigation Thematic Working Groups, whose membership was inclusive and drawn from the National and County Governments, Civil Society, the academia, and the private sector. Contributions from members of the Taskforce and the Thematic Working Groups, both at individual and corporate levels, are greatly appreciated. The County Climate Change Unit is also grateful to the national and local climate change experts that provided valuable technical inputs to the process.

I wish to commend the office of the excellency the governor of Embu for her greater commitment in supporting the development of this document. Her words "*I will support anything for climate change*" kept us moving and this enabled the team to walk miles without delay. Special thanks go to the County Executive Council Member (CECM) for Environment and Climate Change for appointing the Taskforce and coordinating the entire process of developing ECCCAP 2023-2027. The efforts of the Chief Officer (Environment and Climate Change) in managing contributions from experts was critical in ensuring that all inputs from various parties were not lost. I also wish to recognize the support from our very own County Assembly for the support and coordination during the data collection and also for the speedy allocation and approval of budgets which was critical given the strict timelines. Much appreciation goes to the experts from the University of Embu for their professionalism and diligence throughout the process of developing ECCCAP 2023-2027 which cannot go unrecognized.

ECCCAP 2023-2027 was prepared through an extensive consultation process. Over 400 stakeholders, including representatives of state and non-state actors, civil society, the academia, women's groups, youth groups, marginalized and minority groups, and the private sector were consulted. These are gratefully acknowledged for their candid views that form the basis of this Plan. It is appreciated that effective implementation of ECCCAP 2023-2027 will require continued input from these stakeholders, and increased partnerships and enhanced support from development partners.

The development of ECCCAP 2023-2024 would not have been possible without the support of development partners. These include the Government of Germany through the GIZ and NDMA through the programme coordinator for the Climate-Resilient Development Project, which is

managed by IFAD. Other support was also received from KARLO, TARDA, FARM AFRICA, NATURE KENYA, KFS, WARMA as well as the critical department of water and agriculture in the County. These partners and stakeholders will continue to play a significant role in the effective implementation of this document for enhanced resilience of the people of Embu County.

The County Climate Change unit is committed to the implementation of this plan and will take the lead in enactment of all the climate actions that were prioritized by the communities during the engagement process. The unit will work with the National Climate Change Council to ensure a coordinated and effective approach that will involve both the National and County Governments, and other stakeholders across Embu county.

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## **Executive Summary**

The Embu County Climate Change Action Plan (ECCCAP) for the period 2023-2027 aims to enable Embu County to take significant steps to combat the effects of climate change and enhance the resilience of Embu County's communities and residents. Anchored on the National Climate Change Action Plan (NCCAP) and the National Climate Change Act, 2016, the ECCCAP focuses on mainstreaming sustainable climate actions in all sectors. The ECCCAP will increase the capacity of Embu County to achieve its development goals by enhancing the resilience of its citizens to climate change shocks. The action plan emphasizes involvement of special interest groups, especially the youth, women, elderly, people with disabilities and venerable communities.

The timing of the development of ECCCAP is preceded by a period of adverse climatic conditions when human lives and livelihoods have been under significant threat from extreme weather events. The drought experienced in the County during the years 2021 and 2022 was perhaps the worse that the county has had in over 40 years. In the previous years, periods of extreme precipitation were also experienced. Over the years, higher than normal temperatures have been experienced in most parts of the county. These increasing incidences of extreme weather and climatic conditions, that appear to become more severe with time is a cause for concern by most residents of the county. The frequency of hot days and cold nights has been on the increase in the last 5-10 years. Being a county that largely depends on agriculture, these changes in climate means that crops cannot grow to maturity in many seasons, and this has caused a high level of food insecurity.

Floods and drought lead to huge economic losses, not just for the farmers, but also for other people whose livelihoods are dependent on the agriculture value chain. Heavy flooding destroy energy transmission systems, increases breeding of disease-causing agents like mosquitoes and destroy crops on farms. On the other hand, droughts lead to death of livestock, crops in the farms, lowering of waters levels in hydro-electric dams etc. this besides agriculture, other sectors like water, energy, tourism, wildlife, and health are also affected. Thus, climate change has emerged as one of the greatest threats to the well-being of people living within the county. The economic cost of floods and drought in the county has created a long-term financial that is comparable to significant proportions of the county's Gross Domestic product. While the county's contribution to climate warming through greenhouse gas emissions, there is a growing need to develop mechanism for coping with these effects since the world is clearly a global village. Climate change is a global problem, and Embu County participates actively in the international response founded on the United Nations Framework Convention on Climate Change (UNFCCC) through the existing national mechanisms.

The county's prioritized climate actions are all largely mitigation measures, and are as set out in the UNFCCC. These actions are in the sectors of agriculture, energy, forestry, industry, transport, and waste management. Although the impacts of these actions may be minimal, given the national, regional and the global context, the efforts to reduce climate change and lower greenhouse gas emissions is make the situation much better compared to a business-as-usual attitude. This action plan has been developed tough a highly participatory process that has seen the involvement of practically all stakeholders in the community. This process was led by a taskforce that incorporated. The process involved formation of thematic working groups, workshops and training seminars. experts from the fields of academia, research, civil society and even the government at

both levels. In a similar manner, the implementation of the ECCCAP is expected to be as participatory as the planning stages. If these actions are followed, the county could contribute substantially to the county's Nationally Determined Contributions.

The ECCCAP 2023-2027 is underpinned by six key priority areas which are cross-cutting in most of the wards of the county. These are: Agriculture for Food and Nutrition security; Forestry and Agroforestry; Water and Sanitation; Disaster and Risk Management; Energy and Transport. These priority areas are aligned to those which underpin the NCCAP 2018-2022 and through them, the county is able to align climate change action to both national and international development objectives such as the Kenya Vision 2030 and the United Nations Sustainable Development Goals (SDGs). This ECCCAP 2023-2027 seeks to enhance the ability of communities within the county to cope with climatic disasters like floods and drought; increase the number of institutions and households that the county government can help to adapt to climate disasters; increase food productivity by expanding the areas under irrigation; increase adoption of alternative income generating activities, especially amongst the special interest groups (Youth, Women, PWDs and the Elderly) through increased livestock and fisheries production; increase the uptake of climate-smart initiatives such as conservation agriculture and precision agriculture; improve coordination for disaster management and response systems; improved access to clean drinking water by expanding water distribution networks; promote water-use efficiency; increase climate proof water harvesting and storage infrastructure; increase resilience to climate change impacts by diversifying livelihoods; increase the area under forest cover through afforestation and reforestation of degraded areas; significantly reduce the rates of deforestation and other forms of degradation through capacity building amongst the young population on benefits of environmental conservation; promote adoption of the circular economy principles of Reduce, Re-use, Recycle; promote use of green and efficient cooking energy technologies such as kilns, clean biomass cook stoves and biogas; and promote use of renewable energy for electricity generation like wind and solar. Most of these climate actions have been mainstreamed in the Embu County Integrated Development Plan (CIDP) and are important in the successful implementation of the CCCAP.

Embu County has a Climate Change Fund Act, 2019 to finance, facilitate and coordinate financing Climate Change Adaption and Mitigation projects. This Act establishes the Embu County Climate Change Planning Committee which is responsible for identification and management of projects, and providing overall oversight. It also establishes the Ward Climate Change Planning Committees that oversee the delivery of projects at the ward level. The County Climate Change unit is responsible for the coordination and implementation of the ECCCAP under the overall guidance of the County Executive Council Member (CECM). Besides, implementation of the CCCAP will be supported by a number of county institutions and departments with each providing specific enabling actions. These institutions include: Office of the Governor, Embu County government; The County Assembly; the CECM for Environment Climate Change; the County Chief Officer for Environment and Climate Change; The National Environmental Management Authority (NEMA); Ministry of Education; National Treasury & Climate Change Department; Meteorological Department; Kenya Bureau of Statistics; National Disaster Management Authority; Department of Planning; Kenya Agriculture and Livestock Research Organization; University of Embu; Local Administration; World Bank; Civil Society groups; Ward Climate Change Planning Committee; Department of Water; Department of Agriculture and the Kenya Forest Service (KFS) among others.

## Abbreviations and Acronyms

AIG	Alternative Income Generation
CECM	County Executive Committee Member
CSA	Climate Smart Agriculture
CIDP	County Integrated Development Plan
CBO	Community based Organization
CFA	Community Forest Association
EMCA	Environmental Management and Coordination Act
ITIKI	Information Technology and Indigenous Knowledge with Intelligence
SMART	Specific, Measurable, Achievable, Relevant, and Time-Bound
M&E	Monitoring and Evaluation
NCCAP	National Climate Change Action Plan
NGO	Non-Governmental Organization
NDC	National Determined Contribution
PWD	People with Disability
RE	Renewable Energy
RS	Remote Sensing
UNFCC	United Nations Framework Convention on Climate Change
WRUA	Water Resource User Association
WHO	World Health Organization
FOLAREP	Forest, Landscape and Restoration Programme

## **Definition of Terminologies**

### **Adaptation**

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

### **Adaptive Capacity**

The ability or potential of a system to respond successfully to climate variability and change, and includes adjustments in both behavior and in resources and technologies.

### **Capacity building**

In the context of climate change, the process of developing the technical skills and institutional capability in developing countries to enable them to address effectively the causes and results of climate change.

### **Carbon market**

A trading system through which countries or other entities may buy or sell units of greenhouse gas emissions in an effort to meet their national limits on emissions, either under the Kyoto Protocol or under other agreements, such as that among member states of the European Union. The term comes from the fact that carbon dioxide is the predominant greenhouse gas.

### **Carbon sequestration**

The process of removing carbon from the atmosphere and depositing it in a reservoir or “Sink”, such as soil or trees.

### **Climate**

The average pattern for weather conditions occurs over a long time period not less than 30 years. Weather refers to the atmospheric conditions at a specific place at a specific point in time. Climate has always varied because of natural causes. Increasingly, however, human increases in GHG emissions causing changes in climate as well.

### **Climate Change**

Changes in global or regional climate patterns, including changes in temperature, wind patterns and rainfall. In particular, climate change refers to a change apparent from the mid to late 20th century onwards and attributed largely to human activities that increase levels of GHG emissions, especially atmospheric carbon dioxide produced by the use of fossil fuels. Climate change is sometimes referred to as global warming, which specifically refers to the long-term trend of a rising average global temperature.

### **Climate Finance**

Local, national or international financing that may be drawn from public, private and alternative sources of financing, and is critical to addressing climate change because large-scale investments are required for adaptation and mitigation.

**Climate Resilience**

Closely linked to adaptation, building climate resilience includes reducing vulnerability to climate change, making sure that the impacts of climate change are avoided or cushioned, and enabling people to respond to climate risks.

**Conference of the Parties**

The supreme governing body of the UNFCCC, which meets once a year to review the Convention's progress.

**Deforestation**

The long-term or permanent loss of forest cover. The term implies transformation of forest into another land use, which is caused and maintained by a continued human-induced or natural perturbation.

**E10**

E10 is a mixture of conventional unleaded petrol and ethanol. E10 means it is 90 per cent petrol and 10 per cent ethanol.

**Greenhouse gases**

The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO<sup>2</sup>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). Less prevalent but very powerful greenhouse gases are the hydro fluorocarbons (HFCs), per fluorocarbons (PFCs) and Sulphur hexafluoride (SF<sub>6</sub>).

**Intergovernmental Panel on Climate Change (IPCC)**

Established in 1988 by the World Meteorological Organization and the UN Environment Programme, the IPCC surveys worldwide scientific and technical literature and publishes assessment reports that are widely recognized as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the UNFCCC and its subsidiary bodies. The IPCC is independent of the UNFCCC.

**Kyoto Protocol**

An international agreement standing on its own, and requiring separate ratification by governments, but linked to the UNFCCC. The Kyoto Protocol, among other things, sets binding targets for the reduction of GHG emissions by industrialized countries.

**Low Carbon Development Pathway**

A national development plan or strategy that encompasses low-emission economic growth. Transitioning to this pathway means taking actions, where possible, to encourage GHG emissions that are lower than business-as-usual practice; and reducing the human causes of emissions by moving toward a resource efficient economy that is as low-carbon as possible and enhancing carbon sinks.

**Mitigation**

In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests to remove greater amounts of carbon dioxide from the atmosphere.

**Measurement, Reporting and Verification Plus (MRV+)**

An integrated framework proposed for Kenya to measure, monitor, verify and report results and impacts of mitigation, adaptation and climate finance actions, and the synergies between them.

**National Adaptation Plan**

A document prepared by developing countries that identifies urgent and immediate needs for adapting to climate change.

**National Climate Change Action Plans**

National plans of action, prepared at five-year intervals, that set out in detail the requirements and costs for the design and implementation of the various climate change interventions required for Kenya to attain low carbon climate resilient development.

**Public Private Partnerships (PPPs)**

Public-Private Partnerships are an association between government and private sector through which private financing is utilized to perform a public function, at a profit to the private sector.

**Sustainable development**

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Technology Transfer**

A broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change among different stakeholders.

**United Framework Convention on Climate Change (UNFCCC)**

An international treaty signed by 195 countries that entered into force in 1994. The objective of the Convention is stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate systems

**Vulnerability**

The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude and rate of climate variation to which a system is exposed, its sensitivity and its adaptive capacity.



## **CHAPTER 1**

### **1.0 Background and Context**

#### **1.1.1 Introduction & Background**

Embu County is one of the 47 counties in Kenya, located in the eastern part of the country, about 150km east of Nairobi. Its administrative capital is Embu town which previously served as the headquarters of the former Eastern Province. The County is inhabited by several ethnic communities, including the Embu, Mbeere, Kamba, and Tharaka. It lies between latitude 0° 8' and 0° 50' South and longitude 37° 3' and 37° 9' East. The county shares borders with Kirinyaga County to the West, Kitui County to the South East, Machakos County to the South and Tharaka Nithi County to the East. The County covers an area of 2,818 square kilometers and has 20 wards namely: Nthawa, Mbeti North, Mbeti South, Kyeni North, Kyeni South, Kithimu, Kirimari, Gaturi North, Gaturi South, Evurore, Muminji, Kagaari North, Kagaari South, Kiambere, Mwea, Makima, Nginda, Ruguru Ngandori and Mavuria (Figure 1.1).

The County exhibits distinct ecological conditions within its boundaries, that create two major agro-climatic regions that are characterized by a range of agro-ecological zones from the cool and wet highlands of Mt Kenya to the hot and dry lowland zones. These agro-ecological zones from the highlands to the lowlands include: The snow zone; Forest zone 1 (UH 0); Forest zone 2 (LH 0); Dairy-Tea zone (LH 1); Mini coffee zone (UM 1); Main Coffee zone (UM 2); Coffee-Mango zone (UM 3); Sunflower zone (UM 4); Lowland Livestock-Millet zone (IL 5); Cotton zone (LM 4) and Lower Midland Livestock-Millet zone (LM 5) (Figure 1.2). The average annual rainfall for the county ranges from 600 mm in the lowland zones to 2200 mm in the highlands. The annual average minimum and maximum temperatures range between 18-19 °C and 27-28 °C in the lowlands, and between 14 -15 °C and 25-26 °C in the highlands respectively. The main economic activity for the county is agriculture with main food crops being maize, beans, cowpeas, green grams, bananas, sorghum, tomatoes, pawpaw, avocado, and citrus fruits. The main cash crops include tea, coffee, khat and macadamia. The main livestock reared include cattle, sheep, goats, chicken and fish. However, communities are also involved in other economic activities like artisanal mining, trading and food processing.

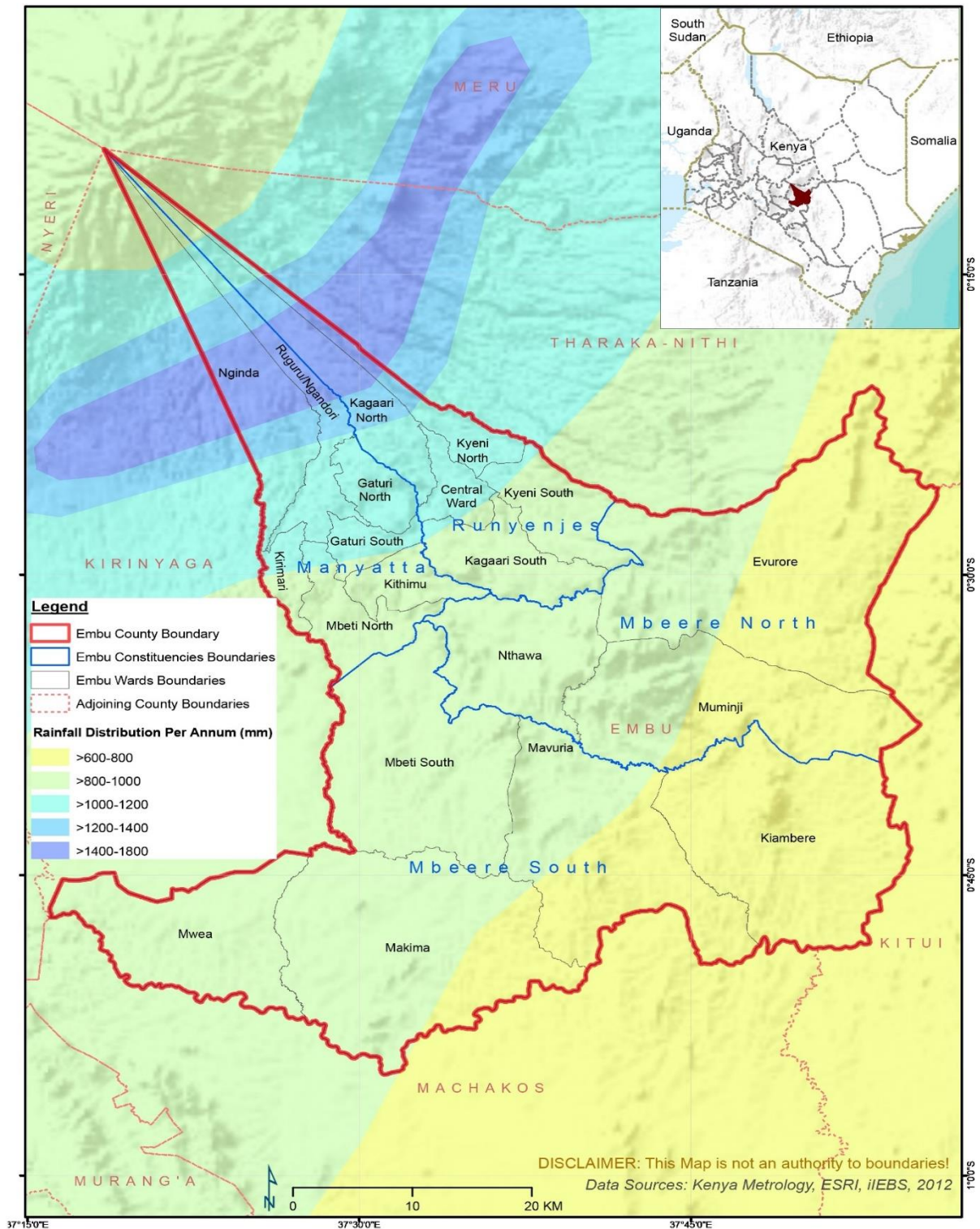
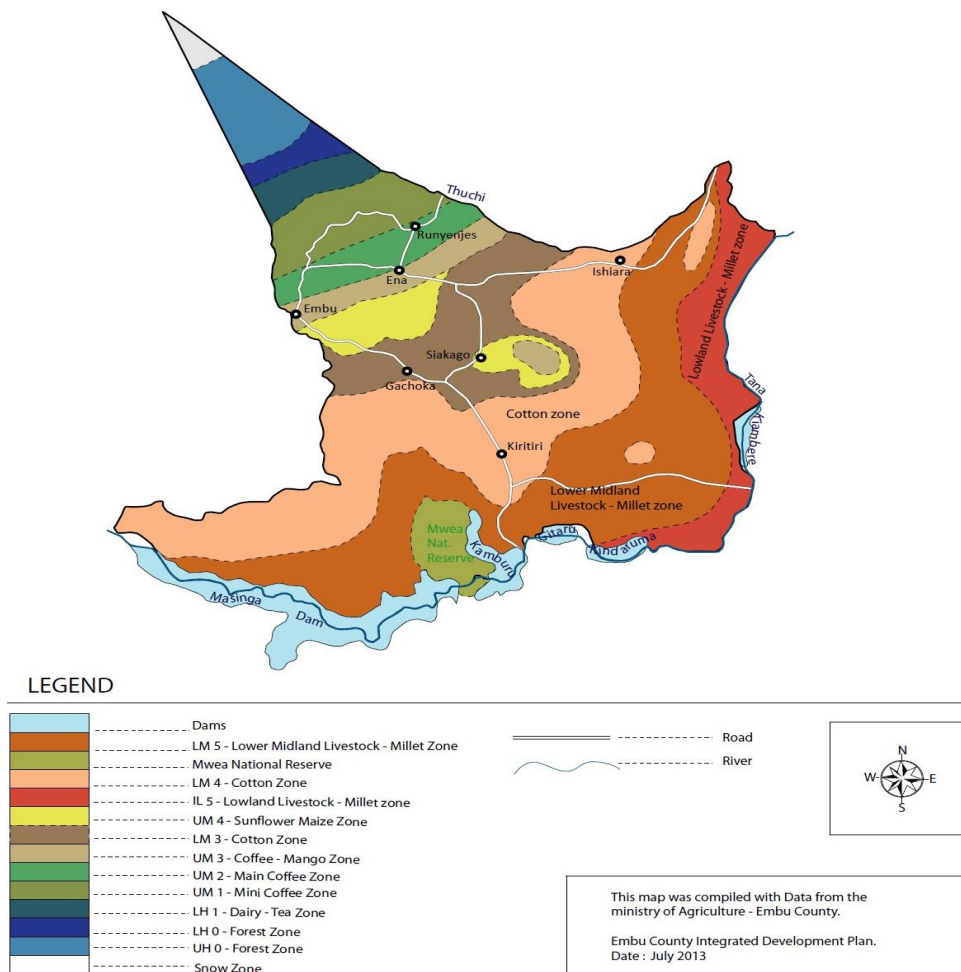


Figure 1.1: Map of Embu County showing its location in Kenya, the different wards within the County and the boundaries with its adjoining counties



Source: Embu County Integrated development plan, 2013

Figure 1.2: Agro-Ecological zones in Embu county. Different abbreviations for the zones indicate: UM=Upper Highland zones); LH =Lower Highland zones; UM=Upper midland zones; LM=Lower Midland zones; IL=Intermediate Midland; and LM=Lower Midland zones.

### 1.1.2. Purpose and process of the CCCAP

The development of the Embu County Climate Change Action Plan (ECCCAP) was informed by the National Climate Change Action Plan (NCCAP, 2018-2022) and the National Climate Change Act, 2016 whose objective is to encourage low carbon climate resilient development. The process for the development of the ECCCPA started after the development of a participatory climate risk assessment (PCRA) report.

The CCCAP is expected to cover the period of 2023 to 2027 and is based on submissions by the local communities in all the 20 Wards, and other key stakeholders including the private sector, Civil Society Organizations (CSOs), academic institutions, and other development partners. It covers key sectorial areas outlined in the FLLoCA guidelines and the NCCAP namely disaster risk management; agriculture sector (climate smart agriculture); water and the blue economy; environment and forestry, wildlife and tourism; clean and renewable energy, circular economy

circular economy and climate proofing infrastructure. In all engagements, the needs of women, youth, ethnic minorities, people living with disabilities and other marginalised and vulnerable groups were mainstreamed. The PCRA process that preceded the development of ECCCAP sought to engage the community in assessment of the climate risks and hazards that they face as well as the adaptation action priority areas that seek to enhance climate resilience. It also enabled them to assess their needs by looking at their own interventions and the stakeholders/institutions that support them, come up with options that can better the actions they are currently employing to make them more resilient. More importantly, the PCRA process enabled the participants within the wards to make proposals for the actions they felt could require external assistance from partners, government and non-governmental organizations. Thus, the process helped generate ward-level climate actions that informed the County Climate Change Action Plan (CCCAP).

A multi-stakeholder workshop was organized where community representatives were invited to prepare summary data that would be used in preparing the final draft. The ECCCAP 2023/2027 was guided by the task force that was appointed by the CECM with the Chief Officer for the Climate Change unit as the chairperson. This task force spearheaded the process through the multi-stakeholder workshop that involved the participation of academic institutions, government agencies, county government departments, civil societies as well as faith-based institutions. The ECCCAP was prepared through an extensive consultative process with over 400 stakeholders who included representative from actors and non-state actors.

During the multi-stakeholder workshop, stakeholders were grouped into sector working groups based on their interests and guided through by workshop facilitators in thematic areas of expertise. The sector groups analyzed all sector priority actions as proposed in the ward climate change action plans, and were also given an opportunity to contribute their views on the suggested priority projects.

A participatory approach involving all stakeholders was adopted to allow for validation and ownership of the CCCAP. The approach was anchored by the following principles:

**Transparency:** There was openness throughout the entire process.

**Inclusivity:** Addressing the needs of the vulnerable groups within the society including the minority members, women, PLWD, youths and the elderly.

**Fairness:** Ensuring the climate actions are equitably distributed across the ward.

**Consensus-building:** Ensuring a common mutual agreement is reached amongst the stakeholders.

The above principles laid the ground for effective participation of all the community members. Among the stakeholders were the marginalized groups, youth, women, PWDs, and the elderly. Deliberate effort was made to ensure adequate participation of members from these marginalized groups. At least 60% of the community members invited were from these marginalized groups. Embu County Government also adequately facilitated their individual participation by offering them financial support to cater for their transport to the meeting venue and lunch.

## **1.2 Underlying Climate Resilience Context**

Embu county has continued to experience an increase in frequency and magnitude of extreme weather events especially high intensity rainstorms, flash floods, and prolonged droughts which have devastated livelihoods especially for the marginalized households. Several communities especially those in the lowland Wards have experienced crop failure and livestock losses associated with the increased natural disasters. Other major impacts include damage to infrastructure among other adverse effects. The recent prolonged drought in 2021/2022 experienced in the county devastated families who were still struggling to recover from COVID 19. According to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), there is increased evidence that widespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, and drought (IPCC, 2022). The observed impacts have been attributed to human-induced climate change particularly through increased frequency and severity of extreme events.

Climate change therefore remains a threat to sustainable development and implementation of major development initiatives in the county like the governor's manifesto. This justifies why Embu county government has taken critical steps to enhance climate change resilience and adaptation strategies. This is demonstrated by the enactment of Climate Change Fund bill, 2019 and the draft Climate Change policy which provides the first step by the county government to address the issues of climate change. The documents provide the regulatory framework for the structure and financing mechanisms of climate actions in the county. The Embu County draft finance policy emphasizes on sustainable development while prioritizing adaptation and recognizing the importance of enhancing climate resilience among the vulnerable groups that include women, youth, PLWD category and the marginalized communities.

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

Extreme weather events especially those associated with drought and erratic rainfall have disrupted livelihood patterns triggering major socio-economic and environmental upheavals. In Embu county these disruptions have been the key source of vulnerability for different categories of community members, their lives and livelihoods. The major impacts have been categorized as:

**Social impacts:** Climatic hazards causes huge disruption to human lives, social conflicts, migrations, resource scarcity, increase poverty and dependency levels.

**Environmental impacts:** Climatic hazards have adverse effects from natural resources, contributes to loss of biodiversity, loss of livelihoods, loss of ecosystems and biodegradation e.g droughts have been linked to loss of biodiversity and livelihoods and degradation of productive lands. Drought also lead to desertification of land that was previously productive. The intergovernmental science policy platform on biodiversity and ecosystem services reported that climate change could result to significant losses of many African animal and plant species, and decline in the productivity of fisheries.

**Economic impacts:** Climatic hazards like drought and floods have led to loss of investments mainly the built environment. Floods for example have been associated with destruction of the road networks and buildings. Droughts have been associated with a decline in water levels of dams that are used for electricity generation. Such losses diminish the available economic capacity for communities.

The overall likely impacts to the county include greater food insecurity due to declining crop yields and livestock populations especially in the lower midland Wards with ASAL conditions. Most of these areas experience drought occurrences and reduced precipitation.

The impacts of hazards can be either direct or indirect. Hazards are events or conditions that cause negative impacts on people, their assets and their livelihoods. The analysis of hazards in Embu was done during the community engagements at the ward level through a participatory process. The hazards were then ranked using a pairwise ranking after which the key hazards were identified. The hazards were uniquely identified based on the distinct ecological zones. The hazards found in the upper zones which is cold and wet were different from those identified in the hot and dry lower zones. This is clearly demonstrated in the Embu county hazard map.

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

The key climate risks and hazards that were identified by the community are:

- i. Drought
- ii. Erratic rainfall
- iii. Crop/animal pest and diseases
- iv. Flash Floods

These hazards in Embu county were identified during the PCRA process using various tools such as the Hazard/resource maps of wards, historical profile, Seasonal calendar, Daily clock, vulnerability matrix and were then ranked in a pairwise ranking. A climate hazard map helps communities to recognize the various potential hazards that are posed by climatic factors in their localities and therefore be able to adapt to them. Knowledge of these potential hazards also helps communities to plan their resources and activities in a way that the impacts of the hazards are minimal, and that they can continue to draw benefits from their resources. Figure 1.3 shows the climate and resource hazard map that was used to map and identify climatic hazards in the County.



Figure 1.3: A climate hazard and resource map for all the wards in Embu County

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

Community Vulnerability is the degree or extent to which a community is susceptible to Climate Hazards and Risks. The priority hazards were: Drought, Erratic rain, emerging crops and livestock diseases and Flash floods. Community Livelihood Strategies are disrupted in the event of Climate hazards. The Vulnerability matrix is a tool that is used to indicate the levels of vulnerability in the community.

The Community identified the following Livelihood Strategies and assets from the Seasonal Calendar;

- 1) Agricultural land
- 2) Livestock
- 3) Water sources
- 4) Trade/market
- 5) Casual labor
- 6) Formal employment
- 7) Transport

The Community participants developed criteria of measuring the impact of the hazards on their livelihood Strategies. A criterion for scoring on a scale of 1- 4 was adopted (where 1=Not affected, 2= Least affected, 3=Moderately affected, 4=Severely affected). An evaluation of the

vulnerabilities of four different special interest groups (Women, PLWD, Youth, Minority and other marginalized groups) to the four most severe hazards (Drought, Erratic rain, emerging crops and livestock diseases and Flash floods) showed that Women & Youth are the most affected followed by PLWD and Minority /Marginalized groups (Tables 1.1; 1.2; 1.3; and 1.4).

Table 1.1: Vulnerability Matrix showing the scores of vulnerabilities based on the level by which each of the groups is affected by Drought (1=Not affected, 2= Least affected, 3=Moderately affected, 4=Severely affected)

Livelihood Strategies/resource	Hazard (Drought)			
	women	PLWD	youth	Minority and marginalized
Agricultural land	4	4	4	4
Livestock	3	3	3	3
Water sources	4	4	4	4
Trade/market	3	2	2	1
Casual labour	3	1	2	2
Formal employment	2	1	1	1
Transport	1	1	1	1
Beekeeping	3	2	1	1
Crops	4	3	3	3
<b>TOTAL</b>	27	21	21	20

Table 1.2: Vulnerability Matrix showing the scores of vulnerabilities based on the level by which each of the groups is affected by Emerging crop and livestock diseases where 1=Not affected, 2= Least affected, 3=Moderately affected, 4=Severely affected

Livelihood Strategies/resource	Hazard (Emerging crop and livestock diseases)			
	women	PLWD	youth	Minority and marginalized
Agricultural land	4	2	3	3
Livestock	4	3	2	2
Water sources	1	1	1	1
Trade/market	3	2	2	1
Casual labour	2	1	3	2
Formal employment	1	1	1	1
Transport	1	1	1	1
Beekeeping	2	1	1	1
Crops	4	3	4	4
<b>TOTAL</b>	22	15	18	16

Table 1.3: Vulnerability Matrix showing the scores of vulnerabilities based on the level by which each of the groups is affected by Erratic rain where 1=Not affected, 2= Least affected, 3=Moderately affected, 4=Severely affected



Livelihood Strategies/resource	Hazard (Erratic rain)			
	women	PLWD	youth	Minority and marginalised
Agricultural land	4	4	4	4
Livestock	3	3	3	1
Water sources	4	4	4	4
Trade/market	3	2	2	1
Casual labour	4	2	3	3
Formal employment	1	1	1	1
Transport	1	1	3	1
Beekeeping	2	1	1	1
Crops	4	3	3	3
<b>TOTAL</b>	26	22	24	19

Table 1.4: Vulnerability Matrix showing the scores of vulnerabilities based on the level by which each of the groups is affected by Flash floods where 1=Not affected, 2= Least affected, 3=Moderately affected, 4=Severely affected

Livelihood Strategies/resource	Hazard (Flash floods)			
	women	PLWD	youth	Minority and Marginalised
Agricultural land	4	4	4	4
Livestock	2	2	1	2
Water sources	3	3	3	2
Trade/market	3	2	3	1
Casual labour	4	2	4	4
Formal employment	1	1	1	1
Transport	3	2	4	2
Beekeeping	1	2	3	1
Crops	4	2	3	2
<b>TOTAL</b>	26	20	26	19



Figure 1.4: Water scarcity in parts of parts of Embu County impacted by climate change, and a borehole constructed to mitigate the problem of water scarcity

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

The role of the county government is to ensure that the priority actions in the CCCAP are proactive rather than reactive.

#### 1.3.1 Mainstreaming of NCCAP in County Actions

The main objective of mainstreaming the NCCAP in all county actions are:

- To enable all sectors work towards mitigation and adaptation objectives that have been identified at the national level.
- To ensure all sectors work towards supporting the Nationally Determined Contributions (NDCs)
- To ensure all County climate actions are geared towards enhancing adaptive capacity
- To ensure all County climate actions work towards lowering emissions to acceptable levels
- To ensure that all climate actions are integrated when addressing several priority areas such as water projects that address food security across the country

The national government climate regulatory framework requires that the County governments mainstream the priority climate actions in the CCCAP with those in the NCCAP. Such County actions should therefore address areas relating to:

- Sustainable agriculture and food security, including climate smart agriculture, conservation agriculture and precision agriculture
- Sustainable and renewable clean green energy
- Sustainable waste management including material recovery
- Ecosystem restoration and conservation of environment and natural resources

- Improved water availability and access
- Sustainable growth in industries relating to value addition
- Effective climate proofing infrastructure
- Addressing the needs of the vulnerable, marginalized groups and people living with disability

The County government has been mandated to mainstream climate change actions in all the sectors so as to build resilience and adaptive capacity so as to be able to contribute to the (NDCs) as per the Paris agreement. This CIDP 2023/2027 has outlined key sector priority areas in responding to climate change. The predominant economic activity in Embu county is agriculture, with over 70% of population deriving their livelihood from crop production and livestock keeping.

This ECCCAP identifies a number of sectoral climate actions and objectives that need to be prioritized in order to adequately address the challenges of climate change, and proposes various strategies to address them. These actions relate to: reliable and affordable quality water; conservation and protection of catchment areas; provision of sewerage systems in the urban centres; provision of improved sanitation facilities in the market centres; creation of awareness on importance of safe sanitation to households; implementation of environmental policies and practices; ensuring compliance with environmental legislation; rehabilitation of hills, water catchment and wetlands; protection of riverine and riparian land; promotion of green energy; sustainable natural resources management and conservation; agricultural and forestry extension services; increasing forests and tree cover; creation of awareness on forest values and products; implementations of government and world related agenda on climate change and natural resources management. The key priority areas of climate action for the County and the proposed strategies for implementation of those actions are outlined in Table 1.5 below.

Table 1.5: Prioritized climate actions and objectives for addressing the challenges of climate change in Embu County, and the proposed strategies to achieve them

<b>Priority climate action</b>	<b>Strategies</b>
<b>Water Services Sub-sector</b>	
To improve access to adequate, reliable, and affordable quality water.	<ol style="list-style-type: none"> <li>1 Construction of treatment plant to provide safe, clean drinking water.</li> <li>2 Construction of Water storage tanks</li> <li>3 Drilling of boreholes</li> <li>4 Protection of water sources and catchment areas</li> <li>5 Expansion of Water distribution networks</li> <li>6 Prepare and disseminate advisories</li> </ol>
<b>Sanitation Services Sub-sector</b>	
<ol style="list-style-type: none"> <li>1. To provide quality and adequate sewerage systems in urban centres</li> <li>2. Sensitize households on sanitation</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve sanitation and drainage systems to harness and manage storm water in urban areas.</li> <li>2. Construction of sewerage systems in major towns</li> <li>3. Construction of 5000m<sup>3</sup>/day Decentralized treatment facilities for growing markets places</li> </ol>
<b>Irrigation Services Sub-sector</b>	

To increase area under irrigation by 1500ha	<ol style="list-style-type: none"> <li>1. Construction of irrigation distribution networks</li> <li>2. Sensitize and train farmers on irrigation water harvesting.</li> <li>3. Support farmer led irrigation projects.</li> <li>4. Protect catchments areas and riverbanks.</li> <li>5. Prepare and disseminate advisories</li> </ol>
<b>Environment, Climate Change and Natural Resource Sub-sector</b>	
Sustainable Utilization and Management of County Natural Resources and Landscapes	<ol style="list-style-type: none"> <li>1. Undertake public education and environmental awareness campaigns.</li> <li>2. Protect catchment areas, riverbank and riparian land.</li> <li>3. Promotion of environmentally friendly practices and technologies</li> <li>4. Prepare and disseminate advisories and information.</li> <li>5. Develop legislative framework.</li> <li>6. Rehabilitation and conservation of forests, hills, swamps, wetlands, springs areas</li> </ol>
Sustainable solid waste management	<ol style="list-style-type: none"> <li>1. Acquisition of integrated solid waste management infrastructure</li> <li>2. Reduce, reuse, recycle.</li> <li>3. Establish material recovery facilities.</li> <li>4. Establish transfer stations.</li> <li>5. Waste to energy facilities</li> </ol>
Climate change mitigation and adaptation action	<ol style="list-style-type: none"> <li>1. Establishment of climate change policy and legal framework</li> <li>2. Promoting partnership in addressing climate change issues</li> <li>3. Implementation of adaptive and mitigative measures</li> <li>4. Clean energy transition initiatives</li> </ol>
<b>Agriculture Sub-sector</b>	
To enhance adaptation and mitigation to climate change	<ol style="list-style-type: none"> <li>1. Adoption of climate smart, technologies, innovation, and management practices (including conservation agriculture, climate smart seeds varieties, ecologically adapted crops, agroforestry, regenerative agriculture).</li> <li>2. Enhancing the use of climate change adaption information.</li> </ol>
To reduce soil degradation	<ol style="list-style-type: none"> <li>1. Enhancing sustainable land management through promotion of appropriate technologies and practices (e.g., conservation agriculture, soil and water management practices, and structural and mechanization practices).</li> </ol>
To reduce overreliance on rain fed agriculture.	<ol style="list-style-type: none"> <li>1. Expansion of irrigation infrastructure including efficient water use technologies (e.g., drip, sensor-based irrigation).</li> </ol>

	2. Investment in water harvesting for crop production (e.g., small earth dams, boreholes, water pan, ponds).
<b>Livestock Sub-Sector</b>	
Increase livestock productivity.	<ol style="list-style-type: none"> <li>1. Support farmers with high producing and climate adapted breeds</li> <li>2. Promotion of destocking</li> <li>3. Promote climate smart genetic resources</li> </ol>
Sustainable livestock pasture and fodder supply	<ol style="list-style-type: none"> <li>1. Promote establishment, conservation &amp; preservation of fodder.</li> <li>2. Promote use of community hay bans</li> <li>3. Promote pasture &amp; fodder production mechanization</li> </ol>
To reduce post-harvest losses	<ol style="list-style-type: none"> <li>1. Promote value addition for livestock products &amp; by products.</li> <li>2. Installation of satellite milk coolers.</li> <li>3. Establishment of cold chain infrastructure (satellite coolers, transport, ripening cheeses facilities)</li> <li>4. Construction of milk processing plant</li> </ol>
Promote Livestock waste management systems	<ol style="list-style-type: none"> <li>1. Promote Agri-circularity (recycling of livestock product wastes)</li> <li>2. Enhance promotion of biogas installation and use.</li> <li>3. Recruit and train biogas artisans</li> </ol>
Promote & strengthen participation of vulnerable categories in Livestock production	<ol style="list-style-type: none"> <li>1. Develop a county bill on involvement of vulnerable categories on livestock production.</li> <li>2. Develop youth &amp; women agribusiness acceleration &amp; resource centres</li> </ol>
Promotion of apiculture	<ol style="list-style-type: none"> <li>1. Support farmers with bee keeping equipment. (Hives, harvesting kits)</li> </ol>
Transformation of mineral mining groups to cooperatives	<ol style="list-style-type: none"> <li>1. Promote registration of sand harvesters and quarry mining groups.</li> <li>2. Sensitize the registered sand harvesting mining societies on the importance of adopting new methods/technologies for mineral mining, relevant legal licensing/permits and environmental conservation issues.</li> </ol>
<b>Disaster Management sub-sector</b>	
To help residents of Embu build a resilient community in the face of all types of disasters and emergencies	<ol style="list-style-type: none"> <li>1. Support our community in identification of risks, mitigation strategies and facilitate in designing of community led solutions.</li> <li>2. Promotion of social inclusion at all levels and structures of the community</li> <li>3. Enhance and provide timely and actionable information to our people through appropriate</li> </ol>

	<p>communication and approach to encourage disaster risk mitigation behaviour change.</p> <ol style="list-style-type: none"> <li>4. Develop innovative economic empowerment through mobilizing existing community structures, seed funding for business activity start-ups and promoting linkages.</li> <li>5. Support sustainable integrated community led livelihood programs that guarantee food security and household income among the vulnerable members of the community.</li> </ol>
To develop, disseminate and implement a community led Early Warning Early, Action (EWEA) mechanism to help residents of Embu anticipate, prepare, respond to, and recover from emergencies.	<ol style="list-style-type: none"> <li>1. Establish a well-functioning call out system from the ward, Sub County, county and link with the county disaster operations Centre.</li> <li>2. Champion community driven Early Warning Early Action systems including contingency planning to enhance relevant climate forecast- based actions and climate change financing as per the SENDAI framework of action 2015.</li> <li>3. Develop an effective multi hazard early warning system and preparedness.</li> <li>4. Develop disaster risk management information data base and hazard and risk mapping in the county</li> </ol>
To Strengthen Disaster Risk Governance to Manage Disaster Risk.	<ol style="list-style-type: none"> <li>1. Strengthening community participation and adapting lessons learnt to enhance community lead solutions and future programming.</li> </ol>
<b>Environment, Climate Change and Natural resource sub-sector</b>	
Sustainable Utilization and Management of County Natural Resources and Landscapes	<ol style="list-style-type: none"> <li>1. Undertake public education and environmental awareness campaigns.</li> <li>2. Protect catchment areas, riverbank and riparian land.</li> <li>3. Promotion of environmentally friendly practices and technologies</li> <li>4. Prepare and disseminate advisories and information.</li> <li>5. Develop legislative framework.</li> <li>6. Rehabilitation and conservation of forests, hills, swamps, wetlands, springs areas</li> </ol>
Sustainable solid waste management	<ol style="list-style-type: none"> <li>1. Acquisition of integrated solid waste management infrastructure</li> <li>2. Reduce, reuse, recycle.</li> <li>3. Establish material recovery facilities.</li> <li>4. Establish transfer stations.</li> <li>5. Waste to energy facilities</li> </ol>
Climate change mitigation and adaptation action	<ol style="list-style-type: none"> <li>1. Establishment of climate change policy and legal framework</li> </ol>

	<ol style="list-style-type: none"> <li>2. Promoting partnership in addressing climate change issues</li> <li>3. Implementation of adaptive and mitigative measures</li> <li>4. Clean energy transition initiatives</li> </ol>
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**1.3.2 Climate Change in CIDP**

The revised (3<sup>rd</sup> generation) CIDP which covers the period of five years (2023-2027) was developed in the backdrop of the need for sustainable development for the people. A CIDP provides a platform for budgeting, financing, implementation and performance review of county projects. Such projects and programs were identified through a public participation approach and sector consultations. The County Climate change unit ensures that all sectors mainstream climate actions in their sectoral priorities. For example, in the agriculture sector, the key priority was in climate smart agriculture while in the water sector, there was emphasis on increased water access, storage, harvesting. In the energy and infrastructure sector, the focus was on climate proofing infrastructure, solar energy investment, clean cooking energy, climate proofing infrastructure like bridges and drifts while the youth and gender department focused on projects suitable for the marginalized and vulnerable groups.

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

Some of the other key climate actions and strategies in the county are outlined in Table 1.6 below

Table 1.6: Some other key climate actions and strategies that can be used to address climate change issues in the various sectors

<b>Sector</b>	<b>Key climate actions/strategies</b>	<b>Strategic objectives</b>
Environment and forestry	Afforestation; Conservation of catchment areas; Integrated solid waste management; tree nursery establishment	Increased forest cover; Reduce climate related risks related to waste hazards
Water and blue economy	Dams; Boreholes; Water pans and irrigation schemes	To enhance resilience in water sector by improving access and efficient use
Energy	Provision of clean cooking stoves; Biogas systems; Solar system installation	To improve uptake of clean cooking solutions and transition to clean energy
Infrastructure	Murraming; storm water drainage systems; bridges and drifts	To climate-proof the infrastructure and transport
Youth, Gender and social services	Capacity development on climate resilience; Alternative livelihood projects	To strengthen the resilience of the marginalized and vulnerable people (inclusivity)
Trade and Tourism	Climate smart markets; Ecotourism;	To achieve climate resilient development agendas in the two sectors
Education	School greening projects; Green competition; Adopt-a-tree programs; Education and capacity building on climate issues	To bring the green culture to the young generation, and enhance sustainability through ensuring that the young people embrace greening culture



## **CHAPTER TWO**

### **2.0 Policy Environment**

Kenya has a robust framework of policies, plans, and institutions that are progressively addressing climate change at the National and County levels. The National Climate Change Action Plan outlines the guidelines for engagement by different stakeholders at the national level. The Climate Change Directorate (CCD) under the Ministry of Environment and Forestry is responsible for overall coordination of the implementation of NCCAP, including coordination and reporting on implementation of actions by partners (GoK, 2018). At the county level, the policy direction with regard to climate change in Embu County is outlined with specific goals and objectives. It also spells out the guiding principles that will underpin the implementation of the Action Plan.

#### **2.1. National Policy Context**

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

At the national level, the country is responding to climate change by formulating domestic legislation, policies, and strategies that are pinned on international climate policies and agreements. Kenya has developed a Climate Change Response Strategy 2010, Climate change Act 2016, National Adaptation Programme 2015-2030, Energy Act, Nationally Determined Contributions (NDCs) amongst others (GoK, 2018). These are commendable efforts; the key challenge remains cascading these national documents to the county and local communities. Kenya is committed to the 2030 Agenda for Sustainable Development that was adopted by world leaders, including the President of the Republic of Kenya, in September 2015 at the United Nations (UN) Sustainable Development Summit. On 1<sup>st</sup> January, 2016, the 17 Sustainable Development Goals (SDGs) officially came into force.

While the SDGs are not legally binding, the Kenyan government has taken ownership, and established national frameworks for their achievement. The 2030 Agenda includes dedicated goals for climate change (SDG 13), protecting, restoring, and promoting sustainable use of terrestrial ecosystems (SDG 15), and mainstreaming climate change impacts and climate actions across all the SDGs (UNDP, 2014).

The Agenda introduces the overriding objective of “leaving no one behind” that has strong implications for the definition, and selection of climate actions. This objective prioritises the poorest and most marginalised people, so that they progress at a higher rate than those that are better off. To ensure that no one will be left behind, world leaders committed to end extreme poverty, and curb inequalities by 2030 and, underscored that no goal of the 2030 Agenda will be met until it is met for everyone.

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

A robust framework of policies, plans, and institutions is being progressively established at the National and County levels in Kenya to address climate change. The foundation of the institutional and legal framework for climate change action is the Constitution of Kenya (2010). Article 10 sets out national values and principles of governance, such as sustainable development, devolution of

government, and public participation, which are mandatory when making or implementing any law or public policy decisions, including those relating to climate change. Article 42 provides for the right to a clean and healthy environment for every Kenyan, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures.

The Constitution of Kenya (2010) created the devolved system of government comprised of the National Government and 47 County Governments. The concept of devolution goes beyond mere decentralisation of government services, providing a form of self-governance at the local level, and a process of equitable sharing of resources. County Governments have a key delivery role in implementing the Climate Change Act, 2016, having jurisdiction, as set out in the Fourth Schedule (Part 2) of the Constitution, over sectors relevant to climate change action, such as agriculture, soil and water conservation, forestry, water and sanitation, tourism, and health. Article 203(2) of the Constitution requires that County governments be allocated a minimum of 15% of national revenue received annually, but the allocation often surpasses this minimum, which gives County Governments considerable scope to influence investments in climate change action.

The Constitution of Kenya (2010) advances gender equality, stating in Chapter 4, the Bill of Rights that “women have the right to equal opportunities in political, economic, and cultural spheres,” and in order to achieve that equality, requires that government puts in place, and implements affirmative action that delivers equity for women. This commitment to gender equality and implementation of gender equity is taken up in section 7(6) of the Climate Change Act, 2016 that requires the President to ensure compliance with the two-thirds gender principle when appointing members to the National Climate Change Council (NCCC). Further, section 8(2)(c) of the Climate Change Act, 2016 obligates the Cabinet Secretary responsible for climate change affairs to formulate and implement a national gender- and intergenerational-responsive public education and awareness strategy.

The Climate Change Act, 2016 is the key legislation guiding Kenya’s climate change response. It is the legal basis for mainstreaming climate change considerations and actions into sector functions, and provides the legal foundation for NCCAPs. NCCAP 2018-2022 responds to provisions in the Climate Change Act, 2016 that require the updating of the NCCAP every five years.

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

In the past, a number of strategies and programmes have been pursued by various governmental and non-governmental entities to address the effects of climate change in the Embu County and in Kenya at large. However, these initiatives have taken place without a coherent policy framework and therefore appeared reactive and uncoordinated. Accordingly, the current draft Policy reflects the County Government of Embu’s commitment to formulating a proactive, coherent and integrated climate change response that focuses on reducing vulnerability and building the resilience of the people, property, environment and economy. The Policy will position the County of Embu to capture the economic, social and environmental benefits of the transition to a low carbon climate resilient economy.

The Policy is therefore, designed to provide a framework to guide the development and implementation of specific, detailed and costed climate change interventions through regular and periodic Climate Change Action Plans to be integrated into the periodic CIDPs. By putting in place this policy architecture, the county of Embu aims to safeguard the wellbeing of its citizens, their property, and the county's prosperity in the face of a changing climate. This Policy therefore aims to enhance adaptive capacity and build resilience to climate variability and change, while promoting climate change resilient development pathways.

This Policy's focus is on the interlinkages between sustainable county development initiatives, the six pillars of Embu County (Value Addition, Tourism, Housing, Energy, ICT-Business process outsourcing and Financial Services and climate change. Climate change adversely impacts key sectors that are key to the economy of Embu County and Kenyan society at large: Environment, Water and Forestry; Agriculture, Livestock and Fisheries; Trade; Extractive industries; Energy; Physical Infrastructure; Tourism; and Health. This Policy therefore elaborates intervention measures that can help to achieve the goal of low carbon climate resilient development in Embu County.

It adheres to the constitutional governance framework and commitment to sustainable development, while addressing the goal of attaining low carbon climate resilient development in Embu County. To attain the latter, this policy focuses on appropriate mechanisms to enhance climate resilience and adaptive capacity, and the transition to low carbon growth. The main objectives of Embu County Climate Change Action plan.

### **Policy Statements**

The legal framework is guided by the following policy statements that ensure proper contextualization of the regulations.

#### **(a) Climate change Response measures and actions in Embu county**

- i. Promote solid waste management practices.
- ii. Formulate and enact County regulations on pollution, waste management together with a clear enforcement framework of the regulations.
- iii. Establish a countywide coordination framework and partnership structure involving all actors and regulators of natural resources in the County.
- iv. Enact and enforce regulations on natural resource management .in the county.
- v. Establish woodlots for production of trees as source of fuel.
- vi. Mainstream low carbon growth options into the planning processes and functions of the county governments.
- vii. Consider participating in voluntary emission reduction programmes when they support the county's development agenda
- viii. Put in place mechanisms to develop and promote clean technologies in all county sectors of economic development.
- ix. Promote the creation of green jobs by establishing an enabling county policy framework for investment and creating business friendly regulatory environments.
- x. Identifying and implementing fiscal, taxation and other policy options in priority areas with high GHG emissions so as to enhance low carbon development.

- xi. Put in place mechanisms to identify and develop a riparian zones inventory as well an inventory of rivers and wetlands in the county together with the enactment and enforcement of regulations that will facilitate an efficient and effective protection, sharing and utilisation of these natural resources.
- xii. Promote tree planting along the wetland areas for conservation as well agroforestry economic activities.
- xiii. Support the establishment of water harvesting infra-structure.
- xiv. Promote Smart Water Solutions (SWS) in agriculture and improving water resource management in-field soil moisture conservation, mulching and water harvesting to hi-tech precision irrigation systems.
- xv. Promote soil conservation measures.
- xvi. Promote and make Ecosystem based Adaptation and agro-ecology techniques available and affordable, to smallholder farmers, enhance farmer outreach & extension, accelerate value addition and establish viable and inclusive market access strategies.
- xvii. Formulate and enact County regulations on extractive mining
- xviii. Regulate and ensure sustainable conservation and utilization of sand and shared natural resources.

**(b) Mainstreaming climate change in development initiatives within Embu county**

- i. Mainstream climate change into county planning processes, including County development policies and plans, County Integrated Development Plans, Performance Contracts, and the short to medium term budget making process.
- ii. Develop a framework and tools for mainstreaming climate change responses into county government planning and budget procedures.
- iii. Ensure that county planning processes and publication account for climate risk analyses and vulnerability assessments and identify opportunities to build climate resilience and achieve low carbon development.
- iv. Establish the institutional framework and build capacity to coordinate and enhance mainstreaming at the sectoral level.

**(c) Public education, awareness creation and active participation by all**

- i. Put in place plans for identifying, refining and disseminating climate change knowledge from and to the public and other stakeholders within the county in user-friendly formats.
- ii. In coordination with the National Government, mainstream climate change in basic, secondary and tertiary level education curricula.
- iii. Incorporate climate change knowledge into county government implemented public awareness initiatives including civic education, outreach and extension programmes.
- iv. Collaborate with, and support, private sector and civil society in incorporating climate change knowledge into advocacy and public awareness raising programmes within the county.
- v. Strengthen the capacity and ensure sufficient technical and financial resourcing of institutions, the public and groups engaged in climate change public awareness.

**(d) Knowledge management and access to information**

- i. Put in place mechanisms for and undertake climate change knowledge and communication needs assessment to develop appropriate systems and processes for climate related data observation and collection.
- ii. Develop a comprehensive communication strategy to enhance dissemination of timely, credible and reliable climate change information and research findings to the public.
- iii. Facilitate setting up of climate change information hubs (at the wards, sub-county and county levels) to collect primary information and act as dissemination points for knowledge and information.
- iv. Put in place mechanisms to gather, document and promote application of indigenous knowledge and practices on climate change.

**(e) Climate change policy coordination and Governance/ Creating an enabling regulatory framework in Embu County**

- i. Put in place overarching climate change legislation to provide the framework for coordinated implementation of climate change responses and action plans at county level in alignment with national and international initiatives.
- ii. Put in place a County Executive Committee level climate change organ to coordinate the mainstreaming of climate change into county development processes.
- iii. Put in place an appropriate institutional coordination mechanism with high-level convening power to enhance inter-sectoral responses to climate change.
- iv. Put in place a technical institutional framework to guide policy and functional implementation of climate change legal obligations of the county government.
- v. Put in place and regularly review subsidiary legislation as may be necessary to support implementation of various interventions through the county climate change legislation.
- vi. Regularly review and amend relevant sectoral laws and policies to integrate climate change policy considerations and implement priority actions in respective sectors.
- vii. Put in place mechanisms for public consultation and participation in climate change governance in all sectors.
- viii. Strengthen coordination and capacity for county, inter county, national and international climate change negotiations.

**(f) Financial provisions and other resources**

- i. Adopt a climate finance strategy and establish an appropriate fund mechanism that enables implementation of priority actions for climate resilience and adaptive capacity.
- ii. Explore possible avenues to attract internal and external climate finance, including through foreign direct investment and other multilateral or bilateral funding.
- iii. Put in place a mechanism and criteria for balance in the allocation of mobilised climate finance to adaptation and mitigation actions.

- iv. Develop policies and strategies to enhance the county's capacity to engage in carbon asset activities, strengthen the viability of domestic carbon asset production and increase access to international carbon markets.
- v. Promote private sector involvement in climate finance opportunities through the introduction of incentives, removal of investment barriers, creation of a conducive investment climate and facilitation of access to finance.
- vi. Adopt and implement sector specific anti-corruption, transparency, accountability and integrity mechanisms to safeguard prudent management of climate finance.
- vii. Promote Public-Private Partnerships in the climate change response.
- viii. Put in place a framework for coordination and monitoring and tracking sources, application and impacts of climate finance.

**(g) Mainstreaming issues of Gender, Youth and special needs groups in Climate change actions in the County.**

- i. Ensure that its climate change response is equally beneficial to both women and men and enhances gender equality and equity.
- ii. Undertake systematic gender analysis of its climate change response, through the collection and utilisation of gender-disaggregated data, including in relation to budgetary processes.
- iii. Ensure that marginalisation and vulnerability arising from gender disparities are addressed at all stages of climate change response.
- iv. Adopt a gender mainstreaming approach at all stages of the climate change policy cycle from research, to analysis, to the design and implementation of actions.
- v. Put in place mechanism to ensure and enhance the participation of the youth in climate change governance and position them to take advantage of opportunities.
- vi. Undertake a systemic analysis of the various special needs and ensure that planning and climate change responses mainstream participation and protection to persons with special needs.

**(h) The implementation framework and costs**

- i. Prepare and implement comprehensive, fully costed and periodically reviewed Climate Change Action Plans under the framework of this Policy.
- ii. Ensure that Climate Change Action Plans for implementation of this Policy are aligned with the regular CIDPs.
- iii. Facilitate continuous consultations and public awareness across all sectors, interest groups and the public.

**(i) Resource Mobilization**

- i. Allocate resources for climate change actions in the county budgetary processes.
- ii. Build capacity to mobilise and enhance absorption of resources for climate change interventions.
- iii. Mobilise substantial levels of climate finance to fund implementation of this Policy and the associated Climate Change Action Plans in CIDPs from internal and external sources.

- iv. Put in place mechanisms to attract and leverage PPPs as a vehicle to mobilise resources and enhance private sector participation in climate change resilient development activities.

**(j) Collaboration and stakeholders' participation**

- i. Put in place and operationalise a climate change public participation strategy.
- ii. Ensure that public participation enhances consultation and awareness of citizens, including facilitating equitable roles for women and men, persons with special needs and the youth.
- iii. Establish and sustain partnerships with various categories of climate change stakeholders including development partners and sectoral departments.

**(k) Monitoring and evaluation of policy implementation**

- i. Put in place mechanisms to utilize actions plans and performance contracts as tools for review and evaluation of inputs and results under this Policy.
- ii. Collaborate with county government structures in setting up M&E procedures for this climate change policy.
- iii. Incorporate climate change indicators into the Monitoring and Evaluation System.
- iv. Set up a coordination mechanism involving relevant stakeholders to undertake M&E of this Policy over five-year intervals in line with the CIDPs.
- v. Disseminate the outcomes of reviews and evaluations for public and stakeholder discussion, and for county assembly debate and oversight.

**(l) Research and Technology on Climate Change in Embu County**

- i. Identify research and technology needs within the county; and promote strategic and systematic climate change-related research, impact and vulnerability assessments, and technology development and diffusion.
- ii. Put in place mechanisms to encourage and facilitate locally appropriate climate change technological development, including strategies to enhance and maintain human capacity, especially amongst the youth.
- iii. Enhance the capacity of the public and private sectors, civil society and research institutions to develop and utilise technological innovations.
- iv. Identify and implement incentives for the private sector and institutions of higher learning to undertake R&D and develop affordable and locally appropriate adaptation and mitigation technologies.
- v. Enhance linkages between county government, academia, private sector, civil society and global climate change innovation institutions.
- vi. Put in place mechanisms to facilitate the integration of indigenous, indigenous and local knowledge into R&D and technology development.
- vii. Put in place mechanisms to enhance resource mobilisation for climate change R&D and technology development.

## CHAPTER THREE

### 3.0 Priority Climate Change Actions

At the ward level, and through the Ward Climate Change Planning Committees (WCCPCs), community members identified quite a number of climate change actions that are key to addressing the effects of climate change on their lives and livelihoods. However, they also pointed out some climate actions that are critical in addressing these challenges in the most immediate future. These actions are in all the sectors and their implementation would directly enhance on the capacity of the communities to deal with the impacts of climate change.

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

The strategic climate action priorities were identified from the PCRA process, and followed those identified at the ward level by the (WCCPCs). These actions were grouped in every sector and represents the immediate issues of concern for communities in regard to climate change. The main action priorities identified for individual sectors include:

**Agricultural sector:** Improve crop productivity through the implementation of CSA (Climate Smart Agriculture) interventions; Increase crop productivity through improved irrigation; Improve productivity in the livestock; Improve productivity in the fisheries; Diversification of livelihoods to adjust to a changing climate.

**Water sector:** Domestic Water provision services; Sanitation Services; Irrigation Services

**Environment and forestry sector:** Sustainable natural resources management; Solid waste management; Reforestation; Greening programs

**Climate proofing infrastructure:** Improve the ability of people to cope with climate change by having infrastructure that withstand risks related to climate change; To improve county road network condition and provide quality and safe roads for accessibility; Increase the number of households and entities benefiting from devolved adaptive services.

**Energy:** Increase use of renewable energy; Use of green energy e.g. solar to provide lighting and security to communities

#### 3.2 Priority County Climate Change Actions

##### Agriculture

The main strategic objective for addressing climate change issues in the agriculture sector is to increase food and nutrition security by enhancing productivity and resilience of the sector in as low-carbon manner as possible. Climate change is negatively affecting agricultural productivity and the resilience of value chain actors, including households. An increase in the severity and frequency of climate change-related disasters, such as droughts and floods pose threats to food security, and negatively impacts small-scale and large-scale farmers. Table 3.1 below shows the priority climate actions in this sector and the expected results of such actions.



Table 3.1: Priority actions for the agriculture sector identified by the community, and the expected results from implementation of the actions

<b>Priority Actions</b>	<b>Expected results</b>
Improve crop productivity through the implementation of CSA interventions	<ol style="list-style-type: none"> <li>1. Number of institutions/value chain actors and households harvesting water for agricultural use/ production increased.;</li> <li>2. Agricultural pre- and post-harvest losses reduced from 40% to 15%;</li> <li>3. Number of beneficiaries accessing climate-oriented crop insurance increased</li> <li>4. Number of farmers accessing affordable appropriate agricultural inputs increased</li> <li>5. Number of households and acreage under sustainable land management (SLM) increased for agricultural production:</li> <li>6. Support for the reclamation of degraded land</li> <li>7. Area under integrated soil nutrient management increased</li> <li>8. Farm area under conservation agriculture increased</li> <li>9. Total area under agroforestry at farm level increased</li> </ol>
Increase crop productivity through improved irrigation	<ol style="list-style-type: none"> <li>1. Acreage under irrigation increased</li> <li>2. Production efficiency from irrigated fields increased</li> </ol>
Improve productivity in the livestock sector through the Implementation of CSA interventions	<ol style="list-style-type: none"> <li>1. Improved productivity of pastoralists by re-seedling rangelands in the Lower Side of the County</li> <li>2. Annual ASAL's water harvesting and storage increased small dams, water pans, and large multipurpose dams</li> <li>3. Animal disease control and surveillance improved</li> <li>4. Number of customers/beneficiary farmers accessing climate-oriented livestock insurance increased.</li> <li>5. Efficiency in dairy management improved for households.</li> <li>6. Manure management improved through the adoption of biogas technology by households, and abattoirs.</li> </ol>
Improve productivity in the fisheries through Implementation CSA interventions	<ol style="list-style-type: none"> <li>1. Insurance packages piloted and developed for the Adaptation.</li> <li>2. Fisheries sub-sector and Aquaculture production increased</li> <li>3. Number of cages for fish farming increased</li> <li>4. Number of fish ponds increased</li> <li>5. Number of farmers using low-carbon (recirculating) aquaculture systems increased</li> </ol>

Diversify livelihoods to adjust to a changing climate	<ol style="list-style-type: none"> <li>1. Households supported to adopt diversified adaptive enterprises/value chains for sustained livelihoods and nutrition security</li> <li>2. Small-scale famers, pastoralists, and fisher communities supported to transition to specialized and market-oriented output in priority value chains, including drought-tolerant values chains.</li> </ol>
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**Climate proofing infrastructure**

The main strategic objective of this climate intervention is to reduce risks to communities and infrastructure resulting from climate-related disasters, such as droughts and floods. Floods and droughts have significant negative economic consequences across the County with serious and extensive socio-economic effects at the household and community levels, especially for vulnerable groups such as women, the elderly, persons with disabilities, children, youth, and members of marginalized and minority communities. The current responses to these effects are reactive rather than proactive, and are impeded by inadequate early warning systems, lack of disaster management coordination, and limited support to build disaster preparedness. Table 3.2 below shows the community priority actions to reduce the negative effects of climate change on infrastructure, and the expected results of such interventions

Table 3.2: Community priority actions to reduce the effects of climate change on infrastructure and the expected results of those actions

<b>Priority actions</b>	<b>Expected results</b>
To improve county road network condition and provide quality and safe roads.	<ol style="list-style-type: none"> <li>1. Opening of new access roads</li> <li>2. Maintenance of earth and gravel roads</li> </ol>
Increase the number of households and entities benefiting from devolved adaptive services	<ol style="list-style-type: none"> <li>1. Local adaptation priorities addressed that are identified and monitored by community committees comprised of women, men and youth</li> </ol>
Improve the ability of people to cope with, and infrastructure to withstand, floods	<ol style="list-style-type: none"> <li>1. Water and flood control, including dams/dykes, drainage systems, and water storage</li> <li>2. Flood early warning systems improved, taking advantage of widespread access to mobile technology that provides avenues of dissemination of information</li> <li>3. Integrated flood management plans, for example, water storage, drainage networks and reforestation</li> <li>4. Improved accessibility of roads by grading and murraming all-weather drifts and bridges</li> </ol>

<p>Improve the coordination and delivery of disaster risk management</p>	<ol style="list-style-type: none"> <li>1. Improved coordination of disaster risk management including floods, droughts, disease outbreaks, landslides, and other disasters by enacting and implementing the <i>Disaster Risk Management Act</i> that includes the establishment of a County Disaster Risk Management Authority to coordinate disaster response</li> <li>2. Engendered County Disaster Risk Management Committees to coordinate disaster response at county Level</li> <li>3. An established County Disaster Risk Management Fund to provide funds for disaster preparedness, mitigation of disaster impacts, and disaster recovery measures particularly for vulnerable groups.</li> </ol>
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**Water**

The water sector comprises of various subsectors including: Domestic Water provision, Sanitation and Irrigation subsectors. The key function of these subsectors are: to ensure access to adequate, reliable and affordable quality water; provision sewerage systems in the urban centres; provision of improved sanitation facilities in the market centres and creation of awareness on importance of safe sanitation to households.

The NCCAP of 2018-2022 seeks to increase annual per capita water availability from 647 M<sup>3</sup> to 1000 M<sup>3</sup>. To help achieve this target, the Embu County Climate Action Plan proposes concrete actions to enhance the resilience of the water sector by ensuring adequate access to, and efficient use of water for agriculture, manufacturing, domestic use, wildlife, and other uses. The planned county water-related climate change actions involve women who help to reduce water wastage at the household level, and to some extent, also supports water agencies to reduce wastage. Table 3.3 below shows the community prioritized climate action in the water sectors that would enhance provision of clean and adequate water and its efficient and sustainable use

Table 3.3: Priority climate actions in the water sector to enhance its availability and sustainable use for domestic, irrigation and industrial purposes

<b>Priority actions</b>	<b>Expected output</b>
<ol style="list-style-type: none"> <li>1. Construction of treatment plant to provide safe, clean drinking water.</li> <li>2. Construction of Water storage tanks</li> <li>3. Drilling of boreholes</li> <li>4. Protection of water sources and catchment areas</li> <li>5. Expansion of Water distribution networks</li> </ol>	<p>Improved access to adequate, reliable, and affordable quality water</p>

<ol style="list-style-type: none"> <li>1. Improve sanitation and drainage systems to harness and manage storm water in urban areas.</li> <li>2. Construction of sewerage systems in major towns</li> <li>3. Construction of decentralized treatment facilities for growing markets places</li> </ol>	<ol style="list-style-type: none"> <li>1. Availability of quality and adequate sewerage systems in urban centres</li> <li>2. Availability of sewerage treatment facilities In upcoming market places</li> </ol>
<ol style="list-style-type: none"> <li>1. Construction of irrigation distribution networks</li> <li>2. Sensitize and train farmers on irrigation water harvesting.</li> <li>3. Support farmer led irrigation projects.</li> <li>4. Protect catchments areas and riverbanks.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increased area under irrigation</li> <li>2. Increased capacity and knowledge on irrigation amongst farmers</li> <li>3. Better protected catchment areas and river banks</li> </ol>

**Environment and natural resources**

The sector comprises of two main subsectors namely natural resources and solid waste management which are mandated to implement environmental policies and practices. These policies and practices aim to protect the environment and other natural resources by: ensuring compliance with environmental legislation; rehabilitation of hills, water catchment, wetlands; protection of river line and riparian land; promotion of green energy; sustainable natural resources management and conservation; forestry extension services; increasing forests and tree cover; awareness creation on forest values and products; implementations of government and world related agenda on natural resources

Actions to increase forest cover and prevent deforestation and forest degradation have important benefits, including improved livelihoods of majority of Embu county residents, while enhancing the county climate resilience. Forests provide ecosystem services that contribute to reduction in the vulnerability of people and wildlife. Forests also provide hydrological ecosystem services, such as regulation of storm waters. Upper watersheds could increase infiltration of rainwater, reduce surface run-off, and control soil loss. Increasing forest cover can also mitigate the harmful effects of GHG emissions by acting as “sinks” through carbon sequestration. Table 3.4 below shows the climate actions that communities in Embu County have prioritized in the environment and natural resources sector so as to reduce the effects of climate change

Table 3.4: Priority climate actions identified by the communities in Embu County to protect the environment and natural resource sector from the adverse effects of climate change and the expected outputs of those interventions

<b>Priority actions</b>	<b>Expected output</b>
<ol style="list-style-type: none"> <li>1. Undertake public education and environmental awareness campaigns.</li> <li>2. Protect catchment areas, riverbank and riparian land.</li> <li>3. Promotion of environmentally friendly practices and technologies</li> <li>4. Prepare and disseminate advisories and information.</li> <li>5. Develop legislative framework.</li> <li>6. Rehabilitation and conservation of forests, hills, swamps, wetlands, springs areas</li> </ol>	Sustainable utilization and management of county natural resources and landscapes
<ol style="list-style-type: none"> <li>1. Acquisition of integrated solid waste management infrastructure</li> <li>2. Adoption of circular economy principles (Reduce, Re-use, Re-cycle).</li> <li>3. Establish material recovery facilities.</li> <li>4. Establish transfer stations.</li> <li>5. Waste to energy facilities</li> </ol>	Sustainable solid waste management
<ol style="list-style-type: none"> <li>1. Mainstreaming of climate change policy and legal framework into county laws</li> <li>2. Promoting partnership in addressing climate change issues</li> <li>3. Implementation of climate change policies</li> <li>4. Clean energy transition initiatives</li> </ol>	Climate change mitigation and adaptation actions

**Energy**

This sector seeks to give focus on provision of renewable energy, security and lighting. The three subsectors are expected to advocate for affordable/alternative sources of energy, curb vandalism and destruction of the existing streetlights and floodlights whilst Increasing lighting coverage in the county. Table 3.5 below shows the priority actions identified by the community which could reduce the negative adverse effects on the energy sector.

Table 3.5: Priority actions to reduce the effects of climate change on the energy sector and the expected outputs of the intervention

<b>Priority actions</b>	<b>Expected outputs</b>
<ol style="list-style-type: none"> <li>1. Formulation and implementation of policy and legal framework for adaption of green energy</li> <li>2. Involve public private partnership in developing green energy power farms i.e., wind, solar, hydropower</li> </ol>	Affordable/alternative sources of energy
<ol style="list-style-type: none"> <li>1. Use of modern technology to deter vandalism through installation of motion sensors and CCTV’S</li> </ol>	Cessation of vandalism and destruction of streetlights and floodlights

<ol style="list-style-type: none"><li>1. Lighting of public spaces such as bus parks, markets, and junctions</li><li>2. To Support lighting up poor local communities To Support distribution of electricity to unreached areas within the county</li></ol>	Increase lighting coverage in the county
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## **CHAPTER FOUR**

### **4.0 Delivery Mechanisms for CCAP**

The Embu County Climate Change Action Plan (ECCCAP) will rely on a number of institutions, stakeholders and structures for effective implementation. Having been developed through a participatory process, the successful implementation of ECCCAP will similarly require a participatory approach that involves a number of actors and stakeholders. Besides the stakeholders a number of mechanisms and community structures will be key enablers of the implementation process.

#### **4.1 Enabling Factors**

The Climate Change Unit (CCU), in consultation with relevant stakeholders in the County has identified several factors that will be critical in implementation of the ECCCAP. These will provide an enabling environment for achieving the objectives set out in the CCCAP.

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

A critical enabling policy and regulatory environment is key for effective implementation of the CCCAP. Some of the factors that are key for this process include:

1. A robust legal and regulatory framework that encourages mainstreaming of climate change in all the county actions
2. Adequate engagement with the community. This ensures views and perspectives of different stakeholders are well accounted for, including those expressed by community reps and marginalized groups.
3. Effective coordination mechanism for all climate action. This will be achieved by the CCU, steering committee and the ward climate change committee.
4. Adequate consultation – the CCCAP being a crosscutting document impacts on all sectors and thus the need to engage and consult with a wide range of stakeholders. This ensures that the views and perspectives of all stakeholders are captured.
5. An appropriate measurement, reporting and verification system. This will ensure that all climate actions can be measurable with a baseline ie. SMART indicators

Some of the identified enablers are as follows:

##### **The legal framework**

Existence of a comprehensive policy and regulatory framework for climate change at the national and county levels is critical to enable the effective implementation of CCCAP. Such frameworks articulate the process, regulations and reporting requirements. At the county level, support will be needed to develop appropriate regulations and also to cascade some of the laws of at the national government.

Embu county already has a developed a climate change fund act as well as the climate change draft policy. This legal and policy framework will provide a guide in development and utilization of county climate change funds and enable climate finances to address county specific issues. Besides the existing legal and policy framework, the county will prioritize:

1. Development and implementation of the needed regulations to effectively cascade to the national climate change act 2016.
2. Support alignment of county legislation to the national climate change act 2016
3. Review the climate change fund regulations and bill

Other legislations that will guide the implementation of ECCCCPA include:

- Environmental Management and Coordination Act
- The Kenya Vision 2030
- The National Climate Change Response Strategy
- National Climate Change Action Plan
- The National Adaptation Plan (2015-2030)
- Kenya Climate Smart Agriculture Strategy (2017-2026)
- Disaster Management Policy (County Draft 2022)
- National Climate Change Framework policy (2018)

### **Socio-economic factors**

The success of the CCCAP will need a strong social and economic framework e.g. Supporting subsidies like clean energy. A social and economically stable community is able to embrace adaptation and mitigation actions to combat climate change and reduce poverty.

### **Environmental framework**

For a successful implementation of CCCAP there will be need to invest in the environment around the community. This will include reducing environmental hazards that make it difficult to for the community to adapt to climate change. An investment in environmental conservation and protection is key in supporting the implementation of CCCAP e.g. Restoration of water towers and enforcement of laws that govern environmental conservation

### **Technological framework.**

Actions relating to technological innovations should be embraced in addressing climate change. Such actions are enablers of successful adaptation and mitigation actions such as: water harvesting technologies, clean lighting and cooking technologies, waste recycling and climate information systems.

### **Political framework.**

Effective delivery of CCCAP (2023-2027) will require a supportive political environment. This is because political leadership is a strong component of the community leadership, and without their support, little can be achieved in implementing the CCCAP. The current political leadership is highly supportive of climate change actions, and this is evidenced by the timely approval of climate change budget.

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

The just concluded 3rd Generation CIDP 2023-2028 ensured that all Sectors were Mainstreamed in the Climate Change actions and their Priority projects. This mainstreaming was done to ensure that all sectors work towards the supporting the county's efforts of fighting the adverse effects of climate shocks. Table 4.1 below shows some of the climate actions that were budgeted for under various sectors in the CIDP.



Table 4.1: Climate change actions in different sectors that were mainstreamed and budgeted for by the county under the CIDP

<b>Sector</b>	<b>Climate action mainstreamed</b>
Agriculture, Livestock & Fisheries	<ul style="list-style-type: none"> <li>• Conservation agriculture</li> <li>• Promotion of Fodder Production</li> <li>• Promotion of Fish Farming as Alternative Income Generation (AIG) Projects</li> <li>• Including Fish Preservation and Cooling</li> <li>• Adoption of Drip Irrigation</li> <li>• Climate Smart Agriculture-Multilevel Gardening</li> <li>• Urban gardening</li> </ul>
Tourism & Trade	<ul style="list-style-type: none"> <li>• Construction of Bridges at Mwea National Park</li> <li>• Investing in Ecotourist Structure</li> <li>• One Village One Product</li> <li>• Planting Fruit Trees in Mwea national Park to prevent animals from roaming on croplands</li> </ul>
Land & Physical Planning	<ul style="list-style-type: none"> <li>• Storm Water Drainage</li> <li>• Green spaces in Town</li> <li>• Automation</li> <li>• Housing Development for the elderly</li> </ul>
Finance and Planning	<ul style="list-style-type: none"> <li>• Automation of Services to reduce Paper Work</li> <li>• Data and Information statistical support (Integration)</li> </ul>
Gender Culture and Social Children Servicers	<ul style="list-style-type: none"> <li>• Children Support Programs</li> <li>• Projects for Vulnerable – Cottages Industries</li> <li>• Support for PWDs – Kitchen gardens</li> <li>• Culture Enhancement programs e.g. traditional Conservation and Propagation</li> </ul>
Water Sector	<ul style="list-style-type: none"> <li>• Water Storage and Flood control</li> <li>• Expansion of Water Treatment Plants</li> <li>• Expansion of water Distribution services</li> <li>• Construction of Mega dams ground water abstraction</li> <li>• Development of Irrigation schemes</li> </ul>
Environment & Forestry	<ul style="list-style-type: none"> <li>• Investments in tree seedlings nurseries</li> <li>• Distribution of Cook Stoves and solar Lamps</li> <li>• Waste Management Infrastructure</li> <li>• Biogas Systems</li> </ul>
Infrastructure, Energy, Housing & transport	<ul style="list-style-type: none"> <li>• Investment in solar firms</li> <li>• Clean cooking energy</li> <li>• Solarization Of Buildings</li> </ul>

	<ul style="list-style-type: none"> <li>• Bridges, Drifts, Murrams, Culverts</li> <li>• Centralization of transport systems</li> </ul>
Disaster Management Sector	<ul style="list-style-type: none"> <li>• Invest in Early Warning Systems</li> <li>• Collaboration with the metrological department in the climate information systems</li> <li>• Conducting drills regularly</li> <li>• Climate Proofing Related infrastructure</li> </ul>
Health Sector	<ul style="list-style-type: none"> <li>• Greening of Health institutions</li> <li>• Installation of biogas systems</li> <li>• Solarization of health facilities</li> </ul>
Education sector	<ul style="list-style-type: none"> <li>• School Greening Projects</li> <li>• Revival of environmental clubs</li> <li>• Green Innovations and Competitions</li> </ul>

**4.1.3 Multi-stakeholder participation processes**

A multi-stakeholder workshop was held to consolidate the views of different stakeholders and also validate the climate action plans from the various wards across the county. The workshop provided a platform for the stakeholder to bring up their views, inputs and perspectives for the purpose of preparing the Embu County Climate Change Action Plan (CCCAP)

The workshop followed the following key steps:

***Data compilation for the preparation of the multi stakeholder workshop***

This was the first step which involved preparation for the workshop. Various community representatives, committee members and local administration were invited in their wards to compile the data relating to the priority projects highlighted during the community engagement process that had taken place at the ward level.

***Selection and invitation of stakeholders***

Identification of stakeholders was based on the needs and the interests the various stakeholders have in various sectors. The stakeholders included Water Resource User Associations (WRUAs), Community Forest Associations (CFAs), Faith based organizations (FBOs), Community Based Organizations (CBOs), Civil societies, Critical departments of the county government, County assembly, Academia and also development partners. All special interest groups including youth, women, and PWDs were facilitated to attend the meeting.

***Identification and appointment of workshop facilitators***

These were drawn from the various technical fields in the academia, research organizations and government departments. Their role was to lead stakeholders’ task teams during the group discussions

***Overview of CCCAP and PCRA presentations***

The stakeholders were taken through a presentation on the process of PCRA and how the community engagements took place. They were also taken through the critical risks and hazards

that were identified during the community engagements process. They were also taken through the various components expected in CCCAP.

#### ***Presentation of climate and weather scenarios***

Stakeholders were taken through the various climate and outlooks for Embu County expected under different climate change scenarios based on scientific climate projections. They were also taken through different traditional ways of predicting weather conditions. Scientific projections were done by the meteorological department while the traditional weather predictions methods were presented by a community member working with Information Technology and Indigenous Knowledge with Intelligence (ITIKI) organization.

#### ***Multi stakeholder task teams***

The stakeholder task teams were done on the basis of the sector interests. Those with an interest in a specific sector participated in consultative discussions and analysis of the sector priority projects. They incorporated their inputs, views and perspectives on the actions listed.

#### ***Plenary discussions***

The task teams selected the lead presenter in the concluded discussions. This allowed plenary contributions to the group presentations.

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

Embu County has established a County Climate Change Fund through the Embu County Climate Change Act, 2019 to finance, facilitate and coordinate financing Climate Change Adaption and Mitigation projects. The fund establishes the Embu County Climate Change Fund Planning Committee that manages the fund by developing, identifying and managing projects that will be supported by the fund. The functions of the County Climate Change Fund Planning Committee are:

- To develop projects eligibility criteria
- To receive, compile, evaluate and approve the projects submitted by the Ward Planning Committee based on the agreed criteria, and prepare the County Climate Finance Budget;
- Based on criteria, ensure equitable allocation of the moneys available in the Fund with regard to the projects received from the Ward Planning Committee;
- To provide monitoring and evaluation for projects financed by the Fund;
- To provide the essential linkages between the Steering Committee and the County Assembly with regard to management of the Fund;
- To coordinate capacity building for Climate Change Awareness and Climate Finance in the County;
- To coordinate research and development for Climate Change Finance in the County;
- To mobilize funds for Climate Change Finance in the County;
- To design a climate change awareness strategy for the county;
- To develop a climate finance research priority needs list for the county;
- To assign and coordinate technical assistance from County departments to projects funded under this Act; and
- To assist the Steering Committee in developing the Climate Finance Framework

The Act also establishes the Ward Planning Committees to coordinate public participation in the implementation. The functions of these committees are:

- To consult with the community on the relevant climate finance activities;
- To facilitate public participation at the ward level;
- To receive project proposals from the community at the ward level;
- To develop technical components of project proposals;
- To procure goods and services for projects, including development of procurement plans for each project at ward level;
- To monitor implementation of projects at the ward level
- To prepare the budget at the ward level;
- To prepare the ward level project reports;

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

The purpose of devolution was to ensure that there is service delivery to the lowest level possible. The climate change action plan will take advantage of the existing county structures to ensure effective implementation. The CCCAP implementation will be done in two levels:

##### ***1. At the community level***

This will be coordinated by the local administration composed of ward administrators and sub county administrators. Critical departments have representation at ward and sub-county levels such as ward agricultural officers, water and environment ward and sub county officers. The key role at this level is implementation and monitoring.

##### ***2. At the county level***

The implementation at the county level occurs through:

- The executive: which deals with coordination and implementation
- The county assembly: which deals with legislation and budgetary approvals.

The executive comprises of:

1. The Office of the Governor which offers the overall coordination/climate setting
2. The office of the CEC which deals with policy matters
3. The office of the Chief Officer which plays the technical/supervisory role
4. The office of the Director which is the Implementation arm
5. The office of the Support staff which offers support in clerical, ICT matters/ implementation

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

The governance structure of management of climate change issues in the county has the Climate Change Planning Committees as the basic units of management within the County. In Embu County, the Climate change Committees have been established by the Climate Change Fund Act, 2019 at two levels. At the County level, the Act establishes the County Climate Change Planning Committee while at the ward level, it establishes the Ward Planning Committees. The membership of the County Climate Change Committee is as follows:

- One person, not being a public officer, appointed by the Executive Member, who shall be the chairperson

- The Chief Officer in charge of Environment, Natural resources and Climate Change
- The Chief Officer in charge of water and irrigation
- The Chief Officer in charge of Finance and Economic Planning;
- The Chief Officer in charge of Agriculture;
- The Chief Officer in charge of Public Health;
- The Chief Officer in charge of Energy
- The County Drought Coordinator;
- The County Director of the National Environment Management Authority in the County;
- The County Director of the Meteorological Department in the County;
- One person from a Fund Participating Institutions;
- One person representing of Public Benefit Organizations operating in the County;
- A representative of Ward Planning Committees nominated by all the Ward Planning Committees on rotational basis
- A representative of women;
- A representative of youth;
- A representative of persons with disability and
- A representative of faith-based organization

The membership of the Ward Climate Change Committee is as follows:

- Community representatives appointed as follows:
  - One person nominated by youth in the ward;
  - One person nominated by women in the ward;
  - One person nominated by persons with disability in the ward;
- One person representing Ward based Public Benefit Organizations/CBOs;
- One person representing faith-based organizations in the ward
- The Ward Administrator, shall be an ex official of the committee to provide advisory services, establish interlink ages and provide necessary co-ordination;
- Four representatives nominated by communities representing various locations in the ward;
- A Secretary elected by the ward planning committee members for the respective Ward.
- One person, elected by the Ward Planning Committee members who shall be chairperson and who shall meet following minimum qualifications:
  - Must be a resident of the respective ward;
  - Must at least be able to read and write in English;
  - Good leadership and trusted by the ward community.
  - Proven track record of community services engagement in ward development initiatives;
  - Be a member of a Ward Planning Committee.
- One person, elected by the Ward Planning Committee members who shall be treasurer and who shall meet following minimum qualifications:
  - Must be a resident of the respective ward;
  - Must at least be able to read and write in English;
  - Good leadership and trusted by the ward community.

- Proven track record of community services engagement in ward development initiatives;
- Be a member of a Ward Planning Committee.

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

The ECCCAP identifies several key findings regarding the climate risks Embu County is facing, including temperature changes, rainfall patterns, and extreme weather events. These risks threaten agriculture, water resources, infrastructure, public health, biodiversity, and vulnerable communities. Further the projected future climate scenario indicates a considerable variation of climate patterns, severe weather events varying in intensity, distribution and frequency. The CCCAP recommends strategic adaptation investments and actions to address these risks and enhance resilience.

Currently, most of the community does not have a direct access to sufficient weather information services, seasonal forecasts and early warning of extreme weather events. This lowers their adaptive capacity to climate hazards. The weather advisories produced at county level give a generalized advisory for the whole county which may not directly address the need of a particular community. Priority areas for investment and action identified include providing climate information services through a participatory scenario planning meeting which will be carried out at the ward level to increase effectiveness of the forecast and also increase accessibility of advisory information.

#### **Participatory scenario planning**

This involve downscaling of the national seasonal forecasts down to the ward level to define the expected seasonal outlook of the weather conditions during the rainy seasons, March-April-May (MAM) and October-November-December (OND). The seasonal forecast downscaling is followed by a 2-day stakeholders meeting involving officers from county Meteorological office, Ministry of Agriculture, Ministries of Water and Public Health, Agriculture Sector Development Support Programme (ASDSP), stakeholders from NGOs, local administration, health sector, energy sector, farmers, scientists from Kenya Agriculture and Livestock Research organization (KALRO), county officer among others. These stakeholders give their expertise inputs while putting into consideration the outcome of the downscaled forecast scenario to generate a climate advisory (Figures 4.1 and 4.2).




Figure 4.1: Embu County weather planning advisory brochure for the March-April-May 2023 long rains


The climate advisory contains vital information such as expected onset and cessation dates of the rainfall, the rainfall amounts and distribution, seed variety selection, hazards that are likely to occur, mitigation and preparedness measures to be undertaken by different parties, opportunities to gain from the weather (Figures 4.1 and 4.2).


### Climate data access

The information is communicated through public Barraza, radio broadcast and sharing of advisory brochures (Figures 4.1 and 4.2). The seasonal forecast is complemented by a weekly weather forecast which is released every Monday by the meteorological office. This forecast is shared to the public through text messages, email and WhatsApp. Delivering the climate information services to the ward level will help improve access to a more accurate and efficient weather information such as early warnings, seasonal forecast and weekly forecasts. This will address the particular need of the communities in their different forms of livelihoods. These investments aim to strengthen the county's adaptive capacity and enable it to cope with the impacts of climate change effectively.




European Union





Investing in rural people



Adaptation for Sustainable Agriculture Programme

**KENYA METEOROLOGICAL DEPARTMENT**  
P.O. Box 30259-00100, NAIROBI


**COUNTY METEOROLOGICAL SERVICES OFFICE, EMBU**  
P.O. BOX 171 - 60100, EMBU

**Kenya Cereal Enhancement Programme Climate Resilient Agricultural Livelihoods Window (KCEP-CRAL)**  
in Collaboration with County Government of Embu and County Meteorological Services, Embu

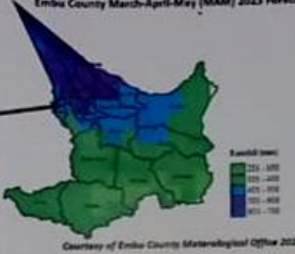
**PARTICIPATORY SCENARIO PLANNING ADVISORY BULLETIN BASED ON WEATHER FORECAST FOR MARCH-APRIL-MAY (MAM) 2023 FORECAST - ("LONG" RAINS)**

**Fodder conservation (Silage making)**

National MAM 2023 Weather Forecast





County MAM 2023 Weather Forecast



**EMBU COUNTY WEATHER FORECAST HIGHLIGHTS**


The March- April- May (MAM) 2023 weather forecast for Embu County indicates that the county is expected to experience near normal with a tendency to below normal rains. Rainfall distribution is expected to be fair to poor.

The following wards are expected to receive near normal rains Kyeni North, Kagaari North, Gaturi North, Runyenjes Central, Gaturi South, Ruguru Ngandori and Nginda. The rest of the wards will receive below normal rainfall, with Makima, Mavuria and Kiambere wards receiving highly depressed amounts (< 300mm).

**AGRICULTURAL ADVISORIES**

**NORMAL RAINS**  
Kyeni North, Kagaari North, Gaturi North, Runyenjes Central, Gaturi South, Ruguru Ngandori & Nginda




**RUNYENJES SUB-COUNTY: Kyeni North, Kianjokoma, Kagaari North**

<b>Maize</b>	Farmers are advised to plant early maturing crop varieties e.g:-Maize (Hybrid-5 series, Pannar 15, Pioneer 30 G19).
<b>Beans</b>	Beans (KAT (B1) B9, B69 & 858), Nyota and Angaza.

**RUNYENJES SUB-COUNTY: Kathanjuri, Kigumo, Mbiruri, Ugweri, Ndurari**

<b>Maize</b>	Farmers are advised to plant the following varieties: -Maize -Duma 41, Duma 43, DH04, KDV4 and KDV6, Pannar 3M-05 & 4m-13), Pioneer 2848, Simba 61, WS403)
<b>Beans</b>	Beans (KAT(B1) KAT B9, KAT X69, KAT X56).



**Agronomic activities**

Farmers are advised to do proper management of tea and coffee crops. Fodder crops/trees:- Napier (Bana grass & Kakamega varieties) under Tumbukiza method, Bracharia, Rhodes grass, Calliandra, Desmodium, Mulberry. Farmers should also manage banana, Mangoes, Yellow passion crops, plant vegetables (cow peas, amaranthus, black night shade), Cassava varieties (Ndolo, Mucericeri), Sweet potato varieties KSP 004, KEMB 10 and Bungoma. Weather related diseases (Foot and mouth, pneumonia, worms, tick borne diseases, mastitis, lumpy skin disease, anthrax, new castle disease, fowl typhoid and coccidiosis) are expected to increase. Farmers are therefore advised to observe routine livestock management practices (deworming, tick control, hoof trimming, clean animal environment, vaccination). Agrovet shops are advised to stock vaccines and drugs for vaccination and treatment in case of an outbreak.

<b>Post-Harvest Management</b>	Ensure early harvesting to avoid losses such as shattering, Do proper drying and storage, monitor aflation incidences, Use tarpaulin for threshing and drying to the right moisture content (11-12%), Use hematic bags e.g. PIC and A-Z, Clean and dust the stores before storage.
<b>Marketing</b>	Ensure proper storage to sell later, Encourage aggregation of cereals in KCEP certified warehouses to fetch better prices.

<b>Flash Floods</b>	Avoid planting in river banks and swampy areas to avoid crops being swept away or submerged, Plant along the contours, Inaccessible rural roads and bridges
<b>Land/Mad slides</b>	Planting indigenous and fruit trees in hilly areas to control possible landslides

Figure 4.2: Agricultural weather planning advisory brochure for Runyenjes sub-County for the March-April-May 2023 long rains



#### 4.1.8 Resilience Planning Tools

Resilience is the capacity of social, economic and environmental systems to cope with a hazardous event, trend, or disturbance. It is manifested through responding or reorganizing in ways that assert the essential function, identity, and structure of the system, while also maintaining the capacity for adaptation, learning and transformation. The preparation of ECCCPA has considered a number of tools that would help build the resilience capacity of the community. These resilience tools include;

- Adaptive capacity
- Transformative capacity
- Coping capacity
- Absorptive capacity
- Threshold capacity
- Recovery capacity

**Adaptive capacity:** Is the ability of systems, institutions, humans, and biological organisms to adjust to potential damage, take advantage of opportunities, or respond to consequences.

**Transformative capacity:** Refers to the ability to transform, in terms of structure and function. It involves systemic changes that enable anticipatory, absorptive and adaptive capacities. The ability to absorb the stresses and shocks of the negative impacts of hazardous events

**Coping capacity:** Is the ability of people, organizations or systems to use their available skills and resources to manage adverse impacts. This requires constant awareness creation and availing of resources for the same.

**Absorptive capacity:** This is capacity of a biological system to recover from a hazardous event

**Threshold capacity:** This refers to the ability of a system, organism, or an individual to withstand adverse effects without their breaking point (threshold).

**Recovery capacity:** This refers to the ability of an individual, organism or a system to bounce back after being decimated or destroyed by climate change impacts

Implementation of this CCCAP will use all the above tools to mitigate against the effects of climatic hazards in Embu county

#### 4.1.9 Measurement, Reporting and Verification

The Paris Agreement under UNFCCC sets out an enhanced transparency framework for climate change action and support. The Climate Change Unit will provide information on mitigation, adaptation and the support received such as;

- County climate inventory to enable tracking of the progress on achieving the NDCs within the county
- All information related to climate change impacts, vulnerability and adaptation
- Information on financial technology development and capacity building needs as necessary

The county's transparency framework is based on Measurement, Reporting and verification plus (MRV+) defined in NCCAP as the integrated framework for measuring, monitoring, evaluating,

verifying and reporting results of mitigation, adaptation actions and synergies between them. The county will comply with the integrated system of reporting and verification by ensuring:

- Upscaling on transparency and accountability during the implementation of all climate actions including procurement and financial management
- Provision of information to all including:
  - The funding received from development partners
  - Announcements inviting communities to participate in engagements, project proposals and procurement opportunities
  - Ensure the vulnerable groups and PLWDs get the information they need to participate
  - Information of various mitigation and adaptation actions being implemented and the associated budgets
- Operate a publicly accessible county climate change resource center that will have a robust and up to date climate change knowledge management system and in updated climate change information portal with platforms for children, youth, women, marginalized and minority communities.
- Use knowledge harvesting techniques to capture and share information including a climate change based informational knowledge especially from elderly.
- Update the Embu County website to ensure that all climate information is uploaded for access by all.
- Ensure all departments reports on their progress achievement regarding CCCAP implementation.
- Ensure efficient reporting processes for county governments and where possible draw an established reporting procedure which will be integrated to National Integrated Monitoring and Evaluation system.
- Report on all climate change finance that supports the delivery of CCCAP.
- Use gender disaggregated data where possible and prioritize the collection of this data if not available.
- Invest on mechanisms that addresses timely delivery of climate information, early warning system and disaster warning reporting.

#### 4.1.10 Institutional Roles and Responsibilities

Table 4.2 below shows the roles to be played by the various institutions that will be involved in implementing ECCCAP. Every institution will play a unique role in enabling various climate actions, and will take specific responsibilities in achieving those actions

Table 4.2: Roles expected to be played by various institutions in implementing the ECCCAP. The table also shows the actions that will be enabled by each institution and their responsibilities

Enabling Actions	Institutions & Relevant Partners	Responsibilities
Political goodwill and support	Office of the Governor	<ul style="list-style-type: none"> <li>• Political support to the implementors</li> <li>• Coordination and donors contracting</li> </ul>

		<ul style="list-style-type: none"> <li>• Nomination of the CEC Climate Change</li> <li>• Mainstreaming climate change actions in the relevant county actions</li> <li>• Generation of best practices</li> </ul>
Legislation resource allocation	The County Assembly	<ul style="list-style-type: none"> <li>• Legislation of key laws</li> <li>• Budgetary allocation to climate action</li> </ul>
Standards and Regulations and compliance enforcement	NEMA	<ul style="list-style-type: none"> <li>• Providing approvals, environmental guidelines for projects</li> <li>• Capacity building</li> <li>• Monitoring and enforcing compliance of climate change interventions</li> <li>• Integrating climate risks and vulnerability assessment into all forms of assessment</li> </ul>
Develop and operationalize	Climate Change Unit	<ul style="list-style-type: none"> <li>• Coordination</li> <li>• Vulnerability assessment</li> <li>• Capacity building-public awareness</li> <li>• Action planning</li> <li>• Laying policy framework</li> <li>• Coordination of implementation for CCCAP</li> </ul>
Integrate climate change to schools	Ministry of Education	<ul style="list-style-type: none"> <li>• Program support</li> <li>• Knowledge management</li> </ul>
Funds flow Regulation	National Treasury & Climate Change Department	<ul style="list-style-type: none"> <li>• Timely release of funding</li> <li>• Financial monitoring</li> <li>• Project coordination</li> <li>• Developing strategy and making regulations that set out financial compliance procedures</li> </ul>
Timely climate information systems	Meteorological Department	<ul style="list-style-type: none"> <li>• Early warning systems</li> <li>• Managing stations and climate data provision</li> </ul>
Data analysis	Kenya Bureau of Statistics	<ul style="list-style-type: none"> <li>• Provision and validation of critical data and validation</li> </ul>
Disaster management and response	National Disaster Management Authority	<ul style="list-style-type: none"> <li>• Provide early warning on disaster mitigation</li> </ul>
Data provision	Department of Planning	<ul style="list-style-type: none"> <li>• Data providers for county climate change action plan</li> </ul>

Research (Agricultural)	Kenya Agriculture and Livestock Research Organization	<ul style="list-style-type: none"> <li>• Provision of critical data and validation</li> </ul>
Research and knowledge transfer	University of Embu	<ul style="list-style-type: none"> <li>• Dissemination of critical knowledge</li> <li>• Support in key research</li> <li>• Help to provide evidence and science for knowledge-based decision making by wards</li> <li>• Conduct research on critical aspects of climate change within the project</li> <li>• Provide Guidance of various possible ways of reducing emissions</li> </ul>
Coordination and mobilization	Local Administration	<ul style="list-style-type: none"> <li>• Community mobilization</li> </ul>
Financing	World Bank	<ul style="list-style-type: none"> <li>• Provision of funds for implementation of ECCCAP</li> </ul>
Advocacy	Civil Society	<ul style="list-style-type: none"> <li>• Public outreach</li> <li>• Sensitization</li> <li>• Monitoring</li> </ul>
Technical support	Government Agencies (TARDA, KENGEN)	<ul style="list-style-type: none"> <li>• Support with technical capacity</li> </ul>
Financial support	Financial Institutions	<ul style="list-style-type: none"> <li>• Financing critical climate actions</li> </ul>
Liaison with community	Ward Climate Change Planning Committee	<ul style="list-style-type: none"> <li>• Coordination of community projects</li> <li>• Monitoring and evaluation of projects</li> </ul>
Technical support on water projects	Department of Water	<ul style="list-style-type: none"> <li>• Support in identification of implementation of water projects</li> </ul>
Technical support on agriculture project	Department of Agriculture	<ul style="list-style-type: none"> <li>• Support in identification and implementation of Agricultural projects</li> </ul>
Tree nursery establishment support	KFS	<ul style="list-style-type: none"> <li>• Provision of seedlings</li> <li>• Capacity building</li> <li>• Provide support on climate change to county government</li> <li>• Provide technical assistance based on needs identified</li> <li>• Knowledge and information management center</li> <li>• Coordination</li> <li>• Develop strategies for building resilience</li> </ul>

		<ul style="list-style-type: none"> <li>• Guide towards 10% forest cover achievement</li> </ul>
Involvement and Integration of Media	<ul style="list-style-type: none"> <li>• Mainstream Media</li> <li>• Social media</li> </ul>	<ul style="list-style-type: none"> <li>• Disseminate Timely information especially in times of Disaster and Calamity e.g. warnings</li> <li>• Provide Critical information relating to Resilience and relevant climate Action</li> </ul>
Mainstream Climate Change actions to special interest groups	Youth Organizations, Women Groups, Marginalized, & PWD Organizations	<ul style="list-style-type: none"> <li>• Will be Engaged in Planning, Implementation and Monitoring Climate Change Interventions</li> <li>• Women and youth PWD will help in Review progress.</li> <li>• Youth will Engage in Tech-Innovations</li> </ul>

**4.2 Implementation and Coordination Mechanisms**

**4.2.1 Climate Change Unit (CCU)**

The priority of the climate change unit will be to operationalize climate fund and embark on immediate allocation of budgets to prioritize mitigation and adaptation. These actions will include review and establishment of key regulations, management and oversight of function. The climate change unit will be responsible of the implementation of the County Climate Change Action Plan (CCCAP) by undertaking the following activities:

- Sensitization and capacity building of all the stakeholders.
- Equipping the CCU staff to enable them function.
- Undertake the review of key laws that will govern its operation.
- Establish other laws and policies required.
- Ensure compliance with FLOCCA World Bank requirements for counties funding.
- Comply with fund regulations especially the Fund Accounting and reporting deadlines.
- Prepare and maintain all correspondences to and from the unit.
- Serves as the coordinating unit for all the climate change actions.
- Monitor the mainstreaming and implementation of climate actions in all sectors in the county.

**Composition of the Climate Change Unit**

The climate change unit is made up of the following officials:

- 1) The CECM Climate change appointed by the governor

- 2) The Chief Officer environment and climate change
- 3) The Director in charge of climate change unit
- 4) The fund administrator
- 5) The focal persons for:
  - a. Environmental safeguards (1 person)
  - b. Social safeguards person (1 person)
  - c. Grievances and redress mechanisms (1 person)
  - d. The accountant (program Accountant)
  - e. Monitoring and evaluation (1 person)

The department operates through the support of the county climate steering committee made of technical officers from the line ministries.

#### **4.2.2 County Climate Change Planning Committee**

The County Climate Change Planning Committee for Embu County was established by the Embu County Climate Change Change Fund Act, 2019. The functions of the County Climate Change Fund Planning Committee are:

- To develop projects eligibility criteria
- To receive, compile, evaluate and approve the projects submitted by the Ward Planning Committee based on the agreed criteria, and prepare the County Climate Finance Budget;
- Based on criteria, ensure equitable allocation of the moneys available in the Fund with regard to the projects received from the Ward Planning Committee;
- To provide monitoring and evaluation for projects financed by the Fund;
- To provide the essential linkages between the Steering Committee and the County Assembly with regard to management of the Fund;
- To coordinate capacity building for Climate Change Awareness and Climate Finance in the County;
- To coordinate research and development for Climate Change Finance in the County;
- To mobilize funds for Climate Change Finance in the County;
- To design a climate change awareness strategy for the county;
- To develop a climate finance research priority needs list for the county;
- To assign and coordinate technical assistance from County departments to projects funded under this Act; and
- To assist the Steering Committee in developing the Climate Finance Framework

The membership of the County Climate Change Committee is as follows:

- One person, not being a public officer, appointed by the Executive Member, who shall be the chairperson
- The Chief Officer in charge of Environment, Natural resources and Climate Change
- The Chief Officer in charge of water and irrigation
- The Chief Officer in charge of Finance and Economic Planning;
- The Chief Officer in charge of Agriculture;
- The Chief Officer in charge of Public Health;
- The Chief Officer in charge of Energy

- The County Drought Coordinator;
- The County Director of the National Environment Management Authority in the County;
- The County Director of the Meteorological Department in the County;
- One person from a Fund Participating Institutions;
- One person representing of Public Benefit Organizations operating in the County;
- A representative of Ward Planning Committees nominated by all the Ward Planning Committees on rotational basis
- A representative of women;
- A representative of youth;
- A representative of persons with disability and
- A representative of faith-based organization

#### 4.2.3 Challenges of the implementation of CCCAP

Developing and implementing a County Climate Change Action Plan is a complex process with its own inherent challenges and constraints. It is similarly expected that the process of implementation of the action plan cannot be devoid of challenges. Table 4.3 below highlights some of the probable challenges that may arise during the implementation of the CCCAP.

Table 4.3: Some of the possible challenges that may arise in implementing CCCAP, their overall impact on the implementation process and proposed solutions for handling them

<b>Challenge</b>	<b>Effects on implementation</b>	<b>Suggested Solution</b>
Delayed disbursement of funds	Delays implementations of critical project components	Proper planning and budgeting to minimize the delay
Climatic and non-climatic risks	Leads to unexpected occurrences but increases the vulnerabilities	Vulnerability assessment and risk assessment to create awareness on impacts
Highly and fragile ecosystems	<ul style="list-style-type: none"> <li>• Increased vulnerability to climate hazards</li> <li>• High cost of interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Promote climate smart agricultural practices</li> <li>• Embrace sustainable degraded land conservation and restoration (FOLAREB)</li> </ul>
Emergence of pests and diseases	<ul style="list-style-type: none"> <li>• Interrupts the budgets due to unexpected occurrences</li> <li>• Affects productivity</li> <li>• Increases cost of mitigation</li> </ul>	<ul style="list-style-type: none"> <li>• Research on knowledge sharing</li> <li>• Promote climate smart agriculture</li> </ul>
Emerging wastes	Difficulties in disposing e.g electronic wastes	Invest in an integrated solid waste management
Inadequate funding	Slows down implementation process	<ul style="list-style-type: none"> <li>• Resource mobilization through the department of Resource Mobilization</li> </ul>

	Scales down the implementation of selected projects	<ul style="list-style-type: none"> <li>• Establish phasing projects if necessary</li> </ul>
Human Resource Challenges	<ul style="list-style-type: none"> <li>• Reduces the implementation capacities</li> <li>• Delays the timelines for effective delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity assessment and capacity building</li> <li>• Do recruitments on need basis</li> </ul>
Inadequate legal and policy framework	Hinders and limits the implementation of key actions	<ul style="list-style-type: none"> <li>• Invests in a robust policy framework</li> <li>• Prioritize development and review of policies law</li> <li>• Counties to seek technical support from national government</li> </ul>
Prioritization of projects	If not followed, there is possibility of ignoring critical projects e.g. those targeting vulnerable groups	<ul style="list-style-type: none"> <li>• Strict adherence to priority actions</li> <li>• Monitoring and evaluation</li> </ul>
Unprecedented climatic events	Interrupt the budget flows and effect the implementation of plans	<ul style="list-style-type: none"> <li>• Policy intervention measure</li> <li>• Provide for policies and legal framework</li> </ul>



### 4.3 Implementation Matrix

The detailed matrix on the process of implementing the ECCCAP is show in the Table 4.4.

Table 4.4: Implementation matrix for ECCCAP

Strategic Objectives	Priority Actions	Expected Outputs/Outcomes	Key Performance Indicators	Responsible Institutions	Targeted Groups	Time-Frame	Source of Funds	Indicative Budget (KES millions)				
								Total	23/24	24/25	25/26	26/27
Disaster Risk Management Reduce risks to communities and infrastructure resulting from climate-related disasters such as droughts and floods	Adoption of drought tolerant crops/ varieties	Drought resistant varieties/technologies	No. of varieties/technologies adopted Increased crop yields	CG, MoALF& Co-p; KALRO, Univ. Of Embu	Smallholder farmers, CBOs	2023-27	GOK	35.9				
	Minimum tillage and conservation agriculture technologies	Increased soil moisture conservation	Number of farms practicing conservation agriculture	MoALF& Co-p; En & Natural resources, University of Embu	Smallholder farmers, CBOs	2023-27	GOK	50				
	Tree nursery establishment for indigenous AF species	Indigenous trees species being used in afforestation programmes	No. of indigenous tree seedlings raised	CG, KFS, KEFRI	Farmer groups, CBOs	2023-27	GOK	40				
	Afforestation and greening programs	Reclamation of degraded lands Riparian lands vegetated Agroforestry systems	No. of Ha planted or reclaimed	CG, KFS, KEFRI	Farmer groups, CBOs	2023-27	GOK	50				

Soil and water conservation	Protect land from degradation and improve water availability for plant growth	Increased production per unit area	No. of terraces dug Area conserved in Ha	MoALF& Co-p; En & Natural resources, University of Embu	Farmer groups	2023-27	GOK	27				
	Improved fruit tree seedlings	Enhance fruit production through agroforestry practises	Ha of agroforestry fruit trees planted	MoALF& Co-p;	Farmer groups	2023-27	GOK	2				
	Greenhouse farming for increased crop production & protection	Increased production of horticultural crops	No. of greenhouses established and used	CG, NGOs	Farmer groups	2023-27	GOK	119				
	Dairy goat production	Increased production of goat milk	No. of goats distributed to farmers	MoALF& Co-p; NGOs	Vulnerab le groups	2023-27	GOK	867.5				
	Dairy Animal production	Increased production of dairy animal milk	No. of heifers distributed to farmers	MoALF& Co-p; NGOs	Vulnerab le groups	2023-27	GOK	600				
	Poultry	Increased production of eggs and poultry	Volume of eggs and poultry produced and marketed	MoALF& Co-p; KALRO	Vulnerab le groups	2023-27	GOK	343				
	Apiculture Beekeeping	Increased rearing of bees	Increased % of farmers rearing bees	CG, MoALF& Co-p;	Farmer groups	2023-27	GOK	216.65				
	Fodder improvemen	Increased quality fodder and feeds	Ha put under improved pasture	MoALF& Co-p;	Farmer groups	2023-27	GOK	68				

	t and feed formulations		Varieties of improved pasture grown									
	Animal breed improvement	Increased animal production	No. of improved animal breeds disaggregated in species	MoALF& Co-p;	Farmer groups	2023-27	GOK	20				
	Climate information services	Climate information available in near real time.	No. of climate information centres operational	CG, Met Dept, Uni. of Embu	Farmer groups	2023-27	GOK	50				
	Establishment and review of CFAs and PFMP	CFAs established PFMP developed	No. of CFA established & Plans developed	CG, univ. og Embu	Farmer groups	2023-27	GOK	10				
Water and Irrigation	Dam construction	Increased retention of water for irrigation	No. of dams constructed	Water and Irrigation	Target communities	2023-27	GOK	180				
	Sinking, Rehabilitation and Solarisation of Boreholes	Increased availability of potable water in communities	No. of boreholes constructed	CG, NGOs	Farmer groups	2023-27	GOK	300				
	Establishment of irrigation schemes	Increased irrigated crop production	No. of irrigation schemes established Acreage under irrigated agriculture	Water and Irrigation	Target communities	2023-27	GOK	1440				
	Water harvesting	Increased water storage	Volumes of water stored	CG, Water and Irrigation	Farmer groups,	2023-27	GOK	60				
	Drip irrigation	Increased Water use efficiency	No. of drip systems operational	CG, Water and Irrigation	Farmer groups,	2023-27	GOK	50				

	Piped water for domestic use	Increased hygiene	No. of households supplied with piped water	Water and Irrigation	Local communities	2023-27	GOK	20				
Commodity processing and value addition	Milk processing to avoid wastage	Increased milk production & marketing	No of processing units established Volume of milk processed	CG, MoALF& Co-p;	Farmer groups, Dairy co-op societies	2023-27	GOK	747				
	Mango processing to enhance shelf-life	Increased mango products being marketed	Number of processing units established No. of processed mango products in the market	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	155				
	Revamping coffee processing factories	Enhanced coffee processing	No. of coffee factories revamped	MoALF& Co-p; Coffee factories & groups	Farmer groups & Co-op	2023-27	GOK	250				
	Macadamia processing	Increased production and processing of macadamia nuts	No of processing units established Volume of nuts processed	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	300				
	Banana value addition	Increased production and processing of banana	No of processing units established Volume of banana processed	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	50				
	Green grams threshing machine	Increased production and processing of clean green grams	No. of machines bought Volume of grams threshed	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	173				

	Value addition of Traditional High Value Crops	Increased production and processing of THVCs	No of processing units established Volume of THVC processed	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	6.5				
	Sunflower processing	Increased production and processing of sunflower seed	No. of sunflower processing units	MoALF& Co-p;	Farmer groups	2023-27	GOK	100				
	Honey processing	Increased production and processing of honey	No of processing units established Volume of honey processed	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	45				
	Avocado processing	Increased production and processing of avocados	No of processing units established Volume of avocado processed	MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	105				
	Cereal stores	Increased storage to reduce post-harvest loses.	No. of stores constructed	CG, MoALF& Co-p; MoTrade	Farmer groups	2023-27	GOK	250				
Alternative livelihoods	Aquaculture: Rearing of fingerlings and fish farming	Increased fish production and marketing	Volume of fish marketed	MoALF& Co-p; MoTrade	CBOs, NGOs,	2023-27	GOK	272.5				
	Provision of hybrid rabbits	Increased and diversified source of animal protein	No of rabbits supplied disaggregated by breed	MoALF& Co-p; MoTrade	CBOs, NGOs,	2023-27	GOK	15				
	Leather tanning	Increased leather production and marketing	Volume of hides & skins tanned & marketed	MoALF& Co-p; MoTrade	CBOs, NGOs,	2023-27	GOK	5				

	Modern Abattoirs	Construction of modern abattoirs	No. of modern abattoirs constructed	CG, MoALF& Co-p; MoTrade	CBOs, NGOs,	2023-27	GOK	150				
	Cottage industry	Fabrication of local products	Number of cottage industries registered	CG, MoALF& Co-p; MoTrade	CBOs, NGOs,	2023-27	GOK	100				
	Kitchen gardens using hydroponics	Diversify and enhance production using non soil methods in townships of Embu	No. of townships practising No. of farmers involved in this practise	MoALF& Co-p; University of Embu, KALRO	Farmer groups	2023-27	GOK	55				
Capacity building in all sectors	Enhanced skills in different livelihood strategies	Increased technical efficiency in application of various technologies	No. of trained persons in application of different technologies	CG, Univ. of Embu, KALRO	Farmer groups	2023-27	GOK	130				
Safe use of Agrochemicals e.g. pesticides	Enhance efficiency and efficacy in the use of pesticides and environmental protection	Increased agricultural production	No. of trainings held Letters sent to workshop venues	CG, Univ. of Embu, KALRO	Farmer groups	2023-27	GOK	71				
Alternative medicine promotion	Enhance good health and promote diversity of plants	Enhanced human health	No. and types of plants used  Trainings held for herbal medicine Health data over time	Univ. of Embu, KALRO, Env and Natural resources	Farmer groups	2023-27	GOK	5				

AI services	Improve animal breeds hence enhanced animal production	Increased animal potential	AI centres established Equipment procured	MoALF& Co-p;	Farmer groups	2023-27	GOK	13				
	Cattle dips	Improved control vector-borne diseases	No. of cattle dips constructed	CG, MoALF& Co-p;	Farmer groups	2023-27	GOK	90				
Research and extension services on soil, crop and livestock	Enhance soil quality, crop & livestock production Crop protection	Soil test/nutrient recommendations, Improved varieties and breeds Enhanced crop protection	No. of wards with soil input recommendations No. of improved varieties	Univ. of Embu, KALRO, CG	Farmer groups	2023-27	GOK	200				
Clean Energy Strategies	Provision of energy saving jikos Biogas construction	Enhanced use of clean energy stoves and Biogas	No. of households using clean energy	CG, NGOs, CBOs	Vulnerable groups	2023-27	GOK	100				
Solid waste management	Market-level sorting centres Recycling facility (county-wide)	Increased management of solid waste Byproducts	Tonnage of waste recycled	CG,	Market centres	2023-27	GOK	700				
Climate proofing Infrastructure	Culverts, Paving	Length of roads paved	No. of structures completed	CG, MoPublic works, Farmer groups	Selected sites	2023-27	GOK	1000				

	Electric fence	Reduced human/wildlife conflict Reduced forest degradation	No. of km fenced	CG, NGOs, KFS, KWS, International partners	Communities	2023-27	GOK	126				
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## REFERENCES

Government of Kenya (2018). National Climate Change Action Plan (Kenya) 2018-2022. Ministry of Environment and Forestry, Nairobi, Kenya.

IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3–33, doi:10.1017/9781009325844.001

**APPENDICES**

**APPENDICES**

Appendix 1 Scanned copies of the attendance sheet for the validation workshop held to validate the Participatory Climate Change Risk Assessment which formed the basis for the Embu County Climate Change Action Plan held on 23<sup>rd</sup> May 2023 and 24<sup>th</sup> May 2023, Embu County Headquarters Conference Hall, Kangaru.

COMMUNITY

**Embu County Climate Change Action Plans Participatory Meeting Attendance List**

County Embu \_\_\_\_\_  
 Sub County \_\_\_\_\_  
 Ward \_\_\_\_\_  
 Date 23/05/2023

PCRA / ACTION PLAN STAKEHOLDERS  
 CONSULTATION MEETING - 23-24 May 2023

S/NO	Name	ID NO.	Mobile NO	Gender		Category and/or position (Chairman, Sec, People Living with Disability etc.)	Age (Tick)			SIGN	
				Male(M)	Female(F)		18-35 Yrs	35-60Yrs	Above 60	DAY 1	DAY 2
1.	Ella Mburu	5073142	0729809742		<input checked="" type="checkbox"/>	Chairlady		<input checked="" type="checkbox"/>			<i>[Signature]</i>
2.	Juliet Wawira	13571519	0719687147		<input type="checkbox"/>	Chairlady		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<i>[Signature]</i>
3.	HARRIET KIWITI	0235536	0713548952		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<i>[Signature]</i>
4.	FATH WANJA	24379941	070446572		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>
5.	Lacey Maria	13572360	0718437149		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>
6.	CHRISTINE NYERU	07226453	072264538		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
67.	BRACEY NTUKI	38208973	0741057224		✓	Community	✓				
68.	IMEDA THADIBA	37004174	0705044696		✓	Community Youth Rep	✓				
69.	MADALENE NDWENDE	25171866	0727636076		✓	Community	✓				
70.	Ennie Njoku Mueze	2279216	071932296	✓	✓	Resource member	✓				
71.	CATHINE WOMBINI	20424301	0711362534		✓	Treasurer	✓				
72.	Sauce Gicdy Kintso	3565694	0720917368		✓	Chairperson	✓				
73.	PAULINE KAGEMBO	12572667	0715011289		✓	Member	✓				
74.	RULIT W. NDEGU	24154888	0725896286		✓	Member	✓				
75.	ALBERT MUNDYI	13339404	0720289136	✓		SEC	✓				
76.	JUSTUS NYEM	9820343	0727300449		✓	Chairman	✓				
77.	Expanding mission	36331365	0706438207	✓		Chairman	✓				
78.	DEDMAN GITAHU	11482106	0722716995	✓		Youth Rep	✓				

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
55.	JOSEPH IBERI	26474451	0728147298	<input checked="" type="checkbox"/>		Municipal Committee Member	<input checked="" type="checkbox"/>				
56.	LAUREL KINTUA	1293314	0724985825	<input checked="" type="checkbox"/>		GATUL SOUTH Committee Sec.		<input checked="" type="checkbox"/>			
57.	ASHA GITRI	5096258	0724597394		<input checked="" type="checkbox"/>	GATUL SOUTH Chairperson		<input checked="" type="checkbox"/>			
58.	MAMIE WANDIYA	2346853	0724396619		<input checked="" type="checkbox"/>	Community		<input checked="" type="checkbox"/>			
59.	MERRI NYERA	29216477	0703631038	<input checked="" type="checkbox"/>		EVURORE FUTURE REP	<input checked="" type="checkbox"/>				
60.	Florence Karu	2251060	0722596516		<input checked="" type="checkbox"/>	EVURORE WOMEN ORG	<input checked="" type="checkbox"/>				
61.	Irene Wanjira	26242991	0723965497		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
62.	DAVID KUNDUWA	10460723	0724412483	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			
63.	Catherine mungi	31498156	0705211249		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
64.	MARITIK ISINYA	10640793	07225220455	<input checked="" type="checkbox"/>		Community MIGALING VISA	<input checked="" type="checkbox"/>				
65.	Nico de mas klanby	12402229	0711138881	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			
66.	NORITHTINGA JOKUZ	39534952	0790874666		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
43.	JANE MADIA	12773517	0715099119		<input checked="" type="checkbox"/>	NITHURU A KIDDEEN REP.		<input checked="" type="checkbox"/>		<del>Signature</del>	
44.	JACKLINE MUMBE	13424638	0712289652		<input checked="" type="checkbox"/>	CENTRAL RWDS CHAIRPERSON GATURI NORTH		<input checked="" type="checkbox"/>		Signature	
45.	LENA KIMBUL	11975931	0701991186		<input checked="" type="checkbox"/>	youth rep community	<input checked="" type="checkbox"/>			Signature	
46.	DICKSON NJAGI	05890502	072050800	<input checked="" type="checkbox"/>		community	<input checked="" type="checkbox"/>			Signature	
47.	Felix Muriuki	39282029	079991398	<input checked="" type="checkbox"/>		community communication dept county	<input checked="" type="checkbox"/>			Signature	
48.	Kwame M. K. M. K.	39236182	0746178990	<input checked="" type="checkbox"/>		community	<input checked="" type="checkbox"/>			Signature	
49.	Brian Mwaniki	14520830	0740670963	<input checked="" type="checkbox"/>		community	<input checked="" type="checkbox"/>			Signature	
50.	Savin Mwangi	39031525	0114578958		<input checked="" type="checkbox"/>	community	<input checked="" type="checkbox"/>			Signature	
51.	SILVERIO MUKI GUA	20875234	0751093762	<input checked="" type="checkbox"/>		NITHURU youth rep	<input checked="" type="checkbox"/>			Signature	
52.	LEAH MUKO'DI	25747283	0714833372	<input checked="" type="checkbox"/>		community	<input checked="" type="checkbox"/>			Signature	
53.	ARNES, WALTER	29910258	0710937672	<input checked="" type="checkbox"/>		community	<input checked="" type="checkbox"/>			Signature	
54.	MARVIN NJUJE NYIGA	25539157	0725316074	<input checked="" type="checkbox"/>		community chairman south county	<input checked="" type="checkbox"/>			Signature	

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDs)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
31.	FRANIA NTHACUTHU. M.	27302421	0716105698	F.	✓	WARRIOR NURSE - BIRTH	✓	✓			
32.	GUCKUNE WANSR MOKO	306b7764	0716482066		✓	Community	✓				
33.	DONATO Nyaga	0679141	071505890	M		PWD					
34.	MURIEL NYERU	10222964	072232169	✓		WARRIOR	✓				
35.	EDITHA M. KAGAI	13571421	0722899352	✓		Community	✓				
36.	TITUS MUCHEI	3324187	0724873927	✓		MAWARIA SECRETARY		✓			
37.	JOHNSON WAKELI	29401200	0724147341	✓		Community	✓				
38.	HANSON MURIMI	28461024	0722782470	✓		Community	✓				
39.	FATH GAVU	957-2489	0720217787		✓	Community		✓			
40.	<del>FATH GAVU</del> FATH GAVU	9522489	0720217787		✓	Community		✓			
41.	EUNICE W. MURIA	13262439	0721275999		✓	COMMUNITY		✓			
42.	Henry Kithiga	8660805	072508844	✓		PLWD		✓			

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
19.	CHRISPINE KUVU	96523850	0713740718	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Youth REP MYEHL SOUTH	<input checked="" type="checkbox"/>				
20.	SHARON MUGENDI	35138017	0745109060	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
21.	MIRIAM WAMUN	27474116	0722222159	<input type="checkbox"/>	<input checked="" type="checkbox"/>	METEORELATION		<input checked="" type="checkbox"/>			
22.	ANTONY KARUKU MBEU	21722742	0729547191	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MEN/KAGAZI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
23.	MERCI WONGORA HUSA	251304181	0714969323	<input checked="" type="checkbox"/>	<input type="checkbox"/>	HEALTH PROMOTER	<input checked="" type="checkbox"/>				
24.	LENNY MUGANGI NJIRU	37855981	0716410741	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
25.	GENIE RUKHAI MBEU	236919653	0722220259	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Committee MURURUA		<input checked="" type="checkbox"/>			
26.	SHARON MUGENDI	35138017	0745109060	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
27.	WINDATE MUKKATI	29554112	0727441575	<input checked="" type="checkbox"/>	<input type="checkbox"/>	E.C.G	<input checked="" type="checkbox"/>				
28.	BIRAN MUNDENE	34349282	0700543629	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Youth Rep Kang's South	<input checked="" type="checkbox"/>				
29.	BENSON NJAGA	30661745	0708644550	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E.C.G	<input checked="" type="checkbox"/>				
30.	ROBERT NJAGE	30014445	0717036022	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E.C.G	<input checked="" type="checkbox"/>				

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and (or position (Chairperson, Sec, PLWDs)	AGE (Tick.)			SIGN		
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2	
7.	Peter Nibwami	1332 632	0722191633	M		PWD		<input checked="" type="checkbox"/>			R	
8.	Dennis MUSA	21511485	0711570882	M		Treasurer (PLWD)		<input checked="" type="checkbox"/>				
9.	Michael MUSA	5083098	0721328297	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			
10.	JACKLINE NJOGU	35540438	0769945734	F	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				
11.	CATHERINE MUTHONI	37971779	0769933542		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				
12.	ARLES HATAA	27072085	0722876265		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				
13.	Ann M. MURITHI	5096391	0725219179	F	<input checked="" type="checkbox"/>	CHAIRPERSON		<input checked="" type="checkbox"/>				
14.	JAMES KIGONYA	11211806	0710186902	M		MtM REP Vice Chair		<input checked="" type="checkbox"/>				
15.	NELSON NYAGA	21977812	0729851016	<input checked="" type="checkbox"/>		Khimo Treasurer		<input checked="" type="checkbox"/>				
16.	JOHN MUSAHO NJIRU	7034283	0765381431	M		PLWD		<input checked="" type="checkbox"/>				
17.	Joseph Gitobok	13619993	0720756005	<input checked="" type="checkbox"/>		PLWD Khatungu Khatungu		<input checked="" type="checkbox"/>				
18.	Sicas Kinani	21937497	0720982044			CHAIRPERSON		<input checked="" type="checkbox"/>				



S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec. PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
79.	Climate Pal Ltd	22044799	0701229599 0705111283		F	Co-ordinator		✓		<del>Signature</del>	
80.	Millicent Kegeondo	26645573	0716757497		F	CHV	✓			<del>Signature</del>	
81.	Edna Mwakani	34315694	0791531838		F	CHV	✓			<del>Signature</del>	
82.	Dickson Njiru Njeru	7805551	0727629862	M	M	Comm. TTE		✓		<del>Signature</del>	
83.	ELIZABETH WANJIR	22150580	072621760		F			✓		<del>Signature</del>	
84.	RENE NIERE	27186497	0726649780		F			✓		<del>Signature</del>	
85.	ANTONY MUSAHA	23778183	078477149		M	Committee		✓		<del>Signature</del>	
86.	Moses Munene	09002402	0719019104		M	CHAIRPERSON	✓			<del>Signature</del>	
87.	LUIGY WAMBOITHA	22412153	0712240287		F	Committee		✓		<del>Signature</del>	
88.	Anthony MUKUA	28417426	0719766725		M	PLWDS	✓			<del>Signature</del>	
89.	PETER MUKUKU	13572324	0729288818		M	Committee		✓		<del>Signature</del>	
90.	ROSELINE WAMUKA X	35157099	0798793623		F	JOINT REP.					

STAKE HOLDER  
**Embu County Climate Change Action Plans Participatory Meeting Attendance List**

County Embu

Sub County \_\_\_\_\_

Ward \_\_\_\_\_

Date 23/05/2023 - 24/05/2023

S/NO	Name	ID NO.	Mobile NO	Gender		Category and/or position (Chairman, Sec, People Living with Disability etc.)		Age (Tick)			SIGN		
				Male(M)	Female(F)	YES	NO	18-35 Yrs	35-60Yrs	Above 60	DAY 1	DAY 2	
1.	JOHNN THORNTON	28430019	0769309484	✓		✓		✓					
2.	Caroline Wani	26485010	0724935890		✓	✓			✓				
3.	Newton W Njoroge	11022613	0724933442	✓		✓			✓				
4.	Charles N. Ombui	8533423	0721782254	✓		✓			✓				
5.	David Mwangi	21788942	0722161870	✓		✓			✓				
6.	Wilfred Patrick Nyeri	13339650	0757699719	✓		✓			✓				

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE ('Tick')			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
43.	Dorothy Kanimi	27651229	0710369859		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>		DK		
44.	Kachen Nyira	2674264	0723228308		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>		L.M		
45.	Joseph Emyua	10729559	0721322569	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>		<del>DK</del>		
46.	LILIAN WANGESHI	29002707	0717079164		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>		DK		
47.	James W. Adiga	1920081	0721813412		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>		<del>DK</del>		
48.	Leah Muriuki	3685752	0720583760	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>		<del>DK</del>		
49.											
50.											
51.											
52.											
53.											
54.											

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and for position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
91.	Johua Murene	3886690	0794248038	✓		Community	✓			<i>[Signature]</i>	
92.	THOMAS K. MUYAGA	0293479	072450142	✓		Community			✓	<i>[Signature]</i>	
93.	Kellen K. Ntaga	11460134	0726541313		✓	Kivurua Committee M. Ag. 2, 12 Secretary		✓		<i>[Signature]</i>	
94.	JERRY NDIRIGA	11023078	071032488	✓		Secretary		✓		<i>[Signature]</i>	
95.	Wilfred Patrick Nyga	13339650	0757699719	✓		Community		✓		<i>[Signature]</i>	
96.	Sammy NYAGA	98171184	0704201170	✓		Community		✓		<i>[Signature]</i>	
97.	Caroline Mwirira	22579252	0727640706		✓	Tongari Committee Member			✓	<i>[Signature]</i>	
98.	MURRAY W. MURRAY	08479916	0724530596		✓	Community			✓	<i>[Signature]</i>	
99.	JULIET WAMBIRA MUKIRI	33264043	0759925363		✓	Community committee Member	✓			<i>[Signature]</i>	
100.	CHRISTINE MURUGI NYGA	37321510	0704577946		✓	Community Member	✓			<i>[Signature]</i>	
101.	Edwin NGUCI	33244109	0740336428	✓		MVURA C. Member	✓			<i>[Signature]</i>	
102.	MARTIN MURUTHI	23324563	0726482089	✓		Community		✓		<i>[Signature]</i>	

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDs)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
79.	JUSTIN GITWANGA	25410730	0795555787	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
80.	ROMFACE MWENDA	24817509	0704966078	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
81.	ANDREW MUKAWATI	7451357	0720032255	<input type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
82.	PETER MURITHI	870 88200	0794700681	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
83.	JOSEPH KINYUA	22609221	072004785	<input checked="" type="checkbox"/>		Sec Representative	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
84.	WIRENCE GITUNDU	2246602	0724121832	<input checked="" type="checkbox"/>		COMMUNITY	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
85.	Joyce Wadhwa	27870252	0718279022		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
86.	EZEKIEL MUYAMBI	27815823	0703683306	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
87.	Augustine Njiru	3305080	0712703723	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
88.	JOSECK NYAHIA	21989768	0712785641	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
89.	BENESSA SINDIGA	1292003	0725199769		<input checked="" type="checkbox"/>	Community				<input checked="" type="checkbox"/>	
90.	BRAID IADU	23324463	0725447997		<input checked="" type="checkbox"/>	Community				<input checked="" type="checkbox"/>	

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
67.	Sila Mwaniki	ST55725	0715802153	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
68.	Joseph Mwarathi	13646666	07227817198	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
69.	Grace Wanjiku	11396443	0723664387		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
70.	Esbon Mwangi	2913205	0722685599	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
71.	LUISE MUNINI	9412635	0723958236		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
72.	GITHUI WHITHIU	60129101	0759531602		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
73.	AGNES W. NGAZI	22015442	0721200356		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
74.	KEVIN M WUSTEVA	2369835	0729518960	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
75.	KENIN MURANI NYAGA	60463192	0701150248	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
76.	ETREM NYAGAH	20083200	0721323309	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
77.	CATHERINE Akoko	13194114	0703935358		<input checked="" type="checkbox"/>	Low unit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
78.	JOHN KIKUYU	13263852	0113662334	<input checked="" type="checkbox"/>		Community.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
55.	JAYLE WANDISI	13111301	0795528887	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N.D.M.A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
56.	JOSEPH MURUGIAH	11023424	09571066831	<input type="checkbox"/>	<input checked="" type="checkbox"/>	WARDA Admin-M/S	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
57.	GEOFFREY NJOKI	9284073	0721582096	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
58.	ELIAS GACIOTI	3736900	0715381809	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
59.	NIRKUNDA MUKUNA	30050452	013662186	<input type="checkbox"/>	<input checked="" type="checkbox"/>	YOUTH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
60.	GRACE MUDUGI	01616931	07107722621	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
61.	CHAS			<input type="checkbox"/>	<input checked="" type="checkbox"/>	Youth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
62.	Dominic Makwini	35107423	0798933866	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SPECIAL NEEDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
63.	ELIZABETH NJAGI	0297424	0719458862	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MEN REP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
64.	JOSEPH KYAGA	7035999	0791192026	<input type="checkbox"/>	<input checked="" type="checkbox"/>	WARDA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
65.	NOTES KATHINA	3758445	0729312280	<input type="checkbox"/>	<input checked="" type="checkbox"/>	YOUTH REP KATHINA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
66.	Philemona Nkanga	29492131	0795961231	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
43.											
44.	MARY MUTHANI	13955072	0720165622		<input checked="" type="checkbox"/>	KITHIMS Executive		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
45.	Pauline Muthari	226066482	072223467	<input checked="" type="checkbox"/>		Karurumo Member		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
46.	PAULINE MUTHARI	6207624	0729858435	<input checked="" type="checkbox"/>		Member Kaagan SW		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
47.	ATEDINA NTEU	20222109	0746888646		<input checked="" type="checkbox"/>	Member Kaagan SW		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
48.	GABRIEL NYAGA	3510019	071222905		<input checked="" type="checkbox"/>	KIRUA		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
49.	MILICENI WANDA	25915334	0710725779		<input checked="" type="checkbox"/>	KIRUNGA		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
50.	ANSON MURUKU	28327803	0716244086		<input checked="" type="checkbox"/>	KIRURU		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
51.	VIRGINIA WANDU	24116749	070867585		<input checked="" type="checkbox"/>	E.C.G		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
52.	Simone Mwangi	2268698	0723147935	<input checked="" type="checkbox"/>		MBEI MEM REP		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
53.	Rose Njeri	24000344	0721728306		<input checked="" type="checkbox"/>	PWA		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
54.	MADIAS NJOKI	20243985	0725924445		<input checked="" type="checkbox"/>	WRN		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
	Elisa Karungu	1298127	0712823978	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	



S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick-)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
31.	BONFACE KIETI	22016981	0724777846	<input checked="" type="checkbox"/>		WCCPC Makinda		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
32.	MICHAEL GINDUNA	23205610	0721683115	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
33.	NICHASAS M. NBOGHI	20576782	0723 780734	<input checked="" type="checkbox"/>		COMM/TEC NBOGHI		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
34.	Gladys Njen	32295574	0112152406		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			
35.	Silas A. Mafona	36875829	0707973600	<input checked="" type="checkbox"/>		Community Member	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
36.	LUCY WAMBWA KAMBO	22790566	0703981353		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
37.	IGNATIUS NTHIKA KAKA	13723780	0723997325	<input checked="" type="checkbox"/>		Senior/TEC MCHETE		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
38.	Gladys Kheni	35298574	0112752406	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
39.	Grace Kaonda	30365548	0768266633		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
40.	Charles M. Nungu	21943860	0711859516	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
41.	Eveline Muthoni Wanjau	33065207	075978498	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
42.											

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDs)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
19.	CICELY KANINI NIERU	28024340	0748825251		<input checked="" type="checkbox"/>	YOUTH REP NTHAKWA	<input checked="" type="checkbox"/>				
20.	JOSAPHINE NTHAKWA	25034451	0725065013		<input checked="" type="checkbox"/>	YOUTH REP NTHAKWA	<input checked="" type="checkbox"/>				
21.	LOISE VADIMI NYAGA	26936587	0717562081		<input checked="" type="checkbox"/>	YOUTH REP NTHAKWA	<input checked="" type="checkbox"/>				
22.	CITTY GICAVI MUEKA	69020444	0707054909	<input checked="" type="checkbox"/>		Sec. Girl Scout		<input checked="" type="checkbox"/>	58		
23.	SKILLA KAGENDO	29250014	0708145002		<input checked="" type="checkbox"/>	YOUTH REP MCHERU + S.E.		<input checked="" type="checkbox"/>	31		
24.	FAITH MUEKA	11353072	0715091195		<input checked="" type="checkbox"/>	MURUKU		<input checked="" type="checkbox"/>	35		
25.	CHARLES KAKO	4952618	0722444338		<input checked="" type="checkbox"/>	MURUKU		<input checked="" type="checkbox"/>	55		
26.	ELIZABETH UUSU	13571977	0713619133		<input checked="" type="checkbox"/>	US DEER MURUKU		<input checked="" type="checkbox"/>	51		
27.	DOMINIC M. NTHAKWA	4251362	0728160702	<input checked="" type="checkbox"/>		PLWD		<input checked="" type="checkbox"/>	68		
28.	SINCELA KIRIKIRI										
29.	Ambrose Nyaga	8600769	07211497294	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			
30.	JANTE MUKIMI	27319667	071921806		<input checked="" type="checkbox"/>	SECRETARY MURUKU	<input checked="" type="checkbox"/>				

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick:)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
7.											
8.	PATRICIA MURPHY	340972884	0791048816	<input checked="" type="checkbox"/>		MEMBER	<input checked="" type="checkbox"/>				
9.	PATRICK MURPHY	27666531	071534921	<input checked="" type="checkbox"/>		MEMBER NORTH	<input checked="" type="checkbox"/>				
10.	BETSON MURPHY	29379100	070878225	<input checked="" type="checkbox"/>		PLWD MALWA	<input checked="" type="checkbox"/>				
11.	Dominic Njiru	20071931	072383922	<input checked="" type="checkbox"/>		Member	<input checked="" type="checkbox"/>				
12.	RURETY R. STEPHEN	219372363	0722455485		<input checked="" type="checkbox"/>	MEMBER SOUTH WOMAN REP	<input checked="" type="checkbox"/>				
13.	EUNICE KACHENDA	12882392	0728978839		<input checked="" type="checkbox"/>	MEMBER NORTH PWD'S REP	<input checked="" type="checkbox"/>				
14.	DONICA KAMANO	90962031	074659662		<input checked="" type="checkbox"/>	MEMBER SOUTH					
15.	Newy Cichaki	3443181	0705548425		<input checked="" type="checkbox"/>	MEMBER SOUTH	<input checked="" type="checkbox"/>				
16.	AROLINE IREKI	24935914	0712306499		<input checked="" type="checkbox"/>	MEMBER CENTRAL REP	<input checked="" type="checkbox"/>				
17.	Charles Njiru	20272204	07145339649	<input checked="" type="checkbox"/>		Executive	<input checked="" type="checkbox"/>				
18.	Lincon N KURIA	4554020	0721692881	<input checked="" type="checkbox"/>		Chairman	<input checked="" type="checkbox"/>				
18.	Emily N. Mathoma	35807649	0704284546		<input checked="" type="checkbox"/>	CHAIRMAN SOUTH	<input checked="" type="checkbox"/>				

Embu County Climate Change Action Plans Participatory Meeting Attendance List

County Embu

Sub County \_\_\_\_\_

Ward \_\_\_\_\_

Date 23/05/2023 - 24/05/2023

S/NO	Name	ID NO.	Mobile NO	Gender		Category and/ or position (Chairman, Sec, People Living with Disability etc.)	Age (Tick)			SIGN	
				Male(M)	Female(F)		18-35 Yrs	35- 60Yrs	Above 60	DAY 1	DAY 2
1.	C-11 TORNERA MUGETI	83457228	0700593643	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Youngster Community	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	
2.	JANUAS KAREWU	1386442	0723511744	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SECRETARY MTHAWA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	
3.	IREWEE KAMUWENDE	21924984	0725451038	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SECRETARY RUSUBU/MOYANDORAI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	
4.	JOSPHET NGEITHU	11352438	0723986886	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	
5.	FAYILY NICKOLASA	10221720	0722581175	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	
6.	LUCY A. NJAGI	23166971	0728585772	<input type="checkbox"/>	<input checked="" type="checkbox"/>	COMMUNITY MUGETI MTHAWA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDs)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
19.											
20.	Mary Mwangi	34263884	0792812900		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
21.	Shela Wawira	33056421	0702100620		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
22.	Sarah Wangi M	31131553	0704840973		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
23.	DENNIS FUNDI	2765497	0700262814	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>				
24.	Anthony Peter	13573121	079164404	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>				
25.	Antonia Mwangi	32805147	0702046925	<input checked="" type="checkbox"/>		Community	<input checked="" type="checkbox"/>				
26.	Miriam Mugo Rutere	354494305	0719448988	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
27.	Onyiah Floski	29695101	0753321590		<input checked="" type="checkbox"/>	Community	<input checked="" type="checkbox"/>				
28.	Joseph Mueni	2425530	0727689510			Community	<input checked="" type="checkbox"/>				
29.											
30.											

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
7.	Jane Mutitu Ndungu	7450891	0721813402		<input checked="" type="checkbox"/>	Community		<input checked="" type="checkbox"/>			
8.	IREKI GAETHUNGI	0718129	0724104762	<input checked="" type="checkbox"/>		CHAIRMAN		<input checked="" type="checkbox"/>			
9.	Baisy mungu	23621394	0725922915		<input checked="" type="checkbox"/>	Chairperson		<input checked="" type="checkbox"/>			
10.	STEPHEN KARIUKI	21155555	0725272984	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			
11.	GODFREY Mwangi	33832561	0795104496	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			
12.	MONICA MUKAMU	32930464	0103315196		<input checked="" type="checkbox"/>	Community		<input checked="" type="checkbox"/>			
13.	Chuskie Mumbi	22273500	0721914462	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			
14.	JULIUS WAIKONA	3243671	0790851515	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			
15.	Eunice Nibura	6243297	0700190031		<input checked="" type="checkbox"/>	Community		<input checked="" type="checkbox"/>			
16.	LUCY KIKAKA	2013376	0724393459		<input checked="" type="checkbox"/>	Community		<input checked="" type="checkbox"/>			
17.	Lucy Ngungu	042207037	0777427601		<input checked="" type="checkbox"/>	Community		<input checked="" type="checkbox"/>			
18.	Kenneth Githonga	31495076	0710764445	<input checked="" type="checkbox"/>		Community		<input checked="" type="checkbox"/>			

Community

Embu County Climate Change Action Plans Participatory Meeting Attendance List

County Embu

Sub County \_\_\_\_\_

Ward \_\_\_\_\_

Date 23/05/2023- 24/05/2023

S/NO	Name	ID NO.	Mobile NO	Gender		Category and/ (Chairman, Sec, People Living with Disability etc.)	Age (Trick)			SIGN				
				Male(M)	Female(F)		YES	NO	18-35 Yrs	35- 60Yrs	Above 60	DAY 1	DAY 2	
1.	<del>NYATI PRINCE</del>	7057357			Male(M)									
2.	NILCHASIO OJIEGI	7284925	0712137912		Male(M)		C				✓			
3.	FRASIA-N. MROGO	07208421	0113694479			Female(F)		C			✓			
4.	Silvester Mwachia Mwa	34783946	076657182		Male(M)		C				✓			
5.	Jane Kiyegya	1096670	0720250269			Female(F)		C				✓		
6.	PERIKSON MTHIGAHI	34209269	0791427631		Male(M)		C				✓			

S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDs)	AGE ('TICK')			SIGN	
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2
91.	John Njeru	25848322	0726577411	Male		Committee					
92.	Evans Njiru	33540861	0700824411	Male		Committee					
93.	ROSE WANGARI	22980914	0707213966		Female						
94.	FAITH JUIA IROKI	33965410	0712351848		Female	Committee					
95.	CHARIS KARUKU	25786928	0726159666	Male		Committee					
96.	ANITA NDIRA	10728739	0716644444		Female	CONVERT					
97.	Patrick Njiru	21204832	0713482564		Female	PLWD					
98.	<del>George</del>										
99.	Paul Mwangi	13461240	07244444								
100.	Polycarp Mwachangi	37985506	0797333191			Community					
101.	Joseph Gichungo	22259114	0721141202			Community					
102.	James Mwangi	22024860	0722960659			Community					



S/NO	NAME	ID NUMBER	MOBILE NO	GENDER		Category and /or position (Chairperson, Sec, PLWDS)	AGE (Tick)			SIGN		
				MALE	FEMALE		18-35 Yrs	35-60 Yrs	Above 60 Yrs	DAY 1	DAY 2	
7.	JOSES KIKIYA MUNCHOYI	11258849	3721889449	<input checked="" type="checkbox"/>		TRADER		<input checked="" type="checkbox"/>				
8.	JANTUS NIMUJIA	11025078	0710364936	<input checked="" type="checkbox"/>		SECRETARY		<input checked="" type="checkbox"/>				
9.	MIAKEL KAMU	2747486	0722222159	<input checked="" type="checkbox"/>		METROKOLORY KARDS ADMIN BUKALOBE		<input checked="" type="checkbox"/>				
10.	JAMES N. NSOKA	20884913	0707834050	<input checked="" type="checkbox"/>		MRA ADMIN WESTIS.		<input checked="" type="checkbox"/>				
11.	GODFREY NOKI	9284073	0724582096	<input checked="" type="checkbox"/>		MRA ADMIN Kogon Guild		<input checked="" type="checkbox"/>				
12.	Ngathu Njua	10729187	070498615	<input checked="" type="checkbox"/>		MRA ADMIN Njua's Group		<input checked="" type="checkbox"/>				
13.	Nicholas Kuryika	1811258	0722894967	<input checked="" type="checkbox"/>		MRA ADMIN Advocates		<input checked="" type="checkbox"/>				
14.	ALBERU											
15.	CHARLES N. NSOKA	2394498	07261161	<input checked="" type="checkbox"/>		M.A. OFFICER (MRA)		<input checked="" type="checkbox"/>				
16.	MICHAEL M. NYONGA	11022964	072332318	<input checked="" type="checkbox"/>		MRA ADMIN		<input checked="" type="checkbox"/>				
17.	JANEET LEKESI	25184676	0724220370		<input checked="" type="checkbox"/>	TRADER		<input checked="" type="checkbox"/>				
18.	SERENA MUYOBU	27671778	0724705609		<input checked="" type="checkbox"/>	TRADER		<input checked="" type="checkbox"/>				

Appendix 2: Minutes of the Embu County PCRA validation workshop, held at Embu County Headquarters, Kangaru Hall, between 23<sup>rd</sup> and 24<sup>th</sup> May 2023.

**MINUTES OF THE EMBU COUNTY CLIMATE CHANGE MULTISTAKEHOLDERS WORKSHOP HELD AT THE KANGARU UPPER TANA HALL ON 23<sup>RD</sup> AND 24<sup>TH</sup> MAY 2023**

**Members Present** (*List attached*)

**AGENDA OF THE WORKSHOP**

**Day 1.**

1. Call to order
2. Setting of Workshop Rules
3. Objectives of the meeting
4. Introductions
5. Remarks by the chief officer department of Environment, Climate Change & Natural Resources
6. Training session 1 on Policies governing FLLOCA
7. Training session 2 on Embu county key climate hazards analysis
8. Tea break
9. Presentation on changes in climate and weather patterns over the years from meteorology department
10. Information technology and Indigenous knowledge with intelligence (ITIKI) Weather & Climate presentation
11. Remarks by the CECM department of Environment, climate change and natural resources
12. Reading of the Embu county governor's speech and official opening of the workshop
13. Group work division and allocation
14. Group work discussions
15. Announcements and closing of the meeting

**Day 2.**

- 1. Recap of Day 1 Activities**
- 2. Group work wards climate action plans presentation on the women, youth and vulnerable**
- 3. Tea break**
- 4. Presentation by Karlo on seed multiplication**
- 5. Presentation by Karlo on plant biotechnology**
- 6. Group work presentation on the wards Agriculture action plans**
- 7. Group work presentation on the water sector ward action plans**
- 8. Lunch break**
- 9. Group work presentation on forestry, environment and energy wards climate action plans**
- 10. Group work presentation on wards trade, tourism and infrastructure climate action plans**
- 11. Announcements and closing of the meeting**

**DAY I MINUTES ON 23<sup>RD</sup> MAY 2023**

**MIN 1/01: Call to order**

The meeting was facilitated by the Embu county department of Environment and climate change under the FLLOCA project and it involved stakeholders at the national, county and ward levels. The meeting started at 9:35 am and Mr. Patrick Nyaga a sub county environment officer from the department of Climate change called the meeting to order. The opening prayers were done by Mr. Augustine Njeru a community member.

**MIN 2/01: Setting of Workshop Rules**

The members and stakeholders present in the workshop agreed on some ground rules to govern the meeting conduct and enable maximum input which included members putting their phones on silent mode, avoiding unnecessary movements and respecting every person's opinion in the meeting discussions.

**MIN 3/01: Objectives of the meeting**

A brief overview and introduction of the objective of the meeting remarks was done by the Embu county director of climate change madam Mercy Mongo. The members were made aware of the FLLOCA climate change project and the Participatory climate risk assessment process that had been conducted in all the 20 wards of Embu County. The members were also informed that the purpose of the meeting was to have their contributions and any additions or amendments to the wards climate action plans.

**MIN 4/01: Introductions**

The members present from the 20 wards climate change committees and other stakeholders present in the workshop introduced themselves. The list copies of the members in attendance will be attached in this minutes report.

**MIN 5/01: Remarks by the chief officer department of Environment, Climate Change & Natural Resources**

The chief officer of the Embu county department of Environment, Climate Change & Natural Resources addressed the members present in the workshop and emphasized on the importance of the FLLOCA project with the overview of the climate friendly projects to be funded under this project.

**MIN 6/01: Training session 1 on Policies governing FLLOCA**

This training session was handled by Madam Mercy Mongo the director of the climate change department Embu County. The members were defined to terms like weather, climate and climate change. The Members were also enlightened on the national and the sub national levels of climate policies that exist. Some of the national level climate policies include; national climate change response strategy, climate finance policy 2018, climate change Act 2016 and the national climate change action plan. The climate change fund was noted as a sub national level climate policy that has been established in the counties in Kenya.

It was mentioned that the Embu county climate change priority action plans were categorized mainly into sectors of Environment & Forestry, climate smart agriculture, water, climate proofing infrastructure & disaster risk management, clean & renewable energy and projects of the vulnerable and marginalized groups.

Members were made aware that the FLLOCA project implementation was in 3 levels i.e. National level, county level and community level. It was also noted that the grants levels were in 2 type's i.e. the county climate institutional support grant and the county climate resilience investment grant.

The members were also enlightened on the criteria for stakeholder's selection in the ward climate change action plans, the overview of the wards PCRA reports and the action plans formulation. This first training session ended at 11.00 am.

#### **MIN 7/01: Training session 2 on Embu county key climate hazards analysis**

This training session was handled by Mr. Patrick Nyaga the sub county environment officer from the department of environment and climate change. It was mentioned that Embu County has 2 distinct ecological zones i.e. the cold & wet upper zones and the hot & dry lower zones. The hazards were put into 2 categories; climatic hazards and non-climatic hazards. The climatic hazards include drought, flash floods, whirl winds, floods, human wildlife conflicts & deforestation and the non-climatic hazards e.g. poverty, poor governance, poor agriculture practices etc.

#### **MIN 8/01: Tea break**

The meeting took a break for members to take tea and refreshments at 11:35 Am.

#### **MIN 9/01: Presentation on changes in climate and weather patterns over the years from meteorology department**

The meeting resumed from tea break at 12:15 pm and this presentation on the monthly rainfall climatology history changes over the years experienced in Embu County was done by Mr. Migwi Kamau from department of meteorology Embu town station. It was noted from the presentation that the climate change effects have caused the distribution, onset and cessation of rainfall within the county to vary significantly

#### **MIN 10/01: Information technology and Indigenous knowledge with intelligence (ITIKI) Weather & Climate presentation**

This presentation was done by Mr. Peter Ngoci the ITIKI project country manager. Members were informed that ITIKI uses the traditional knowledge to observe and predict weather and climate patterns with the following categories; animal behavior, insects behavior, trees behavior, human behavior, astronomical behavior, plants behavior, birds behavior and beliefs.

#### **MIN 11/01 Remarks by the CECM department of Environment, climate change and natural resources**

The CECM department of Environment, climate change and natural resources in Embu county government Madam Florence Ndinda Musyoka addressed the members present and emphasized on the importance of tree planting in every ward and environment conservation to improve the water flow from the natural forests water sources.

#### **MIN 12/01 Reading of the Embu county governor's speech and official opening of the workshop**

The CECM department of trade and tourism Embu county government Mr. Jamal Runyenje gave the apologies of the absence of H.E Governor Cecily Mbarire and read her speech on her behalf declaring the workshop officially opened.

#### **MIN 13/01: Group work division and allocation**

The director of climate change department madam Mercy Mongo assigned 5 groups to go into group discussions in the afternoon session after the lunch break to discuss the various action plans in the 20 wards in Embu County. The 5 groups were categorized into the following sectors;

- Water

- Environment, forestry & Energy
- Agriculture & livestock
- Women-youth & PLWD'S
- Infrastructure, trade, tourism and disaster management

#### **MIN 14/01: Lunch Break**

The meeting to a break for attendees to take lunch refreshments at 1:30 Pm and the prayers for breaking for lunch were led by Mr. Ethan Kinyua the ward administrator Kirimari ward.

#### **MIN 15/01: Group work discussions**

At 2.00 pm to 5.00 pm members present went to the groups allocated for intensive discussions of the ward actions plans with the aim of making amendments, contributions, rectifications and additions in order to have the final action plans for the 20 wards of Embu County.

#### **MIN 16/01: Announcements and closing of the meeting**

The chief officer Mr. Nicholas Kunga department of Environment, climate change and natural resources made announcements of the following days meeting time from 9.00 am whereby the secretaries to the 5 groups would each make a presentation of the group work findings. There being no A.O.B's the meeting ended at 5.00 pm.

### **DAY 2 MEETING MINUTES**

#### **MIN 1/02: Recap of Day 1 Activities**

The meeting started at 9:30 Am and was called to order by the director of climate change department Madam Mercy Mongo. Mr. Joseph Muriithi a community member led the opening prayers.

#### **MIN 2/02: Group work wards climate action plans presentation on the women, youth and vulnerable**

- This was the first group to present was the discussions collected from the previous day group work and the presentation was done Mr. Moses Muriithi.

##### **Plenaries from the marginalized, women and youths climate action plan**

1. In Kyeni south ward it was noted that provision of energy saving jikos to women and people living with disabilities had been left out and should be included in their climate action plan.
2. It was suggested that an apiary aggregation center construction in a central place that would serve all the 20 wards would be effective to help the youths with bee keeping, harvesting and value addition knowledge and skills.
3. It was noted that recycling of second generation bottles and diapers would be a viable project to be included in the youths and marginalized group's climate action plan as a mechanism strategy to improve effective solid waste management systems in Embu county wards while providing a source of income for them.
4. Madam Fiata Marigu director of Ewasco Kyeni south noted that women in this ward can be supported with trainings for making wool carpets and bead baskets that they can sell and make an income.

5. It was suggested that women in Kyeni south can also be supported with koko gas for cooking
6. Mr. Ambrose Nyaga from Kirimari ward proposed the inclusion of constructing a fish aggregation center in Kirimari ward to provide a common central market for fish farmers across all the 20 wards of Embu County.
7. It was suggested by Mr. Wanyoike from Mwea ward that the youths, women and PLWD'S should be supported with business management trainings in order to ensure the sustainability and effective management of the climate action plan projects for this sector group.
8. Mr. Gichovi Njuki a ward climate committee member from kagaari south representing the PLWD'S mentioned that he is a successful sweet potato farmer reaping a good income from it and proposed that the PLWD'S across the 20 wards in Embu county should be supported with sweet potato farming project since the market for them is readily available

**Successful projects noted that have been done by some of the stakeholders present in the workshop**

1. Mr. Elijah Kamau the project manager of I.C.E Kenya highlighted that they did a successful project for supporting youths in Kiambu County whereby youths were trained on strawberry farming and were provided with a yoghurt cooling machine to add value to milk by making strawberry yoghurt from the strawberries they were farming and selling the yoghurt in the local market.  
In Murang'a county I.C.E Kenya supported youth with liners for fish ponds to support them in fish farming project and a vegetable growing project whereby the youths made an income by selling the fish and vegetables produce.  
I.C.E Kenya also provided dairy cows and goats to Plwd's in Murang'a and Kiambu counties.
2. Madam Winnie Muriithi from Aspan Kenya N.G.O mentioned that their organization had successfully recruited and trained youths in Embu County on producing and harvesting avocados for export standards and youths earned an income from the project. The Aspan N.G.O also is supporting youths with promotion of herbs planting that will be sold and used in extracting oils. The herbs they are concentrating on are lemon grass, rosemary and geranium
3. Mr. John a stakeholder from GIZ proposed that he can be able to offer trainings to youths on energy saving jikos making
4. Mr. Joses k. Mugambi a stake holder from TARDA mentioned that they can train youth groups in Embu county on honey production in order to increase the honey supply to Kiambere honey processing factory.

**MIN 3/02: Tea break**

The members went for a tea break at 10:50 am

**MIN 4/02: Presentation by Karlo on seed multiplication**

The members resumed from the tea break at 11:25 am to listen to a presentation from Karlo which was done by Dr. Susan Wanderi. Karlo is an important stakeholder that can assist in the ward climate smart agriculture action plans.

The Karlo Embu office is involved with seed multiplication and production of certified seeds e.g. improved maize hybrids, bean varieties, cassava varieties that can be value added to produce cassava flour and crisps, sweet potato varieties and varieties of Irish potatoes.

They also produce fodder for livestock e.g. Napier grass, Bungoma sweet potato variety for fodder, bracharia, yellow maize and Luciana. The office has tree seedlings nurseries for avocado, macadamia, mango and passion that they sell to farmers at reduced prices.

The members present were informed that Karlo contracts farmers who are involved in multiplying seeds for them after being trained and these farmers earn an income from seed multiplication farming.

**MIN 5/02: Presentation by Karlo on plant biotechnology**

This presentation was done by Dr. Irene Njagi from Karlo Embu office. The members were informed that the biotechnology tools used by Karlo are; tissue culture, marker assisted selection and genetic modification in crops like coffee, bananas, pineapple, cassava etc.

**MIN 6/02: Group work presentation on the wards Agriculture action plans**

This presentation was done by Mr. Benson from Gaturi north ward who was also representing farm Africa stakeholders.

**Plenaries from the wards agriculture action plans**

The Embu county Kirimari requested to be supplied with coffee seedlings to farmers in their Agriculture action plan.

The Mbeti south ward made additions to their agriculture action plan which include; Extraction of Alternative traditional medicine production from herbs at Kianjiru hill, bee keeping project, Muguka value addition, fruit trees like avocado value addition and establishment of a fish aggregation center at Rwika market.

The Kagaari south ward requested the provision of dairy cows as an addition to their agriculture action plan.

The members present requested to have provision for soil testing services and advisory services by Karlo across all the wards in Embu County in order to improve their farming techniques.

**MIN 7/02: Group work presentation on the water sector ward action plans**

This presentation was done by Mr. Nichodemus Musyoka the Mwea ward administrator.

**Plenaries from the wards water sector action plans**

It was proposed to have construction of water kiosks on the lower zones of wards in Mbeere North and Mbeere South sub counties whereby community members can access clean water at reduced prices.

**MIN 8/02: Lunch break**

The meeting took a break for the members to take lunch refreshments at 2:45 pm. The prayers for lunch break were led by Mr. Jamal Runyenje the CECM of trade & tourism department in Embu County.

### **MIN 9/02: Group work presentation on forestry, environment and energy wards climate action plans**

This presentation was done by Mr. Simon Wambua the chairman of Njukiiri CFA

#### **Plenaries from the wards forestry, environment and energy climate action plans**

It was proposed that afforestation programs in forests across the wards in Embu County should incorporate planting of more fruit trees to create food for the wild animals therefore minimizing the human wildlife conflicts when animals break into community farms damaging planted crops.

Mr. Taratisio ireri who is a bamboo farmer emphasized to the members present on the need to have projects of planting saddle wood in their farms in the 20 wards of Embu County.

It was noted that in Ruguru-ngandori ward one of the schools i.e. Kiriari day secondary school that had been proposed to be supplied with a biogas system already has a bio digester.

### **MIN 10/02: Group work presentation on wards trade, tourism and infrastructure climate action plans**

This was the last group to present from the 5 groups that had been formed the previous day and the presentation was done by Madam Catherine Njiru a community member from Mbeti south ward.

#### **Plenaries from the wards trade, tourism and infrastructure climate action plans**

Mr. Simon Wambua the chairman of Njukiiri CFA proposed on the need to have intensive marketing and creation of awareness of the camp ndunda falls which is a big tourist attraction in Embu County.

It was proposed that there should be construction of sanitation facilities near the water fetching sources for community members in the lower zones of wards in Mbeere north and Mbeere south sub-counties to curb the poor sanitation experienced in this places and contamination of the water sources by human wastes.

Construction of a fish processing facility was proposed to serve fish farmers across the 20 wards Establishment of camp sites for tourist's attraction and rock water catchment to provide water for community was proposed at Kianjiru hill.

The mbeti north ward proposed the opening of access to the Embu airstrip for school children to be going for educative trips there.

In Kyeni south ward it was noted that there are caves that can be tapped and used as tourists attraction sites in Embu County.

Maranga hills was suggested as a tourist attraction site since it has caves and wild animals

Establishment of recreation parks with trees planted across the 20 wards was proposed

It was also proposed that there should be establishment of access roads to Kirimiri forest to enable tourist's attraction



**MIN 12/02: Announcements and closing of the meeting**

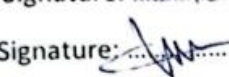
The members present who belonged to registered groups were requested to register their contacts with Tarda organization so that they would be supplied with seeds to plant. There being no any A.O.Bs the meeting ended at 3:50 pm with closing prayers by Madam Mercy Mongo the director of Embu county climate change department.

Minutes confirmed by: -

Chairperson: James Gathura

Signature:  Date: 24/5/23

Secretary: Nicholas Kunga

Signature:  Date: 24/5/23

**Appendix 3: Photos of Community members Mapping Climate Hazards**



Break away sessions of the PCRA facilitators training in Kitui



Director Agriculture making presentations at Kitui workshop



Facilitating a training session in Mwea ward



Group photo of the community and facilitators at Nthawa ward

Appendix 4: Summary extracts of priority climate actions identified by the stakeholders in the various wards of Embu County

a) Kithimu Ward Summary Proposed projects

<b>KITHIMU</b>	Project	Area of Coverage	Amount KES – (Estimated)
	Milk Processing Plant (for value addition)	Entire ward	500
	Bamboo Processing ✓ Sensitization ✓ Community nurseries ✓ Training of groups	Entire ward	20
	Fish Farming ✓ Construct fish pods, procure fingerings ✓ Solve cases of malnutrition,;L ✓ Alternative protein food source,	500 households in Kithimu Ward @200,000 per fish pond	20
	Greenhouse Farming ✓ Installation/construction ✓ Training of farmers ✓ Water tanks for irrigation water	200 households across Kithimu Ward (Smart farming, roof water harvesting) @KES 200,000 per greenhouse	20
	Biogas Digesters	200 households in Kithimu Ward	3
	Slaughter House (with associated economic activities such as leather tanning and use of horns and hoofs – button making)	Entire ward	10
	Revamping Coffee Factories (3 factories) [Coffee improvement (3 No.); Coffee farming extension; Coffee nurseries; Revive Coffee Co-op Society; Modernize the old coffee equipment; Solarize energy supply (or use sludge to produce biogas); Compost coffee sludge to Bio-solid fertilizer (manure)]	Entire ward	100
	Dam for irrigation	Ndatu	100
	Completion of Kithimu Irrigation Scheme	Entire ward	50
	Solar powered Boreholes (5 No.)	Entire ward	5
	Extension of piped water for domestic use	Entire ward	5
	Climate proofed roads and other Infrastructure	Kivue-Kithimu-Ena Road	500
		Kithimu-Kimangaru Road	132
		Kithimu-Karurina Road	165
		1 Kindu bridge – Kirubu)	10
		Kamuthatha-Ndatu road	5
		Completion of Kithimu Cereals Store	10
		Brick making, Energy saving plant	10
	Greening all Kithimu markets, schools and health facilities; tree nurseries; solar panels;	Entire ward	10

	sensitization on preservation of environment		
	Installation of solar panels in homes	Kithimu Ward (800 vulnerable households) @ 30,000 per HH	10
	Construction of soil conservation structures (gabions, Fanya Juu and Fanya Jini, and Planting of bamboo to prevent further gully erosion)	Entire ward	5
	Roof water harvesting in 1000HH		20
	Upgrade of kithimu kithegi water project		100
	Expansion of Kiruki kiende irrigation water		80
	Storm water drainage in Kithimu kithegi and Ndatu		20
	Plastic shredder for youth		5
	Toothpick processing machine		10
	Matchbox making machine		10
	Dairy and Goat meat value chain promotion		20
	Environment climate information hub and centre		3
	<b>TOTAL</b>		<b>1958</b>

**b) Evurore Ward Summary proposed projects report**

<b>EVURORE</b>	Project	Area of Coverage	Amount KES – (Estimated, Millions)
	Solar Powered Mango Processing Unit (Construction, Installation of Solar Panels and Machinery and Equipment) and Capacity Building	Kanyuambora	50
	Goats breeds improvement project for marginalised and vulnerable households (plwhiv, pwd, fhh )-Galla goats purchase and distribution	Iriaitune Kamarandi location Ndurumori location	60
	Pasture and fodder establishment and conservation in 5 locations	Kiang'ombe location Muringari location Nguthi location Kanyuambora Ishiara location	10
	Bee keeping component- purchase and distribution of improved log hives (youths and other marginalized categories) and establishment of a fully equipped mini honey refinery center.	Iriaitune location Kamarandi location Ndurumori location Ishiara location	10
	Fish farming enhancement for special groups (youth, women ,plwd) capacity building, liners fingerlings and feeds) provisions	Identified members existing irrigation groups (Kathiga Gaceru, Kiambindu, Kangai, Kamarandi, Mlachaki, Genesis	40
	Promotion of high value vegetables and crops and	Targeted women groups in 8 locations (HHs representatives)	5

	kitchen gardens for the marginalized households (capacity building and inputs provision)		
	Construction and equipping of cereal aggregation centers for collective marketing initiative at locational level (to reduce on post-harvest losses of locally produced crops)	At the 8 location centers	80
	Excavation of new earth dams and installation on of solar pumping and piping system	Ngoce sub-location-Matendera dam Iriatune sub location-Gekarira dam Kiangombe location-Gachuriri dam	45
	Desilting and rehabilitation of existing earth dams and installation of solar pumping and piping system	Ciikori earth dam Karumba earth dam	6
	Capacity building and provision of inputs for tree nursery establishment and management to self-help groups, irrigation CBOs and CFA's	Kiang'ombe CFA-Ibutuka CBO Kamarandi CBO Kiambindu CBO Kangai CBO other SHG (green belt movement for youth, Kianthenge SHG, rainbow SHG among others)	16
	Agro-forestry and woodlot establishment at house hold level (capacity building and distribution of tree seedlings (Mukau-Melia Volkensii)	Targeted households in the 8 locations	50
	Clean energy adoption ( training and financial support to local fabricators/artisans) for mass energy jikos fabrication and distribution	All 8 locations (1 group per location)	5
	Sand harvesting control ( check dams construction, river bank protection and capacity building)	3 licensed sand harvesting groups (Marivwe, Mururii and Kieramba)	9
	Climate information services enhancement –participatory scenario planning at ward level and county level for the two seasons (OND and MAM)	Entire ward	1
	Construction of drifts/bridges	Kyangi bridge in Kanyuambora location Muringari drift in Muringari location	8
<b>Total</b>			<b>395</b>

**c) Mbeti North Summary proposed projects**

MBETI NORTH	Project	Area of Coverage	Amount KES – (Estimated, Millions)
-------------	---------	------------------	------------------------------------

	Establishment of solar powered boreholes	Ithata – Kimangaru Kambo Mwanwagiti Njumbiri	100
	Completion of Itabua-Muthatari Irrigation Project	Itabua location 1000 households	350
	Upgrading of Kamiu-Kavanga Irrigation project	Kamiu location 300-600HH	100
	Upgrading of Kiaga Irrigation water project	Gatituri Sub-location 400-1000hh	100
	Installation of Biogas	100HH in the larger Mbeti North	40
	Installation of green houses	500HH in the larger Mbeti North	50
	Greening programs	All 9 primary schools, 8 secondary schools, TVET and CBOs	30
	Installation of a sewerage system	Kamiu-Majimbo	100
	Plastic waste recycling machine	Kagonga area	300
	Water harvesting tanks (3000ltrs) 1000hh annually	Entire ward	30
	Poultry keeping Dairy goat rearing	Entire ward	2
	Climate information service	Entire ward	1
TOTAL			1203

d) Makima Ward Summary proposed projects

MAKIMA WARD	Area of Coverage	Amount KES – (Estimated, Millions)
	Solarization and upgrading of boreholes	3.5 3 3.5 4.5
	Masinga dam-ndune hills water project	70 50
	Upgrading of Kanyonga footbridge	20
	Drift construction	10.5
	Establishment of community nurseries	5
	Mukau and Muvesi promotion	2
	Masinga -spillway-Mbondoni- kitoloni- mbonzuki rd	18
	Cultivation of drought resistant crops	2
	Procurement of KTBH	1.5
	Livestock value chain promotion	5
	Green gram threshing machine	3
	Construction of sanddams	30

	Distribution of water from Mbondoni Nthunthiruro,Kamwea,and Kwa nduta boreholes	40
	Clean energy promotion	30
	Riparian Land rehabilitation	
	Hills rehabilitation	20
	Sunflower value chain promotion Through UWEZO CBO Target 1000hh with Apiary establishment	20
	Green Gram value chain promotion	20
	Dairy goats value chain promotion	20
	Pasture bulking and aggregation	10
	Construction of drifts and culverts	
	Soil conservation measures..building gabions and Embarkments	
	Establish a Disaster Response team at Masinga Dam	10
	TOTAL	401.5



Appendix 5: Minutes of one of the meetings held in the Wards during the PCRA process.

**MINUTES OF THE KITHIMU WARD PCRA TRAINING HELD ON THE 19 TH AND  
20 TH APRIL 2023 AT FULL  
GOSPEL CHURCH HALL KITHIIMU**

**MIN/01/2023 PRAYERS AND INTRODUCTIONS**

The Meeting began with a Word of prayer followed by brief introduction of the participants and the sub

locations they come from. The Kithimu Ward Climate Change Planning committee was fully represented

with all members present.

It is noteworthy that all the representatives of the Committee were present representing the youth,

men, women, people who are abled differently and the religious bodies in the ward. The Chair of the

committee is a youth a notable feat that points to a great interest of Youth in climate change matters.

**MIN/02/2023 OPENING REMARKS**

The ward Administrator and the Local chief had mobilized key opinion leaders from all the five sub

locations of kithimu which was commended by Director mercy who gave the opening speech.

The area MCA Hon. Julius karuri alias Kithimu-1 joined the meeting and officially opened the session.

The MCA was impressed by The PCRA process which was participatory, inclusive and transparent. He

Thanked the World bank and the County of Embu for involving the community in the process of identifying climate action to mitigate the impacts of Climate change. This was a good boost to the PCRA

process as it showed lots of political goodwill from the MCA who promised to lobby his colleagues in the

County assembly to pass the any legislation on climate matters to ameliorate climate change impacts.

**MIN/03/2023 FLLoCA OVERVIEW**

Director Mercy of the CCU took the participants through common terms that are used in Climate change

matters and asked participants to give the names in Kiembu as they understood them which showed

that they understood climate change matters.

Director mercy also took the participants through the Stakeholder Analysis and institutional analysis

with the participants identifying stakeholders and their role in kithimu. She also explained the interplay

of Influence and Interest among stakeholders.

The University of Embu – a major institutional stakeholder in Embu-were represented by Dr. Nyambane

who was aiding the facilitators of the day.

**MIN 04/2023 PCRA TRAINING OBJECTIVES AND TOOLS USED**

The PCRA tools Objective included: To equip participants with knowledge on Participatory Vulnerability and Capacity

assessment skills and to equip participants with practical skills on undertaking PCRA

We used various tools to get information from the community members such as:

-The resource/hazard map for the ward.

-Seasonal calendar, daily clock and household decision making pile

-historical timeline

-Identification of key hazard, Hazard analysis/vulnerability matrix, Impact chains, adaptation pathway

and came up with community projects thereafter which formed the Kithimu ward climate action plan.

The rainfall pattern is bi-modal with two distinct rain seasons. Long rains occur between March and June

while the short rains fall between October and December. Rainfall quantity received varies with altitude

averaging to about 1,067.5 mm annually and ranging from 640 mm in some areas to as high as 1,495

mm per annum. Temperatures range from a minimum of 12oC in July to a maximum of 30oC in March

with a mean average of 21oC. July is usually the coldest month with an average monthly temperature of

15oC while September is the warmest month with an average monthly temperature rising to 27.1oC

#### HAZARD/ RESOUCE MAP for KITHIMU WARD.

The objective of drawing a hazard map in the PCRA process was to become familiar with the community

and to see how the place is perceived by different groups within the community. The community members first drew key resources after they were in agreement and having understood the role of the

map in highlighting the hazards affecting the different areas in the ward

#### OBJECTIVES.

- To become familiar with the community and to see how the ward is perceived by different groups within the community

- To identify important livelihood resources in and around the community

- To initiate the identification of hazards affecting the community (both climate-related and other)

- Understand neighborhood and threats

- To identify important livelihood resources in and around the community

#### Historical Timeline:

#### Seasonal Calendar

#### Objectives;

- To analyze seasonal changes in activities and periods of stress or scarcity

- To identify important livelihood activities

- To document community observations of changing trends in seasonal patterns

Daily clock

Objectives

- To illustrate the inequality in workloads within the household and how this can undermine resilience and affect the ability to implement the adaptation options,
- To show the value of women’s work.
- To understand how daily tasks and the division of responsibilities shift when a climate-related shock occurs.
- To identify key resilience initiatives that can be undertaken during free time and how to reduce some burdens from the burdened category.

It can be deduced that men and women have various roles and this may change if the household is headed by a woman mostly single mothers and widows. The men wake up later than the women but have a late breakfast though they break early. Women are busier than men in household activities.

Household Decision Making Pile Sorting

Objective.

- To explore who in the household has the authority to make important decisions
- To discuss how decision-making could be more equal as a means to increase resilience

Identification of Key hazards

Impact Chains

Objective -To analyse direct and indirect impacts of climate change in Kithimu ward as a basis for

identifying options for adaptation an whilst Referring back to the hazard/resource map drawn e Vulnerability Matrix

Objectives

- To identify the highest-priority livelihood assets and hazards
- To analyse the degree of impact of hazards and changes on priority livelihood assets

Venn Diagram

Objectives

- To understand which institutions are most important to communities
- To assess access to services and availability of social safety nets
- Understand gaps that exist in implementation of resilience projects

**MIN/05/2023 VOTES OF THANKS AND CLOSING REMARKS**

The ward Administrator took over the program and requested one member to give votes of thanks and prayed. The meeting was adjourned at 17.00hours.

Minutes confirmed by: -

Chairperson: Edward Muriithi Signature:  Date: 19/4/23

Secretary: Wilfred Patrick Signature:  Date: 19<sup>th</sup>/4/23

Appendix 6 Selected Ward Attendance List Disaggregated Into Youth, Gender, PLWD and Vulnerable Groups

PCRA Consultative Meeting Attendance Form  
 County EMBU  
 Sub County MWANG'ATHA  
 Ward KITHICU  
 Date 17th 90th APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/no)		Age			SIGN
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	
1.	Dickson Kinuthi, Gatou	37610472	0759379461	Male				✓			DAV1 DAV2
2.	WENDA N'ANITA NIAKI	33004174	0705044646		✓				✓		DAV1 DAV2
3.	JOSEPH FUNDI NJIRU	25092296	07225163519	✓					✓		DAV1 DAV2
4.	GLADYS NYAKIO IBERI	10670879	0729434633		✓					✓	DAV1 DAV2
5.	Joseph Muthi Mwanui	22661664	070324815	✓					✓		DAV1 DAV2
6.	JOSEPH NTRIKU KURINDANANI	02366668	07222351117	✓						✓	DAV1 DAV2
7.	Njiru Wanne Wanjira	39079641	0792604213		✓				✓		DAV1 DAV2
8.	David E. Livingston	20122312	02926344169	✓					✓		DAV1 DAV2
9.	DAVID NSUE	25999181	07267146791		✓					✓	DAV1 DAV2
10.	STELLA N. KINYUA	28705865	0786359555		✓					✓	DAV1 DAV2
11.	RENIN MUKANGI	243397998	0719054440	✓					✓		DAV1 DAV2
12.	JOSEPH MUTIGI NJICKA	30440756	0114400767	✓					✓		DAV1 DAV2
13.	MARY NDIKIU IRENI	7034729	0714645700		✓					✓	DAV1 DAV2
14.	Githogo Ny Gaki	41264750	0714488943		✓					✓	DAV1 DAV2
15.	N. MUGO NKARUGUTI	5091628	07256899045	✓						✓	DAV1 DAV2
16.	KENNEDY MURITHI N	30680646	0702365314	✓						✓	DAV1 DAV2
17.	MWAGA Julius KIMBATHI	54212921	0712646939	✓						✓	DAV1 DAV2

PCRA Consultative Meeting Attendance Form

- County EMBU
- Sub County MWANJATHA
- Ward KITHIRU
- Date 17<sup>th</sup> 20<sup>th</sup> APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/ no)		Age			SIGN	
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	DAY1	DAY2
18	PAUL NYALGA	28788362	0711760335	✓								DAV1 DAV2
19	Grace Igandu Ngigi	21090462	0714110942		✓							Grace Gwendy
20	Paul Nyaga	28788362	071760335	✓				✓				Paul Dawn
21	Caroline Njeki Godegode	27436809	0712053932		✓							Judy Dawn
22	JANE WATHIKI NJIRI	13263672	0713268301		✓				✓			JAN JAN
23	Dorcy Mwangi	24059988	075898911		✓							Dorcy Gwendy
24	Susan Mwangi	3849352	011402133		✓							Susan Gwendy
25	KEVIN MURIMI	33616324	0705319354	✓					✓			DAV1 DAV2
26	RUBY KAWUDA MURU	22348260	0725225820		✓					✓		ALICE RUBY
27	ANNA NYHOKI NZISA	41795877	0793466775		✓							ANNE ANNE
28	DEBORA HANDELA KURGA	2450052	0226120292		✓							DEBORA ANNE
29	DICKSON KANGA	16025052	0722227741	✓						✓		DICKSON ANNE
30	Joyce Kwasina Nyiri	26132709	0710577410		✓							Joyce ANNE
31	ALICE FUNBI	33724411	0711928181	✓						✓		ALICE ANNE
32	ANONY MURUKI NYIRI	28420233	0762558844	✓						✓		ANONY ANNE
33	JAN KIRICHAKIRIA MURHILE	31291721	0702365030	✓						✓		JAN ANNE
34	ALI KATHAN MUKANGI	519466746	0799867092	✓						✓		ALI ANNE

PCRA Consultative Meeting Attendance Form

- County EMBU
- Sub County MATTA
- Ward KITHIMU
- Date 19<sup>TH</sup> 20<sup>TH</sup> APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/no)		Age			SIGN		
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	DAY1	DAY2	
36	Emmanuel Njugambi	25323702	0722306976	Male				<input checked="" type="checkbox"/>				DAY1	DAY2
36	Gidget Gari	41624196	015462215		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
37	Juliet Muthoni	33148663	0714228420		<input checked="" type="checkbox"/>								
38	Xilitel P.m. Nyaga	13329650	0757699219	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				
34	LUCY WAKARA NBBRU	29044776	0727104902		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
40	JOHN NDERITU	26430019	0769309484	<input checked="" type="checkbox"/>									
41	EMILY ADITHANI	12880433	0733663302	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

PCRA Consultative Meeting Attendance Form

- County ENTEBE
- Sub County RUMWENZE
- Ward RUMWENZE CENTRAL
- Date 12<sup>TH</sup> 11<sup>TH</sup> APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/ no)		Age			SIGN		
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	DAY1	DAY2	
1	TUMBI GENOYA NUBANKI	25430188	0795555937	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
2	ELIJAH NYENKI. N.	24639707	0727000222	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
3	Stella Madina Nd. Oiga	26260160	0712607488		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
4	Doris N. KAMU	13672213	0221713715	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
5	ERIC MAMENGE NITERI	36709256	0759830519	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
6	STONEN KAMUKA	11090692	0710830141	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
7	JOSEPH MURIKI	22218485	0723364819	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
8	HENRY MURUKI MURUKI	21873256	0727519444	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
9	IBERI SINDOK KIROUKI	22076603	0721693379	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
10	EMILA MUTHANI	11211642	0721666983		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
11	Saadhane Kirasa Karamu	26705216	0760820619		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
12	TULLET KAVINI KIRAKIRI	13572470	0720547169		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
13	Carliakhorcia Numbi	23801838	0721171085		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
14	CONSOLATA MARIANU	3305964	0704866078	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
15	BATHIE MWENDA NITERI	27817509	0704866078	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2
16	Kosin Nurenge	34281404	0727041935	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			DAVI	DAY2

PCRA Consultative Meeting Attendance Form

- County EMBU
- Sub County ROHTENYES
- Ward BUKENTIS CENTRAL
- Date 13<sup>th</sup> - 14<sup>th</sup> MARCH APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/ no)		Age			SIGN	
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	DAY1	DAY2
17	LAMECK MURITHI NYAGA	20527123	0769058926	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
18	Josiah Nyaga Ngendo	11211150	0710676710	<input checked="" type="checkbox"/>							<i>[Signature]</i>	<i>[Signature]</i>
19	CAROLINE IRERI	24726544	0712306499		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
20	Miriam Juma KINYUA	2464682	0226053246	<input checked="" type="checkbox"/>							<i>[Signature]</i>	<i>[Signature]</i>
21	Marei Muthoni NIEBU	10058005	0714217737		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
22	SANI WAMBUKU NIAH	11810901	0758311728		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
23	NANCY KAMBURA	13571508	0715454047	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<i>[Signature]</i>	<i>[Signature]</i>
24	John Nyaga Iyeri	7678402	0720128512	<input checked="" type="checkbox"/>							<i>[Signature]</i>	<i>[Signature]</i>
25	CECIL RUCAMBA	21663053	020114639		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
26	ELIJAH NAMU	20652980	0715542050	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
27	Emilio Mhogo W	80660126	0722100048	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
28	ERIC MUTHURI K	25115729	0760295564	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
29	OSCARITA RUDAMBA	3034460	0725660842		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
30	Marta Nyeri	21698397	0726374193	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
31	LUCY WANJA NHAGA	20619076	0787003720		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>
32	WILFRIED P.M NYAGA	13339650	0752699319	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>[Signature]</i>	<i>[Signature]</i>





PCRA Consultative Meeting Attendance Form

- County ENGBU
- Sub County MOSEBE NORTH
- Ward ENURORRE
- Date 17<sup>th</sup> 19<sup>th</sup> April 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/ no)		Age			SIGN	
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	DAY1	DAY2
1	HEERI NELSON MUGAMBI	28211555	0717732912	✓				✓				
2	NTAKI JACKLINE WIRWIRA	29883219	0790199220		✓			✓				
3	EUSTACE MITEMBEI NYAGA	22122180	0708469238	✓				✓				
4	NORMAN NDURU NJSUE	4401471	0715807504	✓				✓				
5	Pauline MATHIASA WAGBI	13249688	0728706594		✓			✓				
6	JOHNPAUL KITHINJI	28524153	0704576332		✓			✓				
7	Maama Wanjani Nyoe	25593554	0724915889		✓			✓				
8	Ningred Muthoni Njagi	22932231	0725639442		✓			✓				
9	John Nyada Njiru	10222207	0728714704	✓				✓				
10	Benjamin Mugo Njuki	132633219	0719492232		✓			✓				
11	AUSILIA MUKAMU NYRU	291415880	0728066752		✓			✓				
12	LOGYNE MABURE NYIKA	13234064	0720530033		✓			✓				
13	Pharusa NLOKE NJIWE	32642551	0292333742		✓			✓				
14	LVYNGNE MBURA NJIWA	138540640	0724530033		✓			✓				
15	SOPHAT NYAGA MABARA	7035999	0791192026	✓				✓				
16	Benjamin Nyaga Njiru	22522461	0111924824	✓				✓				

PCRA Consultative Meeting Attendance Form

- County ENGBU
- Sub County MBERERE No. 214
- Ward ENYURU
- Date 17<sup>th</sup>-18<sup>th</sup> APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/no)		Age			SIGN	
				Male	Female	Yes	No	18-35Yrs	35-60 Yrs	Above 60Yrs	DAY1	DAY2
17	ELIJAH UJAE NYAGA CBE	0797424	0719459862	✓		✓					DAY1	DAY2
18	Josabet Kinyatho Kingi	23422130	0724876940	✓							DAY1	DAY2
19	ISAAC KABUKI NYERU	11156930	0724465039	✓				✓			DAY1	DAY2
20	BENJAMIN MUIU KISUKU	13265419	0719492832								DAY1	DAY2
21	IBERI NELSON MUGEMBA	20211555	08215550113914	✓							DAY1	DAY2
22	JUDITH KAGENDO NDAI	23419830	0721439431		✓						DAY1	DAY2
23	Margaret Mwanuzi Muthanga	2011203	070268845		✓						DAY1	DAY2
24	Florence Koini Imani	22561060	0728955160		✓						DAY1	DAY2
25	NSHAKI JACKLINE WAWIKA	29883219	0790199220		✓						DAY1	DAY2
26	TRICIA G. NYAGA	10461160	0719669965		✓						DAY1	DAY2
27	Winfred Meker Nyagi	22952231	073593942		✓						DAY1	DAY2
28	Veronica W Nyanga	0987654	0708034295		✓						DAY1	DAY2
29	JOSPH NUYOGAL	29872461	0742570579	✓							DAY1	DAY2
30	Kennedy Muthi Nyaga	2910178	0743832473	✓							DAY1	DAY2
31	NFTALI NYAGA GITENGA	28249842	0706055106	✓				✓			DAY1	DAY2
32	Amds Nyaga Mburu	24979357	0706106651	✓				✓			DAY1	DAY2

PCRA Consultative Meeting Attendance Form

- County EMBU
- Sub County MGEKE NORTH
- Ward EVUADARU
- Date 17<sup>th</sup> - 18<sup>th</sup> APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/ no)		Age			SIGN		
				Male	Female	Yes	No	18-35yrs	35-60yrs	Above 60yrs	DAY1	DAY2	
<del>33</del>	<del>Diphtha MURITHI</del>	<del>32489509</del>	<del>071605695</del>	Male	<input checked="" type="checkbox"/>	Yes	No	<input checked="" type="checkbox"/>				DAY1	DAY2
33	DIPHHA MURITHI	32489509	071605695	Male	<input checked="" type="checkbox"/>	Yes	No	<input checked="" type="checkbox"/>				DAY1	DAY2
34	JAMES K. NJIRO	2029412	0727834050	<input checked="" type="checkbox"/>									



PCRA Consultative Meeting Attendance Form

- County MT ERBA
- Sub County MAHARTIA
- Ward Wabantu
- Date 13<sup>th</sup> 14<sup>th</sup> APRIL 2023

S/No	Name	ID	Mobile number	Gender		People living with disability (yes/ no)		Age			SIGN		
				Male	Female	Yes	No	18-35yrs	35-60yrs	Above 60yrs	DAY1	DAY2	
1	CHARUKE MURUGI NDAGA	29494617	0102033697		✓		✓					DAY1	DAY2
2	Evelyn Murygi kariuki	31027202	0704116544		✓							DAY1	DAY2
3	Shakya Abdul Kamaha	31762212	0746221634	✓								DAY1	DAY2
4	BETHI KARIMI KARUKI	22435417	0717062692		✓							DAY1	DAY2
5	SILVIA IMANTAGI	39031595	0114678958		✓							DAY1	DAY2
6	Jacqueline Nyaga	9523887	070663123	✓								DAY1	DAY2
7	Joyce Mariya Muringa	35287943	0701689386		✓							DAY1	DAY2
8	Ameyu Abdol Karim	20042319	0715413859		✓							DAY1	DAY2
9	IBRIS MUGABIRI	31944738	0791459968	✓								DAY1	DAY2
10	Jan Mweritu	26420019	0269301484	✓								DAY1	DAY2
11	Jestine King'wa	318226868	07221342542		✓							DAY1	DAY2
12	Josephine Njoki Kuria	111822714	0723308932		✓							DAY1	DAY2
13	Patricia Mwangi	13449086	0881631418		✓							DAY1	DAY2
14	Takuma Duma	6660615	0923813576		✓							DAY1	DAY2
15	Ahst PATRIK MUKANDI	0424598	0736929485	✓								DAY1	DAY2
16	Wilson Njiru Kariuki	0395894	0722444550	✓								DAY1	DAY2



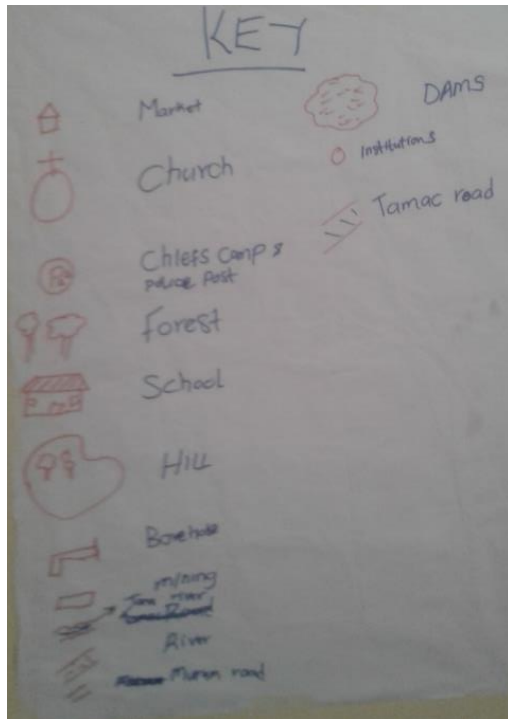
# KEY

- BAT COMPANY
- Location Boundary
- Quarry
- Church
- Primary & secondary school
- Dry area
- Miraa zone
- Police post
- Hospital
- Hills
- Market
- Sub county head quarters
- Water tanks (Matinjili)
- Road Class B tarmac
- Road class D - murrum
- River (ena)
- Three seasonal river
- Safarian Boos
- Irrigation sprinkler
- Spring source









Kiambere Resource Map in Mbeere North subcounty



Kyeni North Ward in Runyenjes sub county