COUNTY GOVERNMENT OF MERU

MERU COUNTY CLIMATE CHANGE ACTION PLAN (MCCAP) 2023 - 2027

May, 2023

A United, Prosperous, Green and Happy County

FOREWARD

This Meru County Climate Change Action Plan (MCCCAP) Integrates environmental concerns into the County's policies, plans, programs, and projects in line with the provisions of the Environmental Management and Coordination Act (EMCA, 1999) and other environmental frameworks. This plan addresses environmental issues from various sectors in an integrated manner at the county level and their significance in developing planning. It proposes Interventions for achieving sustainable development in line with the County's quest to meet the Sustainable Development Goals (SDGs), Vision 2030, Meru County Vision 2040 and the County integrated Development Plan (CIDP). Its implementation will be monitored through the Annual State of the Environment (SoE) reporting. Moreover, climate change issues have been, underscored in the global agenda as it affects all spheres of human activity. Our commitment is to ensure Environmental management is critical, hence the need for the MCCCAP to be mirrored in the county development plans such as CIDP and sectoral plans. The process for the production of this Action plan was participatory, involving community engagement at the Ward level, various stakeholders from institutions and sectors, including the public, private, and local communities at the county level. These consultative meetings provided the basis for inputting, critique and Validation of Participatory risk Assessment (PCRA) and MCCCAP. Therefore, the purpose of this Action plan is to provide harmony in the prioritization and implementation of Environmental interventions at the County level for sustainable development as envisaged in Vision 2030, Meru County Vision 2040 and the Constitution of Kenya 2010. The participatory approach adopted, enhanced Environmental awareness among various stakeholders including the legal fraternity, Ministry of Interior and Coordination of National Government, institutions of learning and community-based organizations (CBOs), underpinning their relevance in sustainable development. Since Economic growth and Environment are closely intertwined in Meru and by extension Kenya, I look forward to all institutions (public and private), civil society and the public to be engaged in the implementation of this Action plan in order to achieve sustainable development. In this regard, also the Environmental Management and Coordination Act No.8 of 1999 provides for the formulation of Environmental Action Plans every five years.

H.E. HON. KAWIRA MWANGAZA
GOVERNOR - MERU COUNTY

PREFACE

With great profound sense of responsibility, we present this Meru County Climate Change Action Plan (CCAP),2023 -2027. The world is at a critical juncture where the consequences of our actions today will shape the future generations to come. Human activities continue to pose an unprecedented danger to our ecosystem. This Meru County Climate Change Action Plan has come up as a result of extensive consultations and collaboration among key stakeholders and policy makers in Meru County. It serves as a roadmap to address the challenges posed by climate change and outlines a set of strategies and initiatives to mitigate its impacts, adapt changes and build a sustainable resilient future. Our planet earth is experiencing adverse effects linked to climate change due to rising temperatures, extreme weather events, sea level rise, loss of biodiversity and disruptions of the ecosystem among the alarming trends being witnessed. There's need for urgency to act now. The goals outlined in this Action Plan are ambitious and very essential for safeguarding our planet and securing a prosperous future, that by adopting clean and renewable energy sources, transitioning to a low carbon economy, promoting sustainable land use practices, and fostering technological advancements, we can create a more sustainable and equitable world. By embracing this Action Plan, we will not only mitigate the worst impacts of climate change but also seize new opportunities for economic growth, job creation and improved quality of life. We owe it to the future generations in confronting the climate crisis head-on. By implementing the strategies in this Action Plan, we can make a difference, preserve our planets natural beauty and leave behind a legacy of hope, resilience and prosperity. Let this Action Plan be a rallying cry for help for action, a blueprint for change and a testament to our collective commitment to protect our planet and secure a sustainable future for all. Together we can make a great impact and ensure a thriving world to generations to come. I look forward to all institutions (public and private), civil society and the general public to be engaged in the implementation of this plan in order to achieve sustainable development in the county.

Eng. JACKSON MUTHAMA MUNORU
CECM – DEPARTMENT OF WATER, IRRIGATION ENVIRONMENT,
NATURAL RESOURCES AND CLIMATE CHANGE

ACKNOWLEDGEMENT

The successful development and execution of this Meru County Climate Change Action Plan document would not have been possible without the contributions and support of numerous individuals and organizations. We would like to extend our deepest gratitude and appreciation to the following;

- National climate Change Coordination unit: The technical support by National Project Coordination Unit (NPCU) and partners for their financial support provided. This Action Plan benefited immensely from the support and guidance of Financing Locally-Led Climate Action (FLLoCA) programme, a grant by the National Treasury and Planning. It made the required processes possible and easy to deliver.
- The management team led by our Governor H E Bishop Kawira Mwangaza for their unwavering support and encouragement. Their vision and commitment have been crucial in its success.
- The stakeholders who provided valuable insights, guidance, and feedback throughout the planning process. Your input and expertise were very instrumental in shaping the Meru County Climate Change Action Plan.
- Departmental team: Led by our CECM Mr. Jackson Muthamia for providing the policy lead, The Director - Mr. Angelo Gitonga for steering the technical team. Our dedicated climate change unit team members worked tirelessly to develop and refine this Action Plan document and ensured it follows the laid down guidelines and procedures. The information and data provided by the departments of Agriculture, Livestock and Fisheries, department of Water and irrigation, Department of Physical Planning, the department of Public Health and the department of Finance and Planning played a vital role in the creation of this Action Plan and is greatly appreciated.
- External partners: we are grateful for the opportunity to work together. For their support and collaboration for their contributions, resources and expertise have greatly enriched this Action Plan. The Pan Africa Climate Justice Alliance (PACJA), National Environmental Management Authority (NEMA), the Meru Meteorological Station, the National Drought Management Authority (NDMA) Meru office, The Kenya Wildlife Service, Kenya Forest Service, Water Resources Authority, civil societies among other stakeholders and lead agencies formed the basis of this Action Plan and the participation of the various representatives is highly appreciated. We commend their work and invaluable contributions
- Experts: thank you for generously sharing your knowledge and expertise. For the quality and effectiveness of this plan
- Community: Last but not least we thank our community members for your engagement, feedback and commitment in achieving the programmes objectives are invaluable.

I acknowledge the efforts made by all persons who contributed directly or indirectly to the preparation of this Action Plan and in particular, we apologize if we have inadvertently missed anyone who deserves acknowledgement. Please accept our sincere gratitude for your support and involvement. I urge the policy makers, all institutions, experts and individuals from various sectors to make good use of this very fundamental document.

GEORGE KIMATHI KOBIA
CHIEF OFFICER - DEPARTMENT OF WATER, IRRIGATION ENVIRONMENT,
NATURAL RESOURCES AND CLIMATE CHANGE

CCCAP TASK FORCE

1. Karen Karimi
2. Jance Kageni Mwiti
3. Scholastica Musyimi
4. Stanley N. Kiunga
5. Jane W. Murithi
6. Solomon Gitari
7. LUsala Cyrila
8. Ruth Kawira
9. Selina Kithinji
10. Eryjoy Ntiritu
11. Zeddy Mwenda
12. Nelly Gatwiri
13. Washington Kirika
14. Ann Kihoro
15. Justin Murithi
16. Frankline Koome
17. Hunyu Murithi
18. Bundi Magiri
19 Dunstan Mishek
20. Purity Nkatha
21. Kimathi J. Ngari
22. Evelyn Nkirote
23. Njeru Njoka
24. Guantai Mutwiri
25. Joseph G. Wamiti
26. Rita Murungi
27. Misheck Thirari
28. Peter M. Nguru
29. Keeru Murugi
30. Ann Gacheri
31. Peter M. Gatobu
32. Betty Muthoni
33. Gerald Kinyua
34. Mary Kimaita
35. Doreen N. Ikiara
36. Geoffrey Kimathi
37. Joyce Wambugu
37. Osman A. Ahmed
38. Josphat Kirimi
39. Angelo K. Gitonga
40. Joshua Gitonga
41. Kagwiria Joyce
42. Phylis N. Mutungi
43. Timothy Kaaria
44. Isaiah Mungathia
45. Florence Gakii

TABLE OF CONTENTS

CONTENTS

LIST OF TABLES

ACRONYMS

ADR	Alternative Dispute Resolution
ASALs	Arid and Semi-Arid Lands
AU	African Union
CCCAP	County Climate Change Action Plan
CIDP	County Integrated Development Plan
CSO	Civil Society Organization
CSP	County Spatial Plan
DRR	Disaster Risks Reduction
EAC	East African Community
EDE	Ending Drought Emergencies
EMCA	Environmental Management and Coordination Act
FAO	Food and Agricultural Organization
FiT	Feed-in Tariff
FLLoCA	Financing Locally-Led Climate Action
GHG	Green House Gases
MCCCAP	Meru County Climate Change Action Plan
MCCCAP	Meru County Climate Change Action Plan
MRV	Measurement, Reporting & Verification
MTP	Medium Term Plans
NCCAP	National Climate Change Committee
NCCRS	National Climate Change Response Strategy
NDC	Nationally Determined Contribution
RPS	Renewable Portfolio Standards
SDG	Sustainable Development Goals
UNCCD	United Nation Convection to Combat Desertification
UNFCC	United Framework on Climate Change
VMGs	Vulnerable, Marginalized Groups

DEFINITION OF TERMS

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

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, and other gases are measured in units called "carbon dioxide equivalents."

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. 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. The word "conference" is not used here in the sense of "meeting", but rather of "association".

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.

Greenhouse gases - The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N20). Less prevalent but very 7 powerful greenhouse gases are hydro fluorocarbons (HFCs), per fluorocarbons (PFCs) and sulphur hexafluoride (SF6).

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's 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 and other "sinks" 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.

REDD+ - Reducing Emissions from Deforestation and Forest Degradation plus the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. REDD+ is a mechanism under the UNFCCC designed to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands.

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 8 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

EXECUTIVE SUMMARY

This Meru County Climate Change Action Plan (MCCCAP) 2023-2027 is the first 5-year countywide sectoral Plan to guide Meru County climate change actions in the reduction of greenhouse gas emissions, built on the participatory climate Risk assessment report across the 45-wards done on May 2023. This Action Plan sets out initiatives that foster movement towards the achievement of Kenya's Nationally Determined Contribution (NDC), under the Paris Agreement as our strategic objectives aiming at (i) greenhouse gas emission reductions of 30% by 2030; (ii) mainstreaming of climate change adaptation into the Government's planning processes (iii) implementation of adaptation actions (v) To strengthen Climate change governance; (vi) To Promote Public awareness and Civic Education; (vii) Promoting Research, Technology and innovation; Climate Financing and (vi) Knowledge management and Access to information in the following thematic areas; (i) Disaster risk management (Floods and drought management); (ii) Food and nutrition security; (iii) Water and the blue economy; (iv) Forestry, wildlife and tourism; (v) Health, sanitation and human settlements; (vi) Manufacturing; and (vii) Energy and Transport. The main goal of the document is (i) providing mechanisms and measures to achieve low carbon climate resilient development; and (ii) enhance the climate resilience of vulnerable groups. To actualize the priority areas and achieve set objectives, this plan will be guided by the following principles; a) Common but differentiated responsibilities and respective capabilities; b) Right to a clean and healthy environment; c) Right to sustainable development; d) Partnership; e) Cooperative; f) Equity and social inclusion; g) intra-generational equity; h) Special needs; i) Avoiding maladaptation; j) Integrity and transparency; and k) Cost effectiveness

The plan is aligned and linked to the Kenya Vision 2030, Meru Vision 2040, the African agenda 2063, the Sustainable Development Goals, Paris Agreement on Climate Change, 2015, EAC Vision 2050, ICPD25 Kenya Commitments; and Sendai Framework for Disaster Risk Reduction 2015 – 2030. The county envisions '*An Inclusive, Prosperous Model County*' delivered through *promotion of sustainable development, technological innovations and industrialization through the guidance of principles including consensus, efficiency, effectiveness, participation, accountability, rule of law, responsiveness and transparency.*

CHAPTER ONE

1.O BACKGROUND AND CONTEXT

1.1 Introduction and Background

Meru County Climate Change Action Plan (MCCCAP) 2023-2027 is the first 5-year countywide sectoral Plan to guide Meru County climate change actions in the reduction of greenhouse gas emissions, built on the participatory climate Risk assessment report across the 47-wards done this May 2023. This Plan sets out initiatives that foster movement towards the achievement of Kenya's Nationally Determined Contribution (NDC), under the Paris Agreement, aiming at (i) greenhouse gas emission reductions of 30% by 2030; (ii) mainstreaming of climate change adaptation into the Government's planning processes; and (iii) implementation of adaptation actions. Main goal of the document is (i) providing mechanisms and measures to achieve low carbon climate resilient development; and (ii) enhancing the climate resilience of vulnerable groups. The thematic areas to be addressed by this action plan will be;(i) Disaster risk management (Floods and drought management); (ii) Food and nutrition security; (iii) Water and the blue economy; (iv) Forestry, wildlife and tourism; (v) Health, sanitation and human settlements; (vi) Manufacturing; and (vii) Energy and Transport. Therefore, the main Strategic objectives of the Action Plan for each thematic area are to (i) To promote low carbon resilience development; (ii) To Mainstreaming climate Change into county development plans; (iii) To strengthen Climate change governance; (iv) To Promote Public awareness and Civic Education; (v) Promoting Research, Technology and innovation; Climate Financing and (vi) Knowledge management and Access to information.

Meru County climate just like the general climate of Kenya, has over time been experiencing changes in frequency, intensity, spatial extent, duration and timing of extreme weather and climate events. In recent past, evidence of higher frequency and intensity of droughts and floods has been noted in Meru causing immense suffering for some of the county residents. 9 The country's drought cycles have been reduced from 20 years (1964-1984), to 12 years (1984-1996), to two years (2004-2006), to a yearly occurrence of drought recorded in the period between 2007 and 2012 (Republic of Kenya, 2016). In Meru, all the wards in and bordering the Northern grazing zone (Buuri, Tigania East and West, Igembe North and Central) and the Eastern side of Imenti South and Central (Kiagu, Mitunguu, Abogeta East and Igoji East) have frequently been hit by extreme droughts.

1.2 Purpose and process of the CCCAP

MCCAP is a five-year action plan which will be broken down into Annual investment plans to be funded by the FLLoCA program and any other potential organizations. The plan seeks to further County government of Meru development goals by providing mechanisms and measures to achieve low carbon climate resilient development, in a manner that prioritizes adaptation, and recognizes the essence of enhancing the climate resilience of vulnerable groups, including children, women, youth, persons with disabilities, the elderly, and marginalized and minority communities. It also seeks to meet the aspirations of Meu Community by: Aligning climate change actions in the county with the Government's development agenda, including vision 2040; Encourage participation of the private sector, civil society, and vulnerable groups within society, including children, women, older members of society, persons with disabilities, youth, and members of minority or marginalized communities, Provide the framework to deliver the county government of Meru Climate Resilience Actions for 2023-2027 period; and Provide a framework for mainstreaming climate change into sector functions at the County level

To achieve climate change actions that simultaneously advance economic and sustainable development objectives, MCCCAP 2023-2027 is guided by the following eight (8) principles:

1. Devolving decision making to the lowest appropriate level – through Consultation and cooperation
2. Addressing structural inequalities faced by women, youth, children, disabled and displaced people, Indigenous Peoples, and marginalized ethnic groups - through equity and social inclusion.
3. Investing in local capabilities to leave an institutional legacy– implementing actions through consultation and cooperation between the National and County Governments, and in consultation and cooperation with civil society and the private sector; and
4. Building a robust understanding of climate risk and uncertainty – responding to actual adaptation and mitigation needs in Meru County through taking of measures that reduce the adverse effects of climate change and preventing or minimizing the causes of climate change.
5. Collaborative action and investment.
6. Ensuring transparency and accountability
7. Flexible programming and learning
8. Providing patient and predictable funding that can be accessed more easily.

Step 1: Review of Key Documents - The Technical Working group convened for a day to review the relevant documents which included: - County Integrated Development Plan, the National Climate Change

Action Plan, the County Climate Information Services Plan, the County Spatial Plan, and other sectoral plans in the county and nationally. Another critical document which was reviewed was the PCRA report. After the review the technical working group appointed a leaner team of 10 members to compile the report.

Step 2: Collecting Public Input - The technical working group took advantage of the organized workshop to collect the relevant input from the stakeholders. The workshop had representation from the 45 wards which provided opportunity to actively review and respond to the findings of the county climate risk analysis (and other relevant documents) by validating the broad thematic priority areas and suggesting concrete actions/investment.

Step 3: Drafting the County Climate Change Action Plan - The directorate of Environment and Climate Change led the development of Meru County Climate Change Action Plan (MCCCAP) 2023-2027, through a leaner taskforce 0f 10 people appointed from the Technical Working Group. The taskforce comprised of experts from various county department which included Department of Environment, Agriculture, water, Economic planning& Finance, Meteorological department, Energy &Transport, Health, and Administration. The technical working group lead the document reviews, stakeholders' consultations to ensure that MCCCAP 2023-2027 reflected the inputs and priorities of all stakeholders from the 45 wards.

Step 4: Validation Workshop for the CCCAP - This process was undertaken by technical working group, expert with stake in environment and climate issues (direct or indirectly), county green champions and VMGs through a workshop organized in one of the Hotel in Makuta no trading centre, Meru County on 26th May 2023.

Step 5: Public Feedback - During the same day of validation workshop participant were divided into Ten group, with a semi structured questionnaire so as to give their inputs, enrich or critique on hazards and proposed interventions, identified during community engagement at the ward level. After group work the group secretary presented their views which was included in the final documents and gave it a clean bill of health, as a true reflection of climate change hazards/risks in Meru County, that need quick fix.

Step 6: Development of Second (or Final) Draft of CCCAP- Finalization was done after validation workshop and feedback from the stakeholders by selected technical working group for Two days.

Step 7: Presentation of the CCCAP to the County Executive Committee - After development of final Draft CCCAP the report was presented to the County Executive Committee on 29th May 2023 for Approval

Step 8: Presentation of the CCCAP to the County Assembly - After County Executive Committee Approval of the CCCAP, the document was taken to county assembly the same day and received by the clerk of the assembly for further interrogation by the house through the respective house committee on Environment.

1.3 Underlying Climate Resilience Context

Approximately 67 percent of the total area of Meru County is classified as arid and semi-arid land (ASAL) with most agricultural and pastoralist activities depending on rain in order to be sustainable. This makes the county more vulnerable to extreme droughts. Climate change has taken its toll in the county, leading to erratic rainfall patterns and a times failed and life-threatening droughts. Erratic rainfall has led to significant reductions in crop and livestock production. This has led to a ripple effect on conflict between pastoralist, wildlife and farmer, which compete with each other for already limited resources. Against this backdrop, poverty rates, Environmental degradation, invasive species, diminishing water sources, insecurity and poor infrastructure have increased in many regions within County.

At the County level, Meru has made considerable progress in order to build resilience by enacting legal instruments such as County Adaptation and Mitigation plan, Meru climate Change policy, 2019, Meru Agroecological policy, 2020 and Meru Climate change Act, 2020 which has established implementation institution structures at the County (Various climate change committee such as steering, planning and ward) and the government has mainstreamed adaptation into County Integrated Development Plan (CIDP) by establishing County Climate Change unit and Fund. These innovative institutions provide the financial and technical assistance that county officials need to propose, prioritize and implement climate resilience actions.

In accelerating adaptation actions and to support vulnerable groups from the worst impacts of climate change, the county has invested in adapting to already present impacts in order to save lives, reduces poverty, addresses underlying inequalities and delivers strong economic returns. Short and long-term recovery investments effort have been geared to boost jobs and economic activity, to have positive impacts on human, social and natural capital; protect biodiversity and ecosystems services; boost resilience; and advance the decarbonization of economies.

1.3.1 Impacts of Climate Hazards in the County

Meru County is highly vulnerable to seasonal variability and long-term climate change. Increasing vulnerability is expected to result in cumulative impacts across the county's social, economic and

environmental systems, with a high likelihood to reverse much of the positive development progress the county has made. Droughts and floods can have devastating consequences on the environment, society and the wider economy. Significant impacts are expected in the county's water resources, agriculture, health, and forestry sectors. Heavy rains, floods, droughts, and soil erosion put both urban and rural infrastructure at risk, particularly for poor and vulnerable groups. Environmental degradation, altered water resources, and loss of biodiversity and ecosystem services constitute serious obstacles to the county's continued development, of particular relevance to the country's tourism sector. In addition, rising temperatures will have a negative impact on key parts of the economy, e.g., forestry, agriculture, and livestock. Changes in precipitation patterns have far-reaching consequences for ecosystems and biodiversity, food production, the water industry and rivers.

Deforestation, watershed degradation, land use changes, urbanization and poor management of settlements have exacerbated the likelihood of and impact from floods and droughts. These conditions contribute to water scarcity and pollution, which limit water for drinking, agriculture, and other uses. Water stress may be further exacerbated as household consumption and agriculture continue to compete for limited supply. Heavy rainfall triggers riverine and flash floods, Flood have caused damage to infrastructure such as roads and bridges, leading to disruption in transportation and communication. Landslides and mudslides are experienced during the long rainy seasons that causes loss of property, life and mudflow. Droughts have led to crop failure and loss of livestock, which are the main sources of livelihood for many people in the county. Infrastructure is poor with impassable roads, poor telecommunication lines, and inaccessible region that hamper the transportation of food either for commercial purpose or domestic consumption. Increased heat strain water resources and impacts from changing rainfall patterns.

1.3.2 County Climate Hazard Map

Meru County faces a numerous of environmental issues, including erratic and diminishing rainfall, deforestation, soil erosion, water catchment destruction, Environmental pollution, from both domestic and industrial, land degradation, loss of biodiversity, degradation of aquatic ecosystems and resources, droughts, floods and landslides and invasive and alien species. Moreover, climate change issues have been, underscored in the global agenda as it affects all spheres of human activity. Our commitment to ensure environmental management is critical, hence the need for the Meu County Climate Action Plan (MCCAP) which will be mirrored in CIDP and County sectoral plan and policies. (**The sub-counties hazard map is annexed)**

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

Destruction of infrastructure during periods of excess rainfalls causes more challenges for the community while accessing essential services like markets, farms and social places. There were indications that climate change has affected livestock rearing and agricultural activities that depend on rain. The cumulative impact of climate change on these sectors include; diminished water and pasture, increased resource conflicts, increased pests and diseases, reduced productivity and production with associated socioeconomic impacts (loss of livelihoods and income and further deprivation). Some households, for instance, lose up to 50 percent of their herds during a drought. Reduced quantities of water in Rivers, streams, springs, Swamps and boreholes affects women more because women bear the responsibility of fetching water for their families and carrying out cleaning chores. As water in the springs and rivers declines during prolonged dry periods, women take more time on queues at water points.

The vulnerability of key groups and likelihoods and likelihood in the county;

i. Farmers

Households that rely mostly on subsistence farming are likely to be more affected by the projected climatic conditions such as erratic and extreme rainfall will negatively affect crops in the farms and timing of farming activities. Farmers especially those on steep slopes suffer more due to increased soil infertility as a result of soil erosion exacerbated by heavy rains and land use changes caused by human activities. A more serious presenting problem will be diminishing water levels, increased incidence of new pests and diseases as a result of increase disease vectors such as mosquitoes for malaria due to imbalances in the ecosystems and human wildlife conflict issues in rangeland and adjacent communities bordering the forested areas.

ii Livestock keepers

Increased temperatures and diminishing rainfall exacerbate drought which in turn may lead to reduced reproduction, growth rate and production returns. Livestock farmers may also suffer reduced productivity due to seasonal reduction in fodder and water for livestock during dry seasons.

iii Vulnerable and marginalized groups

Lands access rights limits women's capacity to invest in land and agricultural enterprises and due to their gender roles, such as responsibility for fetching water for households. Immune compromised and old age

associated health complications hampers ability to cope with climatic hazards and their impacts. Similarly, children are more likely to suffer more due to high incidences of heat stress and vector borne diseases such as malaria and water-based diseases such as amoebiasis, cholera and other diarrheal diseases due to their weak immune system. The people living with disabilities are likely to be adversely affected by climatical hazards due to competition for available dwindling resources such as water scarce scenarios.

iv Small scale Enterprises

Seasonal variability in supplies of agricultural produce affects market price of agricultural produce. Infrastructure destruction during heavy rains affects transportation of goods in areas with poorly maintained roads.

v Wildlife both in protected and free range

with projection of the area facing failed rainfall and in most times cycles of drought, animals in the protected areas and those on free range (Baboons and monkeys) are likely to invade farms more intensely than experienced now in search of water and food.

vi Ecosystem service dependent consumers

Ecosystems are communities of living things, including plants, animals, and microorganisms, that interact with each other and the physical world. Ecosystem services include goods from plants and animals, such as the food and wood provided by trees. They also include parts of the physical world that keep the planet safe and healthy. For example, clean lakes and streams are considered ecosystem services because we use them for drinking water and recreation.

1.4 Brief Overview of Climate Change Actions in the County

Land in Meru County is utilized in diverse ways including; agricultural, residential, educational, public purpose, public utilities, transportation, industrial, recreation and conservation and commercial. However, the major land use in the county is mainly for agricultural activities for both crop farming and livestock-keeping. Agricultural land use is common in all the sub-Counties and is particularly intense in the Imenti sub counties and Buuri while livestock is common in the Tigania and North Igembe sub counties. Other uses include cultural and forestry conservation. There is large scale farming carried out by private companies in Timau, Buuri constituency. Livestock and Miraa farming is also practiced in Tigania and Igembe areas. Coffee, Tea and Macadamia are also major crops produced in Imenti Central and Imenti South sub counties respectively. Other crops grown in the county include Bananas, maize, beans, sorghum, millet, green grams, potatoes, cabbages, carrots and kales among others.

Urban uses are also rapidly emerging in the County with Meru, Maua, Nkubu, Mikinduri, Laare and Timau developing as urban nodes. The urban areas are also being complemented by other centers in the Sub Counties and ward level. Transportation and forestry use constitute other main users in the county.

To address all this Environmental issues, Meru County has made considerable progress in order to build resilience through enactment of legal instruments such as County Adaptation and Mitigation plan, Climate change Act, Meru climate Change Policy and Meru Agroecological policy which has established implementation institution structures at the County (Various climate change committee such as steering, planning and ward) and the government has mainstreamed adaptation into County Integrated Development Plan (CIDP) by establishing County Climate Change unit and Fund. These innovative institutions will provide the financial and technical assistance that county officials need to propose, prioritize and implement climate resilience actions.

1.4.1 Mainstreaming of NCCAP in County Actions

The National climate Change Action Plan (NCCAP) is a document that outlines the county's development priorities and strategies for achieving them, developed through a participatory process that involves stakeholders from various sectors and levels of government. Therefore, being for all levels of government, NCCAP is then integrated into the County Integrated Development Plan (CIDP), which is the main planning document for the county. The NCCAP is mainstreamed into county actions by ensuring that it is aligned with the county's budget, policies, and programs. This ensures that NCCAP is implemented through county actions and that its objective is achieved.

1.4.3 Other key climate actions/strategies in the County

While there is no one-size-fits-all approach to mainstreaming, this document underscores the important role that access to finance, Robust stakeholder engagement, research and use of science and technology in policy decisions and sustainable management of resources, implementation of regularly updated and scientifically informed climate change action plans and capacity building can play in advancing the implementation of climate-resilient, sustainable development initiatives around the County.

CHAPTER TWO
2.0 POLICY ENVIRONMENT

Policy systems and processes are often complex, with varied and different points of entry. People are at the heart of policy-making, whether they are targets, messengers, allies or opponents. Environmental policy is primarily concerned with how to govern the relationship between humans and the natural environment in a mutually beneficial manner.

2.1 National policy Context

Since 2003 the Government of Kenya has demonstrated a renewed commitment to the agricultural and production regions, for example, through the Economic Recovery Strategy launched in 2003, which, for the first time, recognized 'the important contribution the arid and semi-arid areas like Meru to national development. Similarly, the Government of Kenya is committed to putting in place a holistic policy framework that facilitates and fast-tracks sustainable development of such regions, reducing levels of inequality concerning the rest of Kenya and realizing its potential for the benefit of affected counties and the country as a whole.

On top of the ending drought emergencies, Kenya has assented to several international and regional instruments governing diverse aspects of climate change, currently implemented with varying degrees of success. The United Nations Convention to Combat Desertification (UNCCD) promotes sustainable management and utilization of dry-lands while the United Nations Framework Convention on Climate Change (UNFCCC) seeks to address climate change through periodic and successive binding global agreements (presently the Paris Agreement) that detail, among others, adaption measures to respond to both current and future impacts of climate change. Further, the Sustainable Development Goals (SDGs) are a set of development goals that aim at fostering sustainable development across diverse sectors. Of particular interest to Meru County are SDGs 2 (zero hunger) 15 (Life on Land) and 13 (Climate Action).

The National Land Policy (2009) provides for guiding principles that resonate with sustainable land management including, among others, equitable access to land; conservation of ecologically sensitive areas, elimination of gender discrimination in land relations; and encouragement of traditional dispute resolution mechanisms. To secure community rights to land, the Policy mandates the Government to enact legislation which shall inter alia, provide a framework for the recognition and registration of community rights to land and resources found thereon. Pending which, any unregistered community land shall be held in trust by the County governments in trust for the community in question.

With Meru County sharing its border with Isiolo County, the Sendai Framework for Disaster Risk Reduction (2015-2030) seeks a reduction in disaster risk and losses in lives and livelihoods while the African Union (AU) Policy Framework for Pastoralism in Africa aims to secure, protect and improve the lives, livelihoods, and rights of African pastoralists. Closer home, the EAC Climate Change Policy guides Partner States on the preparation and implementation of collective measures to address climate change in the region.

2.1.1 The National Perspective

i. Kenya Vision 2030

The Kenya Vision 2030 recognizes the semi-arid lands as an integral part of the national economy that have specific disadvantages borne out of historical marginalization and which therefore require special attention. It roots for inclusive development and recognizes the contribution of farmers to the national economy. Vision 2030's Second medium-term plan (MTP II) 2013-2017 recognizes that Kenya is susceptible to natural disasters such as drought and flooding which are likely to increase because of climate change. It thus prioritized the management of climate-induced disasters by strengthening people's resilience to drought and improving the monitoring of, and response to emerging drought conditions through the Ending Drought Emergencies (EDE) program.

ii. The National Climate Change Response Strategy (NCCRS), 2010

The National Climate Change Response Strategy (NCCRS, 2010) laid the foundation for strengthening nationwide actions towards climate change adaptation and mitigation of greenhouse gas (GHG) emissions.

iii. National policy for the Sustainable Development of Northern Kenya and Other Arid Lands, 2012

The National Policy for the Sustainable Development of Northern Kenya and Other Arid Lands (2012) seeks to strengthen climate resilience of communities in the ASALs and ensure sustainable livelihoods, recognizes the importance and need to strengthen customary natural resource management, recommends appropriate mechanisms to support mixed farming as a viable livelihood system and eradicate invasive species such as *Lantana camara* & *Prosopis juliflora* (Mathenge) that are increasingly posing a threat to rangelands which are no stranger to the rangelands of Meru County.

iv. National Environment Policy, 2013

The National Environment Policy (2013) aims to a better quality of life for present and future generations (of all Kenyans) through sustainable management and use of the country's environment and natural resources.

Its provisions most relevant to ASALs and rangelands are to be found in several sections such as forest ecosystems (develop and implement a national strategy for rehabilitation and restoration of degraded forest ecosystems and water catchment areas with active community involvement/participation), ASALs (promote integrated natural resource management in ASALs, implement the National Action Plan to combat desertification and revitalize the Desertification Trust Fund and mainstream dryland issues into all national development plans and policies) and land (ensure implementation of the Constitutional and the National Land Policy provisions on land, promote land restoration). Others are biodiversity and wildlife resources (involve community participation in conservation activities) and livestock (develop and implement an environment-friendly livestock production policy that takes cognizance of livestock mobility and communal management of natural resources.

v. National Climate Change Action Plan (2018-2022)

The National Climate Change Action Plan (2018-2022) sets plans for the implementation of the NCCRS, including prioritized actions needed to achieve a low carbon and climate-resilient development.

vi. National Adaptation Plan (2015-2030)

The National Adaptation Plan (2015-2030) aims to integrate climate change into national and county level development planning and budgeting, as well as enhance the resilience of vulnerable populations to climate shocks through adaptation and DRR.

vii. Constitution of Kenya, 2010

The Constitution of Kenya (2010) asserts the aspiration of all Kenyans for a governance based on the essential values of, among others, human rights, equality, and social justice. These aspirations particularly resonate with residents of Meru and other ASAL border counties who have endured socio-economic marginalization. It creates an Equalization Fund to right the wrongs of such marginalization. Most importantly, the Constitution creates a two-tier system of governance where, among others, counties are tasked with the implementation of crop and livestock production, water and sanitation services, disaster management (concurrent function) as well as soil and water conservation; all of which contribute to climate change adaptation.

viii. Climate Change Act, 2016

The Climate Change Act of 2016, provides the regulatory mechanisms to implement climate change resilience and low-carbon actions in both public and private sector development activities and has

enshrined the National Climate Change Action Plan (NCCAP) – to be developed in 5-year cycles and aligned with the MTPs – as its principal implementation instrument. It requires County governments to integrate the provisions of the Act.

ix. Community Land Act, 2016

The Community Land Act, 2016 sets a framework for ownership, protection, management, utilization, rights, benefits sharing, disputes resolutions, and penalties regarding community land. Furthermore, communities have powers to set rules for administration and management of communal land, establish measures to protect critical ecosystems and habitats, and facilitate access, public participation and co-management of resources by communities. The 2011 Environment and Land Court Act 2011 mandates the court to mainstream Alternative Dispute Resolution (ADR) in its proceedings.

x. The Environmental Coordination and Management (EMCA Amendment) Act of 1999 (amended) in 2015

The Environmental Coordination and Management (EMCA Amendment) Act of 1999 (amended in 2015 to incorporate devolution) creates the County Environment Committee comprising, inter alia, representatives of pastoralists within the county in question.

xi. Water Act, 2016

The Water Act, 2016 provides for, inter alia, the regulation, management, and development of water resources and services throughout the country. The Water Services Trust Fund shall provide grants to counties (in addition to the Equalization Fund) to extend water services in marginalized areas or those considered to be underserved or not to be commercially viable. The Wildlife Conservation and Management Act, 2013 calls for devolution of wildlife conservation and management, wherever possible, to landowners where wildlife occurs while recognizing the rights of communities living adjacent to protected areas.

2.2 County Enabling Legal & Policy Framework

i. County Government Act (2012)

The County Government Act (2012) mandates counties to develop a County Integrated Development Plan (CIDP), County Spatial Plan (CSP) as well as Cities and Urban Areas Plan which shall be the basis for county budgeting and expenditures.

ii. Meru vision, 2040

Meru Vision 2040 is a development blueprint launched in 2019 by the Meru County government in Kenya. It is aligned with the Kenya Vision 2030 and seek to improve service delivery, sustained development and prosperity of the people of Meru County. This Blue print is founded on four key pillars; Economic pilar, social pillar, Political pillar and the Enablers pillar. The economic pillar emphasizes on key areas of Agriculture, Industry, Tourism, Mining, Financial services among others that will ensure an overall fast-growing and inclusive economy.

iii. Meru County Climate Change policy, 2019

Meru county enacted climate change Policy, 2019 that seeks to integrate environmental concerns into the county policies, plans, programs and projects in line with provisions of Environmental management and Coordination Act and other Environmental legal framework. In particular the policy addresses environmental issues from various sector in an integrated manner at the county level and their significance in developing planning within the following priority areas: Toward low carbon resilience; mainstreaming Climate change; climate change governance; public awareness and civic education; Research and technology, and knowledge management and access to information. This policy provides a firm basis to address the challenge of climate change while striving to attain the development goals set out in Kenya Vision 2030 and Meru Vision 2040.

iv. Meru County climate Change Act,2020

The Meru County Climate Change Act, 2020 was enacted by the Meru County Government in Kenya. The Act aims to provide a legal framework for the implementation of climate change policies and strategies in Meru County.

v. Meru Climate change Adaptation and Mitigation plan, 2021

Adaptation cannot be an afterthought to development. Instead, by integrating it into policy thinking up front, governments can catalyze robust economic development while also reducing vulnerability to climate change. The Meru County adaptation and Mitigation plan 2021 lays foundation that aims to enhance climate resilience through development, management, implementation, Regulation and monitoring of adaptation and mitigation measures and actions.

vi. Meru County Agro-ecology policy, 2020

There have been an explosive local, national and global interests in search for more sustainable ways of producing food. Agroecology, which is the application of ecological concepts and principles to the design and management of sustainable food systems, has been suggested by the FAO and other organizations as a better alternative to conventional agriculture. Agroecology optimizes and maintains biodiversity above and below ground and views crop fields as an ecosystem in which ecological process take place and tries to understand those integrations with an aim of increasing productivity. It is a farming system focusing not only on production but also on environmental and social sustainability of the agro-ecosystem.

vii. Meru County Integrated Development plan 2023-2027

This is the Third-Generation County Integrated Development Plan, 2023 – 2027 for Meru County. The plan stipulates the County's development plan for the period of Five years, prepared in accordance with the County Government Act 2012, Section 104(1) of the Act, provides that "a county government shall plan for the county and no public funds shall be appropriated without a planning framework developed by the county executive committee and approved by the county assembly" As per Section 107(2) "shall be the basis for all the budgeting and planning in a county". The PFM Act, 2012 inter-alia also lays emphasis on the CIDP as the overall guide in the budget making process.

This plan has been prepared under the theme of Making Meru Happy; as guided by the Governors manifesto; it captures the aspirations of the people of Meru to realization of a great county in the medium term and beyond. The plan is also aligned and linked to the Kenya Vision 2030, Meru Vision 2040, the African agenda 2063, the Sustainable Development Goals, Paris Agreement on Climate Change, 2015, EAC Vision 2050, ICPD25 Kenya Commitments; and Sendai Framework for Disaster Risk Reduction 2015 – 2030. The county envisions '*An Inclusive, Prosperous Model County*' delivered through *promotion of sustainable development, technological innovations and industrialization through the guidance of principles including consensus, efficiency, effectiveness, participation, accountability, rule of law, responsiveness and transparency.*

CHAPTER 3

Priority Climate Change Actions

3.1 Identification of strategic climate action priorities in the PCRA

During Community consultations and multi-stakeholder workshop the major climate risks and hazard identified by stakeholders included erratic and diminishing rainfall, droughts, floods, land, and soil degradation, diminishing water levels, invasive species, Human wildlife conflict and pest and diseases. The climate hazards in the county prioritized at ward level are presented in the view of the current and projected climate outlook. This was followed by identification and prioritization of the climate change actions for the identified climate risks.

Table 1: Summary of hazards identified during PCRA Process

S/No	Risk /Hazard	Priority Climate Change Actions
1	Erratic and diminishing rainfall	• Rain-water harvesting • Construction of water conservation structures such as water pans and • dams • Drilling of boreholes • Improve climate information services and early warning systems. • Agroecological interventions (Farming) • Afforestation • Awareness creation • Early warning systems
2	Floods	• Construction of drainage and other storm water management structures • Construction of water conservation structures (dams) • Agroecological Interventions
3	Land and soil Degradation	• Promotion of tree growing on farms (farm forestry) especially high value • trees to secure buy-in for space in the farms • Afforestation and reforestation • Installing of conservation structures (gabions, terraces, grass striping and • cover cropping) • Climate Smart Agriculture • Agroecological interventions (farming) • Sustainable waste management • Awareness and sensitization • Law enforcement • Promote high value trees. • Control livestock carrying capacity
4	Diminishing water Levels	• Protection, rehabilitation and/or restoration of catchment areas • Installation of rain water harvesting structures

		• Adoption of Water efficient irrigation technologies • Early maturing and drought tolerant varieties and breeds and certified • seeds. • Livelihood diversification such as apiculture and aquaculture • Capacity build the community on modern farming techniques and gardens • practices. • Capacity development in water sector; application of solar energy in water supply and mobilizing resources. • Agroecological interventions
5	Invasive species	• Chemical/Mechanical removal of invasive species • Rehabilitation of the sites with environmentally friendly species • Surveillance and community involvement • Promotion of indigenous tree species • Research on new species (alien species into the ecosystem) and uses of the same. • Sensitize the community on site-marching of trees.
6	Human wildlife Conflict	• Provision of wildlife watering point near migratory corridors • Provision of fencing at wildlife hotspots • Afforestation • Introduction of beehives at wildlife hotspots
7	Pest and diseases	• Strengthening pest and disease surveillance • Promotion of pest resistant varieties and nature-based solutions to pests • Vaccination campaigns and extension services • Universal health care • Integrated pest management • Use of indigenous knowledge on pest and disease control • Research on suitable solution • Agroecological interventions
8	Declining tree cover	• Promote farm forestry. • Reforesting gazetted forest • Strengthening Conservation by local CBOs • Increase extension services. (Environmental and agriculture) • Promotion of conservation-friendly business enterprisesProvision of seedlings • Law enforcement • Reposes wet and forest lands. • Alternative energy, building solutions. • Involve learning institution on conservation. • Develop a reward system for best conservation
9	Industrialization	• Adoption of clean energy • Pollution control • Law enforcement (such as Emissions, EIA)

3.2 Priority Climate Change Actions

3.2.1 Objective of the Action plan

The objectives of this Action plan are to:

i. Establish and maintain an effective and efficient institutional framework to mainstream climate change responses across relevant sectors and into integrated planning, budgeting, decision-making and implementation in the county.

ii. Reduce vulnerability to the impacts of climate change by building adaptive capacity, enhancing climate change resilience and strengthening capacities for disaster risk reduction.

iii. Spur Meru County transition to cleaner, lower emission and less carbon intensive development in accordance with Meru Vision 2040.

iv. Encourage private sector involvement and investment in building climate change resilience and engaging in low carbon development opportunities in the county.

v. Promote countywide public awareness, participation, ownership and oversight of Meru County's climate change response efforts and action plans.

vi. Provide a mechanism to mobilize resources for Meru County's climate change response and ensure effective and transparent utilization of the resources.

vii. Adopt inter-generational, special needs and gender mainstreaming approaches across all aspects of County's climate change response.

viii. Provide the policy framework to facilitate effective implementation of regularly updated and scientifically informed Climate Change Action Plans.

ix. Enhance research and use of science and technology in policy decisions and sustainable management of resources.

3.2.3 Guiding Principles

This implementation plan will be guided by the following principles;

a) **Common but differentiated responsibilities and respective capabilities**

under the UNFCCC (UNFCC, 1994) Kenya has a common but differentiated obligation in the global effort to address climate change because of its negligible historical responsibility for causing global climate change, and its limited capability to mitigate climate change and adapt to its impacts in light of its stage of development. On the same breadth, Meru County is an integral component of Kenya its

development shall have an implication on the overall country emission. Against this backdrop, Meru County shall cause low carbon resilient development.

b) Right to a clean and healthy environment

Under the Constitution of Kenya, 2010 every person has a right to a clean and healthy environment and a duty to safeguard and enhance the environment. c) Right to sustainable development: the right to development will be respected taking into account economic, social and environmental needs. Meru County under Vision 2040 seeks to achieve people-centered development that builds human capabilities, improves people's wellbeing and enhances quality of life.

c) Partnership

Building partnerships, collaboration and synergies among various stakeholders from the public, government, non-governmental organizations, civil society and private sector, as well as vulnerable communities and populations including women and youth, will be prioritized to achieve effective implementation of this Policy.

d) Cooperative government

Embracing a system of consultation, negotiation and consensus building in government administration between and within the County and National governments as encapsulated in the Constitution.

e) Equity and social inclusion

Ensuring a fair and equitable allocation of effort and cost, as well as ploughing back of benefits in the context of the need to address disproportionate vulnerabilities, responsibilities, capabilities, disparities, and inter– and intra-generational equity.

f) Special needs and circumstance

The special needs and circumstances of people and geographic areas that are particularly vulnerable to the adverse effects of climate change will be prioritized. This includes, but is not limited to, vulnerable groups such as women, children, the elderly and persons with disability.

g) Avoiding maladaptation

The climate change response will be conducted in such a way so as to avoid maladaptation, defined by the UNFCCC as any changes in natural or human systems that inadvertently increase vulnerability to climatic stimuli.

h) Integrity and transparency

The mobilization and utilization of financial resources shall be undertaken with integrity and transparency in order to eliminate corruption and achieve optimal results in climate change responses.

i) Cost effectiveness

The selection of climate change interventions will take into account available alternatives in order to identify appropriate choices that provide most benefit to society at least cost.

3.2.2 Implementation Plan Priority Areas

The primary focus of this Action plan is on the nexus between sustainable County development and climate change. Climate change adversely impacts key sectors that are important to the economy and society such as Environment, Water and Forestry; Agriculture, Livestock and Fisheries; Trade; Extractive industries; Energy; Physical Infrastructure; Tourism; and Health. This Action plan therefore, elaborates options that can help to achieve the goal of low carbon climate resilient development in the County as a contribution to the Nationally Determined Contribution (NDC).

i. Towards Low carbon resilient development

This will be achieved through; 1. Mainstreaming low carbon resilient development in county policies and plans and develop and enact laws and policies that protects and conserves the environment. 2. Promoting and encourage effective partnerships in production and utilization of green energy options in the county as well as mitigation and building resilience to climate change and related disasters. 3. Promoting and investing in farm forestry (bamboo, avocado, macadamia, miraa), community forestry, urban forestry, conservation of fragile ecosystems and afforestation to enhance sequestration and increase the carbon sink 4. Promoting dry land forestry for all the arid areas of the county and regulate forest products utilization. 5. Promoting the creation of green jobs by establishing an enabling policy framework for investment, and creating business friendly regulatory environments in key areas such as renewable energy, efficient transport, clean manufacturing and sustainable agriculture. 6. Promoting circular economy and climate-friendly solid and liquid waste management.

ii. Mainstreaming Climate Change

This will involve Mainstreaming of climate change into county planning processes, including County Integrated Development Plans, Annual Development Plans, Performance Contracts, and the short to

medium term budget making process, Ensure that the county planning processes and documents account for climate risk analyses and vulnerability assessments, and identifying opportunities to build climate resilience and achieve low carbon development and Establishment of the institutional framework and build capacity to coordinate and enhance climate change mainstreaming.

iii. Climate Change Governance

The County Government of Meru shall;,(1) Be regularly reviewing subsidiary legislation as may be necessary to support implementation of various interventions through the county climate change legislation, (2) Regular review and amend relevant sectoral laws and policies in order to integrate climate change policy considerations and implement priority actions in respective sectors, (3) Put in place mechanisms for public consultation and participation in climate change governance in the county, (4) Strengthening coordination and capacity for liaison between the county and national government, (8) Ensure that its climate change response is equally beneficial to women, youth, persons living with disability, and men while enhancing gender equality, (5) Undertake systematic vulnerability analysis of its climate change response, through the collection and utilization of gender-disaggregated data, age-vulnerability data and special needs data to develop responsive actions, (6) Ensure that marginalization and vulnerability arising from age and gender disparities as well as disabilities are addressed at all stages of climate change response, (7) Put in place mechanism to ensure and enhance the participation of the youth, women and differently-abled persons in climate change governance and position them to take advantage of emerging opportunities, (8) Ensure that marginalization and vulnerability arising from gender disparities are addressed at all stages of climate change response, (9) 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, (10) Put in place mechanisms to ensure and enhance the participation of the youth in climate change governance and position them to take advantage of opportunities, (11) 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, (12) In collaboration with other stakeholders, enhance gender equality in land ownership, decision making, planning and management of rangeland resources, and (13) In concert with relevant stakeholders and to avoid any backlash from the custodians of culture (predominantly senior male members of the society), progressively deal with retrogressive and harmful cultural practices that perpetuate gender discrimination, in line with the provisions of the Constitution and other enabling statutes.

iv. Public Awareness and Civic Education

The County government shall, 1. Put in place a strategy for identifying, refining and disseminating climate change knowledge to the public in user-friendly formats, 2. Collaboratively work with the national government to mainstream climate change in basic, secondary and tertiary level education curricula, 3. Incorporate climate change knowledge into all public awareness initiatives including civic education, peace building and extension programs, 4. In collaboration with the County Directorate of Civic Education, work with civil society groups to incorporating climate change knowledge into advocacy and public awareness - raising programs, 5. Strengthen the capacity and ensure sufficient resourcing of institutions engaged in climate change public awareness, and 6. Establish climate change desks at the county, sub-county, ward and village levels while also ensuring linkages with the county's complaints and feedback mechanisms including a platform for the same.

v. Research, Technology, Knowledge Management and Access to Information

In this respect, the County Government shall; 1. Encourage stakeholder engagement in research and innovations that respond to mitigation, adaptation and resilience building on matters climate change. 2. Develop a robust county environment and climate change documentation centre with capacity and tools for all stakeholders. 3. Develop a comprehensive communication strategy that takes into account both internal and external stakeholders 4. Facilitate stakeholder fora to share emerging trends, lessons learnt and innovations in the field of climate change

vi. Climate finance/Resource Mobilization

To realize adequate financial resources for matters climate change, the county government shall; (1) Adopt a climate finance strategy and establish an appropriate funding mechanism that enables implementation of priority actions for climate resilience and adaptive capacity and low carbon growth, (2) Explore possible avenues to attract internal and external climate finance from national government and international partners, (3) Adopt and implement sector specific transparency, accountability and integrity mechanisms to safeguard prudent management of climate finance, (4) Promote Public-Private Partnerships in the climate change response, and (5) Put in place a framework for coordination and monitoring and tracking sources, application and impacts of climate finance.

CHAPTER FOUR

4.0 DELIVERY MECHANISMS FOR CLIMATE CHANGE ACTION PLAN (CCAP)

4.1 Enabling Factors

This section will focus on mechanisms that are in place to mitigate climate change globally. The discussion will focus on the plans such as policies, regulations, CIDP, County climate change fund, County government structures etc.

4.1.1 Enabling Policy and Regulation

To enable the implementation of a climate change action plan, various policies and regulations can be put in place. These measures aim to reduce greenhouse gas emissions, promote renewable energy, improve energy efficiency, encourage sustainable practices, and foster international cooperation. Here are some key policies and regulations that can support climate change action:

(i) Carbon Pricing:

Implementing a carbon pricing mechanism, such as a carbon tax or cap-and-trade system, can provide economic incentives for businesses and individuals to reduce their greenhouse gas emissions. It creates a financial cost for carbon pollution and encourages the transition to low-carbon alternatives. Only 40 Countries in the world have carbon trading pricing policies. In Kenya, The International Small Group & Tree Planting Program (TIST), is supporting small groups and farmers in tree growing to respond to global climate challenges.

(ii) Renewable Portfolio Standards (RPS)

Setting renewable portfolio standards requires utilities to obtain a certain percentage of their energy from renewable sources. This policy promotes the development and deployment of renewable energy technologies, such as wind, solar, and geothermal power. Renewable Portfolio Standards (RPS) are policies that require utilities or energy providers to obtain a certain percentage or amount of their electricity from renewable energy sources. These policies are designed to promote the development and deployment of renewable energy technologies and reduce reliance on fossil fuels. RPS policies set specific targets for renewable energy generation. These targets can be defined as a percentage of total electricity generation or as a fixed capacity in megawatts (MW). The targets are often set for specific timeframes, such as 10% by 2025 or 50 MW by 2030. Eligible renewable energy sources may include solar, wind, geothermal, biomass, hydroelectric, and tidal energy. The definitions may also specify the technologies or project sizes that qualify for meeting the RPS targets. RPS policies establish compliance mechanisms to ensure that

utilities meet the required renewable energy targets. These mechanisms may include the purchase of Renewable Energy Certificates (RECs) or Renewable Energy Credits. RECs represent the environmental attributes of renewable energy generation and can be bought and sold separately from the electricity itself. As of my knowledge cutoff in September 2021, Kenya does not have a specific Renewable Portfolio Standards (RPS) policy in place. However, the country has implemented other renewable energy targets and regulatory mechanisms to promote renewable energy development such as:

A) Feed-in Tariff (FiT): Kenya has established a FiT system to incentivize renewable energy projects. The Energy (Feed-in Tariffs for Electricity Generated from Renewable Energy Sources) Regulations, 2012, provide a framework for setting FiT rates for various renewable energy technologies, including wind, solar, small hydro, biomass, and biogas.

B) Renewable Energy Feed-in Tariff Policy: The Renewable Energy Feed-in Tariff Policy, 2019, provides guidelines for the implementation of the FiT system. It sets out the procedures for project applications, tariff determination, power purchase agreements, and other related aspects.

C) Renewable Energy Auctions: The Energy Act of 2019 allows for the introduction of renewable energy auctions to procure electricity from renewable sources. Auctions provide a competitive process for developers to bid for power purchase agreements and help drive down renewable energy prices.

D) Renewable Energy Development and Distribution Contracts: The Energy Act provides for the issuance of renewable energy development and distribution contracts. These contracts support the development of renewable energy projects by providing long-term power purchase agreements and ensuring a stable revenue stream for project developers.

E) National Renewable Energy Policy: Kenya has a National Renewable Energy Policy that aims to promote the development, deployment, and use of renewable energy technologies. The policy sets a target of achieving at least 100% renewable energy generation by 2020, with an emphasis on geothermal, wind, solar, and biomass resources.

F) Geothermal Development Company (GDC) Act: The GDC Act establishes the Geothermal Development Company, which is responsible for the development of geothermal resources in Kenya. Geothermal energy plays a significant role in Kenya's renewable energy mix.

(iii) Energy Efficiency Standards

Establishing energy efficiency standards for appliances, vehicles, buildings, and industrial processes can drive the adoption of energy-efficient technologies. These standards ensure that products and infrastructure meet minimum efficiency requirements, reducing energy consumption and associated emissions.

(iv) Renewable Energy Incentives

Offering financial incentives, such as feed-in tariffs, investment tax credits, or grants, can stimulate private sector investments in renewable energy projects. These incentives make renewable energy more economically viable and accelerate its deployment.

(v) Sustainable Transport Policies

Implementing policies that prioritize public transportation, cycling infrastructure, and walking paths can reduce reliance on fossil fuel-powered vehicles. Measures like fuel efficiency standards, electric vehicle incentives, and investment in charging infrastructure also contribute to decarbonizing the transport sector.

There are various types of sustainable transport policies that can be implemented to promote environmentally friendly and efficient transportation systems.

a) Public Transportation Development: Policies that focus on expanding and improving public transportation systems, such as buses, trams, and trains. This can include increasing the coverage and frequency of services, improving infrastructure, and promoting integrated ticketing and fare systems.
b) Active Transportation Promotion: Policies that encourage walking, cycling, and other forms of active transportation. This can involve creating dedicated bicycle lanes, pedestrian-friendly infrastructure, bike-sharing programs, and promoting active transportation through educational campaigns. In Kenya, National Non-Motorized Transport (NMT) Policy aims to promote walking and cycling as viable modes of transportation. It focuses on creating infrastructure, such as pedestrian walkways and cycling lanes, to improve safety and accessibility for non-motorized transport users.
c) Low-Emission Vehicle Incentives: Policies aimed at promoting the use of low-emission vehicles, including electric vehicles (EVs) and hybrid vehicles. This can include providing financial incentives,

tax breaks, and subsidies for purchasing low-emission vehicles, as well as developing charging infrastructure.

d) Carpooling and Ride-Sharing Initiatives: Policies that promote carpooling, ride-sharing, and car-sharing programs to reduce the number of single-occupancy vehicles on the road. This can be encouraged through incentives, dedicated carpool lanes, and the development of technology platforms to facilitate ride-sharing arrangements.
e) Congestion Pricing: Policies that charge fees or tolls for driving in congested areas or during peak hours. The aim is to reduce traffic congestion, encourage the use of alternative modes of transportation, and generate revenue for sustainable transport initiatives.
f) Land-Use Planning: Policies that promote compact and mixed-use urban development, with a focus on reducing the need for long-distance travel and facilitating easier access to public transportation and amenities. This can include zoning regulations, urban design guidelines, and transit-oriented development plans. For instance, Nairobi Integrated Urban Development Master plan.
g) Freight Transport Efficiency: Policies that improve the efficiency and sustainability of freight transportation, such as promoting the use of cleaner and more fuel-efficient vehicles, optimizing logistics and supply chain management, and encouraging modal shifts to rail or water transport where feasible.
h) Sustainable Transport Infrastructure: Policies that prioritize the development of sustainable transport infrastructure, including dedicated bus lanes, bike lanes, pedestrian walkways, and charging stations for electric vehicles. This can also involve retrofitting existing infrastructure to be more sustainable and accessible.
i) Travel Demand Management: Policies that aim to reduce overall travel demand through strategies such as telecommuting, flexible work hours, and encouraging remote meetings. This helps to reduce the number of trips and the reliance on private vehicles.
j) Education and Awareness Campaigns: Policies that focus on raising awareness and promoting sustainable transportation choices through educational campaigns, public outreach, and behavior change initiatives. This can include promoting the benefits of sustainable transportation and providing information on alternative transportation options.

In Kenya, several sustainable transport policies have been implemented to promote environmentally friendly and efficient transportation systems:

a) National Urban Transport Policy: The Urban Transport Policy provides guidelines for sustainable urban transport planning and development. It emphasizes the integration of land use and transport planning, the promotion of public transportation systems, and the improvement of pedestrian and cycling infrastructure.
b) Matatu (Public Minibus) Reform: The government has implemented policies to regulate and improve the matatu system, which is a popular mode of public transportation in Kenya. These policies aim to enhance safety, comfort, and efficiency, while also encouraging the adoption of cleaner and more fuel-efficient vehicles.
c) Bus Rapid Transit (BRT) Systems: Kenya has plans to develop BRT systems in major cities like Nairobi and Mombasa. BRT systems are designed to provide efficient and high-capacity public transportation services by using dedicated bus lanes, modern vehicles, and integrated fare systems.
d) Electric Mobility: The government has initiated efforts to promote the adoption of electric vehicles (EVs) in Kenya. This includes the exemption of EVs from import duty and the implementation of charging infrastructure projects to support EV adoption.
e) National Green Transport Strategy: The Green Transport Strategy seeks to promote environmentally friendly transport options. It includes measures such as the promotion of low-emission vehicles, the use of alternative fuels, and the adoption of energy-efficient transport systems.
f) Mass Rapid Transit (MRT) Systems: Kenya has plans for the development of MRT systems, such as light rail and commuter rail networks, to provide efficient and sustainable mass transit options in major cities.

These policies demonstrate Kenya's commitment to sustainable transportation and address various aspects of urban transport planning, non-motorized transport, public transit, road safety, and clean mobility.

(vi) Forest Protection and Reforestation policies

Implementing policies to protect and restore forests can mitigate climate change by sequestering carbon dioxide. This involves measures such as forest conservation, afforestation (establishing new forests), and reforestation (replanting trees in deforested areas).

Reducing Emissions from Deforestation and Forest Degradation (REDD+): REDD+ is a mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) that provides financial incentives to developing countries for reducing deforestation and promoting sustainable forest management.

Global agreements such as the Convention on Biological Diversity (CBD) and the Bonn Challenge for forest landscape restoration provide frameworks and targets for forest protection and reforestation efforts worldwide.

Forest Stewardship Council (FSC) Certification is an international certification system that promotes responsible forest management. It sets standards for sustainable forestry practices and certifies products that meet these standards, encouraging the conservation of forests and biodiversity.

Forest Conservation and Management No. 34 of 2016, of Kenya, provides measures for the protection, conservation, and management of forests and forest resources; as well as program for achievements and maintenance of tree cover of at least ten percent of the land area of Kenya. The ACT also defines responsibility for national and County governments in relation to forest resources management.

Recognizing the role of indigenous peoples and local communities in forest conservation, policies that promote community forest management rights and secure land tenure can contribute to sustainable forest practices and protect traditional knowledge. Njuri Ncheke council of elders in Meru and the Kambi in Mijikenda have in several decades protected the forest that they live in.

(vii) International Cooperation and Agreements

Encouraging global cooperation through international agreements like the Paris Agreement promotes coordinated action on climate change. Such agreements provide a framework for countries to set emission reduction targets, share best practices, and collaborate on technology transfer and climate finance.

(viii) Research and Development Funding

Investing in research and development (R&D) for clean energy technologies and climate solutions can drive innovation and enable the development of cost-effective alternatives to fossil fuels. Funding R&D efforts can accelerate the transition to a low-carbon economy.

(ix) Climate Risk Disclosure

Requiring companies and financial institutions to disclose their climate-related risks and emissions can enhance transparency and help investors make informed decisions. This policy encourages businesses to assess and manage their climate impact and fosters a transition towards sustainable practices. Central banks and financial regulators in several countries have developed guidelines that encourage financial institutions to assess and disclose climate-related risks. These guidelines often aim to promote the integration of climate risks into risk management frameworks and stress testing processes.

Meru County Climate Change Act, 2020 policy statement is to ensure climate risk and vulnerability assessment and climate-proofing of all development projects in all the Departments of the county. Once the climate risks are known they can be disclosed so that measures for resilience are responded to.

4.1.2 Mainstreaming in the CIDP

To mainstream a climate change action plan in the Meru County Integrated Development Plan (CIDP), the following steps can be taken:

Conduct a Climate Change Vulnerability Assessment: Start by assessing the vulnerability of Meru County to the impacts of climate change. Identify key sectors, such as agriculture, water resources, infrastructure, and health, which are most affected by climate change. This assessment will help prioritize actions and allocate resources effectively.

Set Climate Change Goals and Targets: Develop specific goals and targets within the CIDP that align with national and international climate change commitments. These goals should address mitigation (reducing greenhouse gas emissions) and adaptation (building resilience to climate impacts) strategies. Ensure that the goals are measurable and time-bound.

Integrate Climate Change across Sectors: Embed climate change considerations across different sectors of the CIDP. Work with relevant departments, such as agriculture, water, energy, transport, and land use planning, to incorporate climate change actions into their respective plans and programs. This includes integrating climate-smart practices, renewable energy promotion, water conservation measures, and sustainable land use planning.

Enhance Data and Knowledge Management: Improve data collection, analysis, and management related to climate change in Meru County. Establish a system for monitoring and evaluating the progress of climate

change actions, including indicators to track the implementation of the CIDP's climate change goals. Enhance capacity building and knowledge sharing among county officials, stakeholders, and communities.

Establish Partnerships and Stakeholder Engagement: Collaborate with various stakeholders, including government agencies, non-governmental organizations, community groups, and the private sector. Engage them in the development and implementation of climate change actions. Foster partnerships to leverage resources, technical expertise, and support for implementing initiatives outlined in the CIDP.

Secure Funding and Resources: Identify potential sources of funding to support the implementation of climate change actions. This can include national government grants, climate finance mechanisms, public-private partnerships, and international funding opportunities. Develop a financing strategy to mobilize resources and ensure the sustainability of climate change initiatives.

Capacity Building and Awareness: Conduct capacity building programs to enhance the knowledge and skills of county officials and stakeholders on climate change mitigation and adaptation strategies. Promote awareness campaigns to educate the public about the impacts of climate change and the importance of individual and community actions.

Monitor and Review: Establish a robust monitoring and evaluation system to track the progress of climate change actions within the CIDP. Regularly review and update the action plan based on changing climate dynamics, emerging priorities, and lessons learned from implementation.

By integrating climate change actions into the Meru County CIDP, the county can systematically address climate change challenges and work towards building a more resilient and sustainable future.

4.1.3 multi-stakeholder participation processes

Mainstreaming a climate change action plan through multi-stakeholder participation processes can help ensure that diverse perspectives are considered, enhance ownership, and foster collaboration among various stakeholders. Here are some key steps to facilitate multi-stakeholder participation in mainstreaming climate change actions:

Identify Relevant Stakeholders: Identify and engage a broad range of stakeholders who have an interest or are directly affected by climate change issues in Meru County. This can include government agencies, local communities, non-governmental organizations, academic institutions, businesses, and civil society organizations. Ensure representation from different sectors and communities to ensure diverse perspectives.

Establish a Multi-Stakeholder Platform: Create a platform or forum where stakeholders can come together to exchange knowledge, share experiences, and contribute to the development and implementation of the climate change action plan. This platform can be in the form of a working group, task force, or regular meetings.

Foster Dialogue and Collaboration: Facilitate open and inclusive dialogue among stakeholders to promote understanding, collaboration, and consensus-building. Create a safe space for stakeholders to express their views, concerns, and ideas related to climate change actions. Encourage the exchange of best practices and lessons learned from other contexts.

Involve Stakeholders in Decision-Making Processes: Ensure that stakeholders are actively involved in the decision-making processes related to climate change actions. Provide opportunities for them to participate in the identification of priorities, setting goals and targets, and designing specific interventions. Encourage their input and feedback throughout the planning and implementation phases.

Capacity Building: Conduct capacity building programs to enhance the knowledge and skills of stakeholders on climate change issues, including mitigation and adaptation strategies. Provide training and workshops on relevant topics, such as climate science, policy development, project management, and monitoring and evaluation. This will empower stakeholders to actively contribute to the mainstreaming of climate change actions.

Facilitate Information Sharing: Promote the sharing of relevant information, data, and research findings among stakeholders. Ensure that stakeholders have access to accurate and up-to-date information on climate change impacts, vulnerabilities, and available solutions. This will enable informed decision-making and foster collaboration based on shared knowledge.

Encourage Co-creation and Ownership: Foster a sense of ownership among stakeholders by involving them in the co-creation of the climate change action plan. Encourage their active participation in designing and implementing initiatives, ensuring that their perspectives and priorities are reflected. This will enhance commitment and accountability towards the successful implementation of the plan.

Monitor and Evaluate Progress: Establish mechanisms to monitor and evaluate the progress of climate change actions and regularly review the effectiveness of multi-stakeholder participation processes. This includes tracking the implementation of activities, assessing outcomes, and identifying areas for improvement. Use feedback from stakeholders to refine and enhance the mainstreaming process.

By engaging multiple stakeholders in the mainstreaming of climate change actions, Meru County can tap into diverse expertise, foster collaboration, and build a sense of collective responsibility towards addressing climate change challenges. This participatory approach can enhance the effectiveness and sustainability of climate change initiatives in the county.

4.1.4 Finance - County Climate Change Fund

To establish a delivery mechanism for financing the County Climate Change Fund, the following steps can be taken:

Fund Governance and Management: Set up a dedicated governance structure to oversee the County Climate Change Fund. Fund for financing County Climate Change resilience investments will be channeled through the directorate of environment, natural resources and climate change. The County has committed to channel 2% of the County development budget which is equivalent to Kshs. 60m annually.

Fund Design and Objectives: Clearly define the objectives of the County Climate Change Fund. Determine the focus areas, such as adaptation, mitigation, capacity building, research, and community engagement. Establish guidelines and criteria for project selection, funding priorities, and eligibility criteria. Grant amount is defined in two categories. Institutional support and Climate Change Resilience Investments.

Financial Resources: Identify and secure financial resources for the County Climate Change Fund. This can include budget allocations from the county government, grants from national or international climate funds, contributions from private sector partners, and innovative financing mechanisms. Explore partnerships with development agencies, NGOs, and private foundations to leverage additional funding.

Project Proposal Submission and Evaluation: Depending on the proposed intervention measures, the community through technical assistance will develop proposals to be funded. Standardized project proposal template and guidelines for interested stakeholders to submit their project ideas may be developed. Evaluation criteria based on the fund's objectives and priorities will be developed. Proposals developed will go through evaluation committee who will assess and score project proposals based on their feasibility, impact, cost-effectiveness, and alignment with climate change objectives. Evaluation will start at the ward level where the ward climate change committee will vet the proposals before they are forwarded to planning committee and later Steering committee.

Project Selection and Approval: Based on the evaluation process, select projects that align with the fund's objectives and have the potential for meaningful climate change outcomes. Proposals will be aligned to the

identified ward hazards/risks and possible intervention measures from the PCRA ward report. Projects will be strongly community driven for sustainability, and co-benefits for other development sectors. Seek approval from the fund governance structure for the selected projects.

Financial Disbursement: Once projects are approved, establish a process for financial disbursement to the selected implementing agencies or organizations. Define clear guidelines on the disbursement procedures, reporting requirements, and monitoring mechanisms. Ensure transparency and accountability in the financial management of the fund.

Project Monitoring and Evaluation: Develop a monitoring and evaluation framework to track the progress and outcomes of funded projects. Define key performance indicators, targets, and reporting requirements for project implementers. Regularly review project reports, conduct site visits, and engage with project stakeholders to ensure effective implementation and assess the impact of the funded projects.

Knowledge Sharing and Capacity Building: Promote knowledge sharing and capacity building activities to enhance the understanding of climate change issues and build the capacity of stakeholders involved in implementing funded projects. Organize workshops, training programs, and learning events to disseminate best practices, lessons learned, and innovative approaches.

Reporting and Communication: Establish a reporting mechanism to communicate the progress, achievements, and challenges of the County Climate Change Fund. Prepare periodic reports highlighting the fund's activities, funded projects, financial status, and impact. Disseminate the reports to stakeholders, policymakers, and the public to ensure transparency and accountability.

Continuous Improvement: Regularly review and evaluate the performance of the County Climate Change Fund and its delivery mechanism. Seek feedback from stakeholders and make necessary adjustments to improve the efficiency, effectiveness, and impact of the fund. Incorporate lessons learned into future funding cycles and adapt the delivery mechanism as needed.

By implementing a well-designed delivery mechanism, the County Climate Change Fund can effectively finance climate change projects and initiatives in Meru County, contributing to the county's resilience, sustainability, and adaptation efforts.

4.1.5 Governance - County Government Structures

To establish a delivery mechanism for the governance of county government structures, the following steps can be taken:

Establish a Governance Framework: Develop a comprehensive governance framework that outlines the structure, roles, and responsibilities of county government structures. This framework should define the decision-making processes, accountability mechanisms, and reporting requirements. It should also establish clear lines of authority and communication channels within the county government.

Designate Governing Bodies: Identify the governing bodies responsible for overseeing the county government structures. This may include an executive committee, board, or council composed of elected officials, appointed representatives, and subject matter experts. Ensure diverse representation to incorporate different perspectives and areas of expertise.

Define Roles and Responsibilities: Clearly define the roles and responsibilities of the governing bodies, as well as those of individual members within the county government structures. This includes specifying their decision-making authority, scope of work, and areas of jurisdiction. Ensure alignment with relevant legislation and regulations.

Develop Policies and Procedures: Develop and implement policies and procedures that govern the functioning of county government structures. These policies should cover areas such as conflict of interest, transparency, procurement, human resources, financial management, and performance evaluation. They should provide guidelines for ethical conduct and ensure compliance with legal and regulatory requirements.

Enhance Stakeholder Engagement: Promote stakeholder engagement in the governance of county government structures. Establish mechanisms for meaningful consultation, collaboration, and participation of relevant stakeholders, including citizens, civil society organizations, community representatives, and private sector entities. Encourage public input through public hearings, consultations, and feedback mechanisms.

Capacity Building and Training: Provide capacity building and training programs for members of the county government structures to enhance their knowledge and skills in governance principles, decision-making processes, and effective leadership. Offer training on relevant legal frameworks, public administration, financial management, and other areas critical to their roles.

Performance Monitoring and Evaluation: Implement a robust performance monitoring and evaluation system to assess the effectiveness and efficiency of the county government structures. Define key performance indicators, set targets, and establish mechanisms for regular reporting and feedback. Conduct periodic evaluations to identify strengths, weaknesses, and areas for improvement.

Transparency and Accountability: Foster a culture of transparency and accountability within the county government structures. Ensure that information on decision-making processes, policies, and activities is accessible to the public. Establish mechanisms for financial accountability, such as audits and regular financial reporting. Encourage public participation and feedback to enhance transparency and build trust.

Continuous Improvement: Regularly review and update the governance mechanisms and structures based on lessons learned, changing needs, and emerging best practices. Seek feedback from stakeholders and members of the county government structures to identify areas for improvement. Foster a culture of continuous learning and adaptation.

Regular Communication and Reporting: Develop effective communication channels to disseminate information about the governance of county government structures. Publish periodic reports, newsletters, and public statements to update stakeholders and the public on the progress, achievements, challenges, and future plans of the county government. Foster open and transparent communication to build trust and confidence.

By implementing a robust delivery mechanism for the governance of county government structures, Meru County can enhance accountability, transparency, and effectiveness in decision-making and public service delivery. This will contribute to efficient and responsive governance that meets the needs and aspirations of the county's residents.

4.1.6 Governance - Climate Change Planning Committees

Governance mechanisms for climate change planning committees, some common delivery mechanisms can be employed:

Committee Structure: Climate change planning committees typically have a defined structure that includes representatives from relevant government agencies, departments, and stakeholders. The committee may consist of technical experts, policymakers, representatives from civil society organizations, community members, and other key stakeholders.

Terms of Reference: Climate change planning committees usually operate based on established terms of reference or guidelines that outline their purpose, objectives, scope of work, decision-making processes, and roles and responsibilities of committee members. These terms of reference provide a framework for the committee's activities.

Coordination and Collaboration: Climate change planning committees often work in coordination with other relevant government bodies, departments, and agencies to ensure effective collaboration and integration of efforts. This may involve sharing information, coordinating activities, and aligning strategies and policies.

Stakeholder Engagement: Effective governance of climate change planning committees involves engaging with a wide range of stakeholders, including local communities, civil society organizations, businesses, academia, and indigenous groups. Stakeholder engagement can take the form of consultations, public hearings, workshops, and other participatory processes to ensure diverse perspectives and inputs.

Data and Information Management: Climate change planning committees require access to reliable data and information to inform decision-making and policy development. Establishing mechanisms for data collection, sharing, analysis, and reporting is essential to support evidence-based planning and monitoring of climate change initiatives.

Policy Development and Implementation: Climate change planning committees play a crucial role in developing climate change policies, strategies, and action plans. They assess the existing policy landscape, identify gaps and priorities, and develop recommendations for policy development and implementation. The committee may also monitor and evaluate the progress of implemented policies.

Resource Mobilization: Climate change planning committees often need financial and technical resources to carry out their work effectively. They may be responsible for mobilizing resources through budget allocations, grants, partnerships, and donor support to fund climate change initiatives and programs.

Monitoring and Reporting: Climate change planning committees monitor the implementation and progress of climate change actions, collect data on indicators and targets, and report on achievements and challenges. Regular reporting mechanisms help ensure accountability and transparency in the committee's work.

Capacity Building: Climate change planning committees may engage in capacity building activities to enhance the knowledge, skills, and capabilities of committee members and stakeholders. This can include training programs, workshops, knowledge sharing platforms, and technical support to strengthen expertise in climate change planning and governance.

Evaluation and Adaptation: Climate change planning committees should regularly evaluate the effectiveness and impact of their actions and strategies. This includes assessing the outcomes, identifying lessons learned, and adapting the approach based on changing circumstances, emerging priorities, and new scientific findings.

4.1.7 Climate Information Services & Climate Data Access

Climate Information Services (CIS) and climate data access are essential for informing decision-making and supporting climate resilience. Various delivery mechanisms can facilitate the provision and accessibility of climate information and data. Some common mechanisms include:

National Meteorological and Hydrological Services (NMHS): NMHSs are responsible for collecting, analyzing, and disseminating weather and climate data. They play a vital role in providing climate information services to various sectors. NMHSs often have online portals, websites, and dedicated departments to facilitate data access and provide climate-related products and services.

Climate Data Portals: Climate data portals are online platforms that offer access to a wide range of climate data and information. These portals may be managed by government agencies, research institutions, or international organizations. They often provide data in various formats, including historical climate data, climate projections, satellite imagery, and other relevant datasets.

Open Data Initiatives: Governments and organizations can promote open data initiatives, making climate data freely available to the public. Open data platforms allow users to access and download climate data for analysis, research, and decision-making purposes. These initiatives enhance data accessibility and encourage collaboration and innovation.

Climate Data Sharing Agreements: Agreements and partnerships can be established between institutions, agencies, and organizations to share climate data and information. These agreements facilitate data exchange, promote collaboration, and ensure wider availability of climate data across different sectors.

Climate Service Centers: Climate service centers serve as intermediaries between climate scientists and end-users, such as policymakers, businesses, and communities. They translate scientific climate information into user-friendly formats and provide tailored climate services, including data interpretation, impact assessments, and decision support tools.

Mobile Applications and SMS Services: Mobile applications and SMS services can be used to deliver climate information directly to end-users, particularly in regions with limited internet access. These

platforms provide real-time weather updates, climate forecasts, early warning systems, and other relevant information to support decision-making at the local level.

Capacity Building and Training: Capacity building initiatives can be implemented to enhance the skills and knowledge of stakeholders in accessing and utilizing climate data. Training programs and workshops can focus on data interpretation, data management, statistical analysis, and the use of climate information for planning and decision-making.

Collaborative Networks and Platforms: Collaboration among stakeholders, including meteorological agencies, research institutions, NGOs, and private sector entities, can foster the sharing of climate data and information. Collaborative networks and platforms facilitate knowledge exchange, data sharing, and joint research efforts to address climate-related challenges.

Climate Information for Vulnerable Communities: Special attention should be given to ensuring that climate information reaches vulnerable communities, including those in remote areas and marginalized groups. Tailored communication channels, such as community radio stations, local workshops, and community engagement programs, can be employed to provide relevant climate information in accessible formats.

Integration with Decision-Making Processes: Climate information services and data access mechanisms should be integrated into decision-making processes at various levels. This involves collaborating with policymakers, planners, and stakeholders to ensure that climate information is effectively utilized in policy development, infrastructure planning, disaster risk reduction, and adaptation strategies.

The establishment of delivery mechanisms depends on factors such as data infrastructure, technological capacity, institutional arrangements, and financial resources.

4.1.8 Resilience Planning Tools

Resilience planning tools are essential for assessing vulnerabilities, identifying adaptation strategies, and promoting climate resilience in various sectors and communities. The choice of delivery mechanism for resilience planning tools depends on factors such as the target audience, available resources, technological capacity, and the specific objectives of the tools. A combination of these mechanisms can be employed to enhance accessibility, capacity building, and the effective utilization of resilience planning tools. Delivery mechanism for resilience planning tools could include but not limited to:

Online Platforms and Toolkits: Online platforms and toolkits provide easy access to resilience planning tools and resources. These platforms often offer a range of tools, guidelines, case studies, and best practices for resilience assessment, scenario modeling, risk analysis, and adaptation planning. They may be managed by government agencies, international organizations, research institutions, or non-profit organizations.

Capacity Building and Training Programs: Capacity building programs play a crucial role in facilitating the use of resilience planning tools. Workshops, training sessions, and webinars can be organized to train stakeholders on the application of specific tools and methodologies. These programs help build technical expertise and promote the adoption of resilience planning practices.

Tool Integration with Existing Planning Processes: Resilience planning tools can be integrated into existing planning processes at various levels, such as urban planning, infrastructure development, and disaster management. By incorporating resilience tools into existing frameworks, decision-makers can ensure that resilience considerations are systematically integrated into planning and policy development.

Partnership and Collaboration: Collaboration among stakeholders, including government agencies, research institutions, non-profit organizations, and community groups, can facilitate the development and dissemination of resilience planning tools. Partnerships enable the pooling of expertise, resources, and data, leading to the creation of more effective and context-specific tools.

Technical Support and Guidance: Providing technical support and guidance to users of resilience planning tools is crucial for effective implementation. Helpdesks, dedicated support teams, and user manuals can assist stakeholders in navigating the tools, interpreting results, and addressing specific challenges. Support mechanisms ensure that users can effectively utilize the tools to inform decision-making.

Pilot Projects and Demonstrations: Pilot projects and demonstrations can showcase the application of resilience planning tools in real-world scenarios. These projects provide practical examples and success stories, helping stakeholders understand the benefits and potential of using resilience tools. They also offer opportunities for feedback and improvement of the tools.

User-Friendly Interfaces and Visualization: Resilience planning tools should have user-friendly interfaces and visualizations to enhance usability and accessibility. Clear and intuitive interfaces, interactive

maps, and visual representations of data can make the tools more engaging and understandable for a wider range of users.

Localized and Context-Specific Tools: Resilience planning tools should be tailored to specific geographical, socio-economic, and cultural contexts. Tools that account for local climate conditions, vulnerability profiles, and development priorities are more likely to be embraced by stakeholders and effectively integrated into planning processes.

Knowledge Sharing and Communities of Practice: Establishing knowledge sharing platforms and communities of practice can facilitate the exchange of experiences, lessons learned, and best practices in resilience planning. Online forums, workshops, and conferences provide spaces for practitioners to share insights and promote the continuous improvement of resilience planning tools.

Institutional Integration: Integrating resilience planning tools into institutional frameworks and processes ensures their long-term sustainability. Embedding the tools within government agencies, planning departments, and relevant institutions promotes their routine use and incorporation into policy development, budgeting, and implementation processes.

4.1.9 Measurement, Reporting and Verification

Measurement, Reporting, and Verification (MRV) mechanisms are crucial for tracking progress, ensuring transparency, and enhancing accountability in the implementation of climate change actions. The specific delivery mechanisms for MRV will depend on the national or regional context, the scope of reporting requirements, available resources, and institutional arrangements. It is important to establish a comprehensive and well-integrated MRV system that aligns with international standards and supports the goals of climate change mitigation and adaptation. Some delivery mechanisms for MRV include:

National Reporting Systems: Countries establish national reporting systems to collect and manage data related to climate change mitigation, adaptation, and finance. These systems often include standardized reporting templates, guidelines, and protocols for data collection, ensuring consistency and comparability of reported information.

Data Collection and Management Tools: MRV systems may utilize specialized data collection and management tools to streamline the process of data gathering and reporting. These tools can include online platforms, software applications, and databases that facilitate the collection, storage, and analysis of climate-related data.

Reporting Guidelines and Standards: International and national guidelines and standards provide a framework for reporting on climate change actions. Examples include the Intergovernmental Panel on Climate Change (IPCC) Guidelines, the Greenhouse Gas Protocol, and national reporting guidelines developed by governments. These guidelines ensure that reporting is consistent, comprehensive, and aligned with international best practices.

Capacity Building and Training: Capacity building initiatives are essential for building the knowledge and skills necessary for effective MRV. Training programs, workshops, and technical support can be provided to stakeholders involved in the MRV process. Capacity building activities ensure that relevant actors understand the MRV requirements and can collect, analyze, and report data accurately.

Verification and Audit Processes: Independent verification and audit processes play a crucial role in ensuring the accuracy and reliability of reported data. Independent third-party auditors or review bodies assess the reported information against agreed-upon standards and provide assurance on the quality and accuracy of the data. Verification processes enhance credibility and trust in the reported climate change actions.

Technology-enabled Solutions: Advances in technology, such as remote sensing, satellite imagery, and data analytics, can support MRV efforts. Remote sensing technologies provide valuable data for monitoring changes in land use, deforestation, and other climate-related activities. Data analytics tools can help process large datasets and identify trends, patterns, and anomalies in the reported data.

International Reporting Frameworks: International frameworks, such as the United Nations Framework Convention on Climate Change (UNFCCC) reporting requirements, establish a common basis for reporting on climate change actions at the global level. Countries submit regular reports on their progress and implementation of climate change commitments, ensuring transparency and accountability on a global scale.

Peer Review Processes: Peer review processes involve the review and assessment of reported data by other countries or independent experts. Peer reviews provide an opportunity for countries to exchange knowledge, share experiences, and provide constructive feedback on the reported data. This mechanism helps improve the quality and credibility of reported information.

Public Disclosure and Access to Information: Promoting transparency and public access to climate change data is essential for accountability and engagement. Governments can establish platforms or

websites where the reported data and related information are made publicly available. This allows stakeholders, including civil society organizations, researchers, and the general public, to access and analyze the data, contributing to greater accountability and scrutiny.

Continuous Improvement and Learning: MRV systems should be designed to facilitate continuous improvement and learning. Regular evaluations, stakeholder consultations, and feedback mechanisms can help identify areas for improvement and refine the MRV process over time. Learning from past experiences ensures that the MRV mechanisms remain robust, effective, and responsive to evolving needs.

4.1.10 Institutional Roles and Responsibilities

The institutional roles and responsibilities for the delivery of climate change policies and actions are summarized in the table below:

Table 2:Institution Roles & Responsibilities

Institution	Roles and Responsibilities
Government Agencies and Ministries	Government agencies and ministries at the national, regional, and County levels play a central role in the delivery of climate change policies. They are responsible for policy formulation, coordination, and implementation of climate change actions. These agencies may include environmental ministries, climate change departments, energy ministries, agriculture departments, and planning authorities
Meteorological and Hydrological Services	National meteorological and hydrological services are responsible for monitoring weather patterns, collecting climate data, and providing weather and climate information services. They play a critical role in providing climate information for decision-making, early warning systems, and climate risk assessments.
Research and Academic Institutions	Research and academic institutions contribute to the delivery of climate change actions through scientific research, data analysis, and knowledge generation. They provide technical expertise, conduct studies, and develop innovative solutions to address climate change challenges. These institutions also play a role in capacity building, training, and knowledge sharing.
Civil Society Organizations	Civil society organizations (CSOs) play a crucial role in advocating for climate

	change action and supporting implementation efforts. They provide grassroots-level engagement, mobilize communities, and raise awareness about climate change impacts and solutions. CSOs often collaborate with governments, conduct research, and deliver community-based projects to enhance climate resilience.
Private Sector	The private sector, including businesses, industries, and financial institutions, has a significant role to play in delivering climate change actions. They can contribute through investments in clean technologies, energy efficiency, renewable energy projects, and sustainable business practices. The private sector can also engage in public-private partnerships, innovation, and market-based approaches to drive climate action.
International Organizations and Donors	International organizations and donors provide technical and financial support to countries in delivering climate change actions. They offer capacity building, knowledge sharing, and funding for climate change initiatives. International organizations, such as the United Nations agencies, World Bank, and regional development banks, often collaborate with governments and other stakeholders to support climate change mitigation, adaptation, and resilience-building efforts.
County Government Authorities	County governments have an important role in delivering climate change actions at the local level. They are responsible for implementing climate policies, undertaking local adaptation measures, promoting sustainable urban planning, and engaging with communities. County Governments often collaborate with national institutions, civil society, and private sector actors to address climate change challenges specific to their jurisdiction.
Environmental and Natural Resource Management Agencies	Responsible for environmental protection and natural resource management have a crucial role in the delivery of climate change actions. They are often involved in implementing initiatives related to land use planning, biodiversity conservation, forest management, and ecosystem restoration.
Finance and Planning	Finance and planning departments are responsible for budget allocation,

Departments	resource mobilization, and financial management for climate change actions. They play a key role in ensuring adequate funding and financial sustainability for climate change initiatives. These departments also assess the economic implications of climate change actions and integrate climate change considerations into development planning processes

4.2 Implementation and Coordination Mechanisms

4.2.1 Directorate of Climate Change

The directorate was established by the Meru Climate Change Act, 2020 and it is responsible for overall coordination of the implementation of MCCCAP 2023- 2027, including coordination and reporting on implementation of actions by partners on matters related to climate change in the County. It also coordinates the following on behalf of the steering committee; advising the executive members on policy and strategic planning and all matters to climate change, providing secretarial services to the County Climate Change planning Committee, Implementing policies adopted by the committees, coordinating, mainstreaming and integrating climate programs into the sectoral strategic plans, establishing and maintaining a relationship with County, regional and international organizations, institution and agencies as may be appropriate for the implementation of the climate change policy and recommendations of the committees and perform any other functions in furtherance of the object Act.

4.2.2 County Climate Change Steering Committee

This committee is a 13 member committee established by the Meru County Climate Change Act, 2020 part II section 5 to oversee climate change response in the county, and in this connection to (a) ensure mainstreaming of climate change into county planning and development processes; (b) co-ordinate formulation and monitor implementation of the County Climate Change Action Plan, County Climate Finance Framework and any other county climate change policies, plans and strategies; (c) mobilize funds into and administer the County Climate Change Fund established under this Act; (d) review, approve and monitor implementation of Regulations for administration and management of the Fund; (e) review and make recommendations on the biennial report on implementation of the County Climate Change Action Plan and any other reports on climate change response interventions in the county; (f) advise the county government on legislative, policy and other measures necessary for climate change response and attainment of low carbon climate resilient development; (g) approve and oversee the implementation in the

county of a comprehensive programme of climate change education, awareness creation and capacity building; (h) provide policy direction on research, training and dissemination of information relating to climate change to the public and other stakeholders the county; (i) ensure positive linkages, interactions and synergy between the county, neighboring counties and the national government in climate change response programming and action; (j) ensure a coordinated approach to climate change response programming and action within the county government, between the county government and national government, and among the different stakeholders in the county; (k) co-ordinate the formulation of a climate change reporting framework, and the preparation and dissemination of an annual report on climate change response activities in the county; and (l) perform any other functions that may further the foregoing objectives and/or may be assigned by the Governor.

4.2.3 County Climate Change Planning Committee

This 14 member committee is established in part III A section 14 of the Meru county Climate Change Act, 2020 whose functions are to (a) respond to climate county.in the county; (b) to co-ordinate implementation of the County Climate Change Action Plan and the County Climate Finance Framework; (c) establish guidelines to be used by Ward Planning Committees in formulating climate response projects for funding by the County Climate Change Fund; (d) support Ward Planning Committees in development and implementation of climate response projects; (e) co-ordinate development and implementation of the County Climate Change Fund Regulations; (f) advise the Steering Committee on strategies, priority programmes, projects and activities for climate change response in the county; (g) formulate and implement strategic actions to foster climate change education, awareness creation and capacity development in the county.

4.2.4 County Climate Change Planning Committee

The ward Climate Change committee is a 9 member committee established in the Meru County Climate Change Act, 2020 under part III B section 22 to:— (a) to co-ordinate and mobilize communities and other stakeholders in the ward to design and implement climate change response activities; (b) to facilitate research and knowledge management at the ward level on climate change, its impacts and strategies for responding thereto; (c) facilitate public education, awareness creation, and capacity building at the ward level on climate change, its impacts and strategies for responding thereto; (d) to co-ordinate, facilitate and manage community consultations on priority climate change response activities; (e) participate in county planning and budgeting processes with a view to ensuring the mainstreaming of climate change and

prioritization of climate change response in county development plans; (f) facilitate public participation in climate change governance, implementation of agreed climate change response activities, and monitoring of those activities; (g) co-ordinate and facilitate provision of technical support to communities in the ward in developing proposals on climate change response projects for funding by the County Climate Change Fund; (h) oversee implementation of climate change response projects funded by the County Climate Change Fund and report thereon to the Planning Committee; and (i) perform any other functions that may be assigned to it by the Planning Committee.

4.3 Implementation Matrix

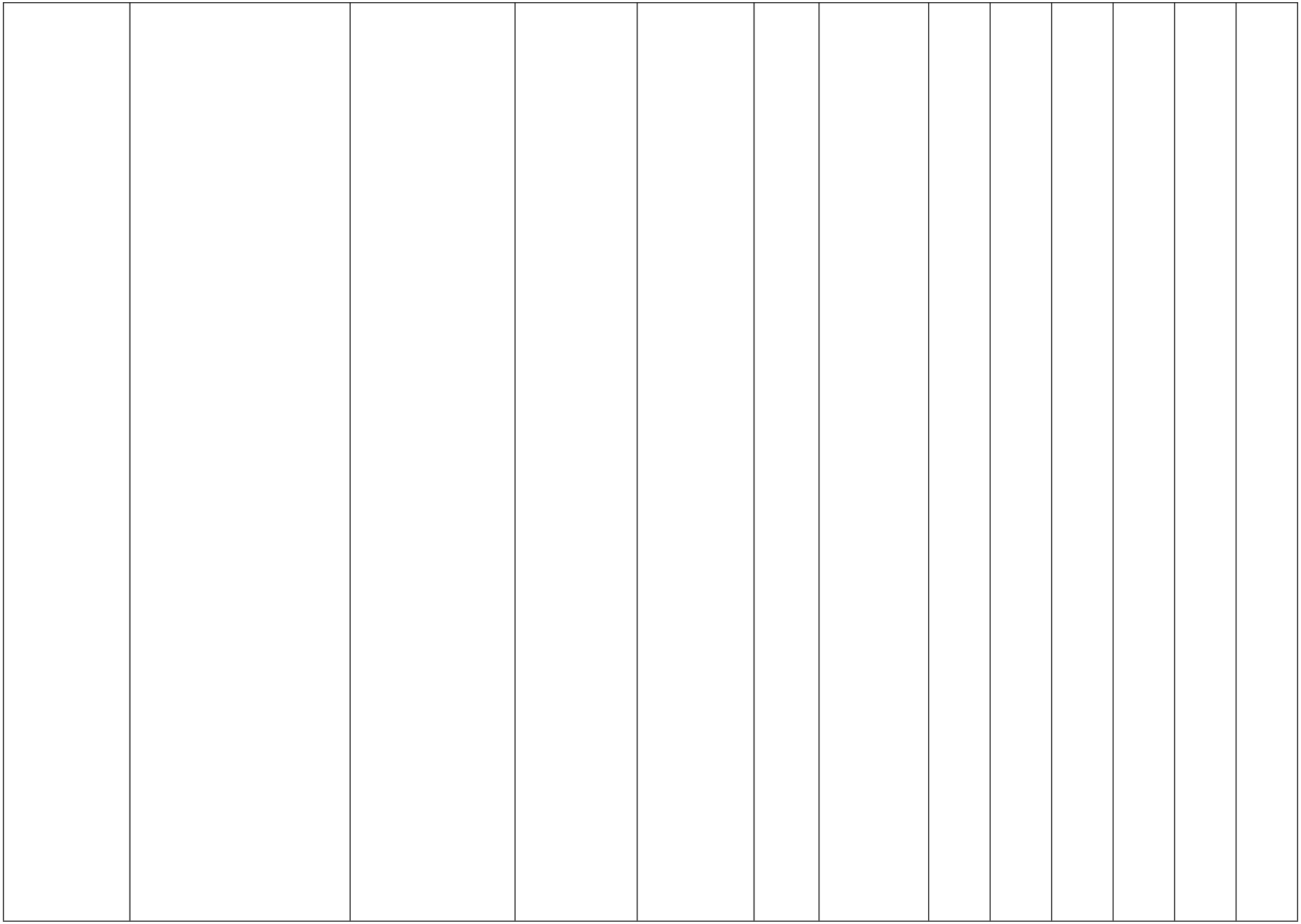
.3 Implementation Matrix

Priority Action	Expected output/outcomes	Key performance indicator	Responsible institutions	Targeted Groups	Time frame	Source of fund	Indicative Budget KES Million					
							Total	Y1	Y2	Y3	Y 4	Y5
To promote low-carbon resilient development												
Afforest and reforest degraded and deforested area.	-Increase in land afforested or reforested by 2,500 hectares to improve resilience of ecosystems. -Improved Forest management by ensuring CBOs are prepared for management of community forests.	No. of tree seedlings planted. No of ha reforested. No of CBOs managing community forests	Ministry of Energy (MOE) Geothermal Development Corporation (GDC) ; Energy Regulatory Commission (ERC) ; KenGen ; PPPs; Kenya electricity Transmission Company (KETRACO)	Industries; Household consumer; Corporate consumers	2023-2027	Department of Energy, FLLoCA, County Government	192.5	38.5	38.5	38.5	38.5	38.5
-Incidence of pest and diseases	-Reduction in the incidence of pest and diseases that are expected to increase because of climate change through: - • Improved uptake and utilisation of pest and diseases treatment. • Scaled -up community health interventions.	No of cases reported No of cases treated. Pest incidences reported. Health interventions used.										

-Promote recycling to divert collected waste away from disposal sites.	Solid waste management improved through implementation of a circular economy.	-Recycling plants constructed -Tonnage recycled.										
Promote the transition to clean cooking with alternative clean fuels and clean biomass (charcoal and wood) cookstoves and alternatives	Promotion of use of improved biomass stoves or /and LPG stoves	No of household adopting LPG stoves										
Increase renewable energy generation	Renewable energy for electricity generation, with an emphasis on geothermal, and including hydro, solar, wind and biomass	No of Green energy interventions adopted										
Mainstreaming Climate Change												

-Farm forestry -Climate proofing of all developments and climate risk & vulnerability assessment	-Adoption of integrated farming -Adoption of sustainable land management -Adoption of organic farming -Agroforestry farming - water harvesting and water storage infrastructure Floodplains -Promote water efficiency (monitor, reduce, re -use, recycle and modelling -Climate proof landfill sites -Existing hydropower plants optimised, and water Improved resilience of pastoralists and livestock farmers through Re - seeding, Annual ASALs water harvesting and storage Increased inspection of water quality and large - scale installation of water meters Climate proof energy infrastructure -Climate -proof transport infrastructure Climate proofing of	Number of farmers practicing integrated farming SLM activities carried out No. of farmers practicing organic farming No. of farmers practicing agroforestry Number of households with access to water pans and ponds Number of flood ways constructed Tool kit on commercial lending to water sector Number of landfill/waste disposal sites screened for climate impacts No of household with access to good quality water No of energy infrastructure adopted -No of sustainable transport systems promoted Number of kilometres of roads	County Governments ; FLLoCA ; Kenya Waters Towers Agency (KWTA); ; WSRB ; Private sector investors; and Planning NEMA ; KFS WRA KWS	Farmers; Pastoral and agr o - pastoral communities in ASALs; Marginalised , Industries, urban community	2023-2027	County govt FLLoCA Department of Water, health, Agriculture, Investors	**192.5**	38.5	38.5	38.5	38.5	38.5

	degraded catchment areas -Climate proofing hotspot areas for Human Wildlife Conflict -Securing dispersal areas and migratory pathways	that are climate proofed to harvest water and mitigate floods. -No of Conserved and rehabilitated degraded catchment areas Conserved land area to reduce HWCs. -No. Secured migratory pathways										



Climate Smart Agriculture Actions	practicing conservation tillage/ agroecological interventions in farming Institutions and households harvesting water for agricultural purposes. Access to better storage facilities to reduce Pre -and post - harvest losses. Adoption of Sustainable Land Management techniques for agricultural production, Reclmation of degraded land	No. of household practicing conservation agriculture No of household harvesting water for agriculture purposes No. of farmers practicing SLM										

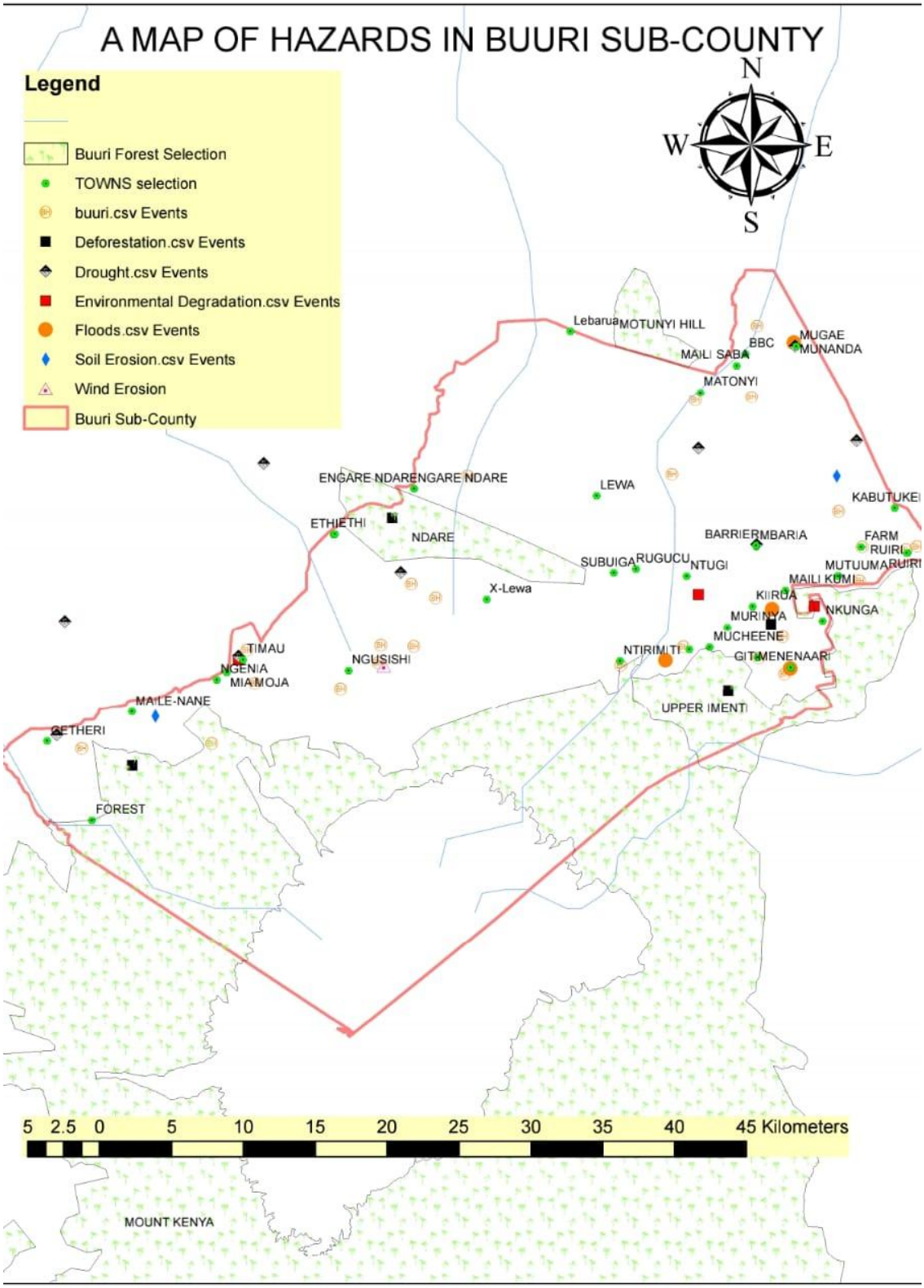
To promote climate change governance												
Legal and institutional frame work	Development of policies, plans & regulation that promote climate change adaptation and mitigation	No of plans, policies and regulations developed	County Governments ; FLLoCA ; Private sector investors; and Planning NEMA ; KFS WRA KWS	Enforcement officers County departments Private sector Staff	2023-2027	Department of Energy, FLLoCA, County Governmen t	192.5	38.5	38.5	38.5	38.5	38.5
Empowering Climate change governance structures	Strengthening existing institutions Trainings Exchange Programmes/Benchmarkin g	No. of institutions strengthened Trainings done Exchange programs/benchma r king visits										
Mainstreamin g climate change in County planning	Meetings Capacity building of planning committees and departments Formation of sector working groups	Committees trained Sector working groups formed										
Public awareness and civic education												
Improve the ability of people to cope with climate hazards and vulnerability	Sensitization meetings Training workshops Formation of Common interest groups Diversify livelihoods to adjust to a changing climate	No of Dam safety assessment done, -safety manual and codes of practice published No. of No of sensitization meetings held No. of participants sensitized No of training workshops held No. of participants trained Livelihood	County Government, WRA; Kenya Metrological Department Water Services Trust Fund (WSTF); NDMA Red cross	Farmers; Pastoral and agr o - pastoral communities in ASALs; Marginalised	2023-2027	County govt FLLoCA Department of Water, ALF	96.25	19.25	19.25	19.25	19.25	19.25

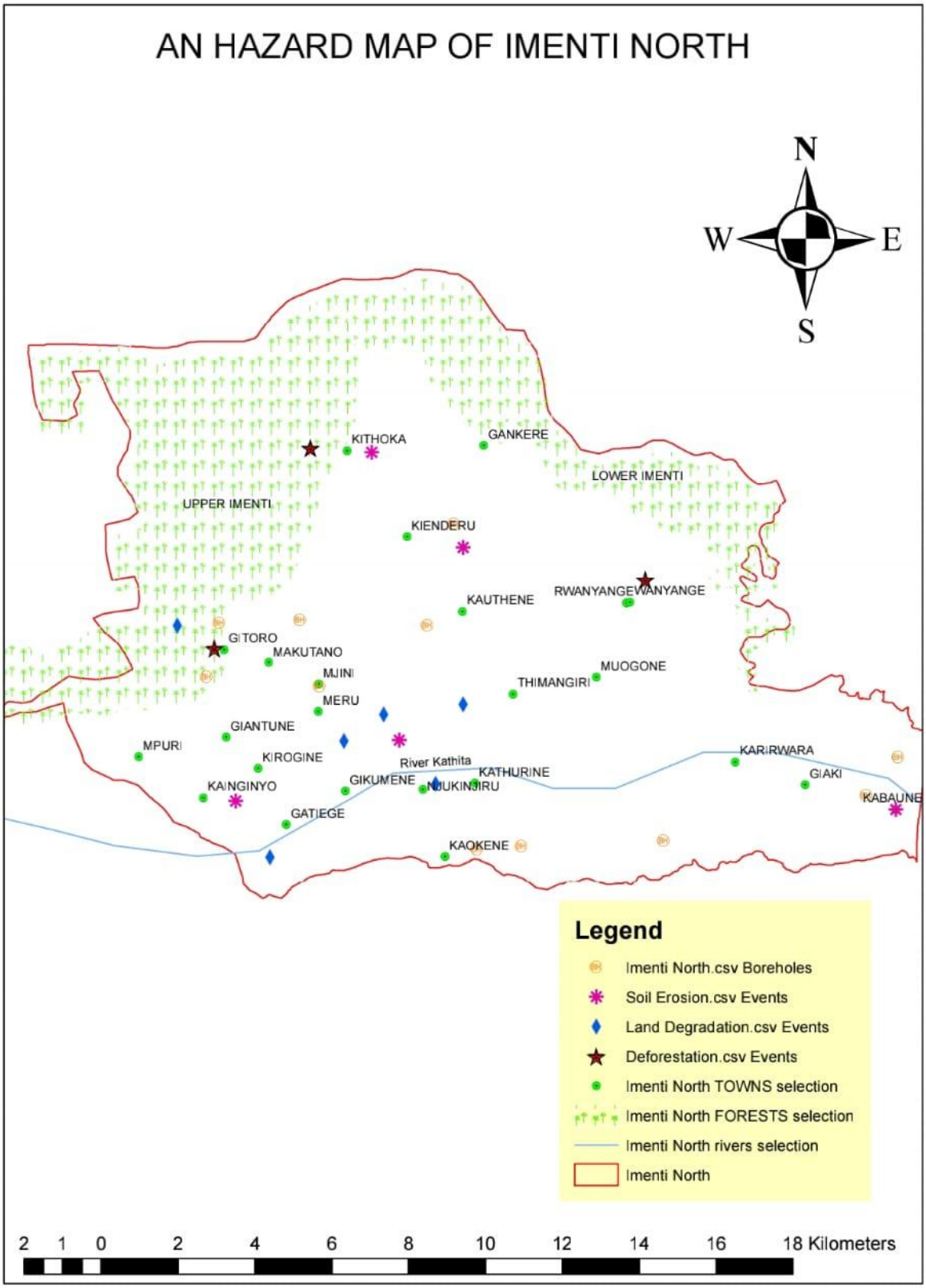
		diversification methods adopted Number of households supported to diversify livelihoods										
Research and Technology												
-Promote research and innovations in Climate Change adaptation and mitigation	-Funding programmes that are in line to climate change -Invention of up-to-date climate change solutions -Merging Indigenous knowledge with current inventions to curb challenges of climate change Monitoring and evaluation of activities and outcomes -Pilot improvement technologies -Develop new techniques, models, and products to deal with climate change challenges	No. of Programmes funded No. of Up-to-date invention solutions Record of Indigenous knowledge merged with the current inventions No. of Pilot technologies in place No of monitoring and evaluation activities carried out No of new technologies developed	County Governments ; FLLoCA ; Kenya Waters Towers Agency (KWTA); ; WSRB ; Private sector investors; and Planning NEMA ; KFS WRA KWS, KEFRI, KALRO, CRF	Research institutes, Community	2023-2027	Department of Energy, FLLoCA, County Government	96.25	19.25	19.25	19.25	19.25	19.25

Collaboration with research institutions	-Partnering with research institutions e.g KEFRI and higher learning institutions to discover and invent new solutions for Climate change challenges Provide a nurturing environment for start- ups and entrepreneurs. -generation of research findings	No of partnerships done No of start-up entrepreneurs nurtured No of research findings generated No. Of engagements with policy makers done										
Climate Change incubation and innovation centers	Engage policy makers to provide evidence -based recommendations. Integrating of climate change solutions with sustainable development goals	No of evidence based recommendations provided No. of climate change solutions integrated with SDGs										
Resource mobilization												
Developing inventory of partners and stakeholders	Identify areas of need Conduct a stakeholder mapping exercise. Engage/ collaborate with them in their areas of need. Develop stakeholders record	No. of Areas identified No. of Stakeholder mapping exercise conducted	County Governments ; FLLoCA ; Kenya Waters Towers Agency (KWTA); ; WSRB ; Private sector investors; and Planning NEMA ; KFS WRA KWS, KEFRI, KALRO, CRF	Industries; Household consumer; Corporate consumers, Investors,	2023-2027	Department of Energy, FLLoCA, County Government	96.25	19.25	19.25	19.25	19.25	19.25

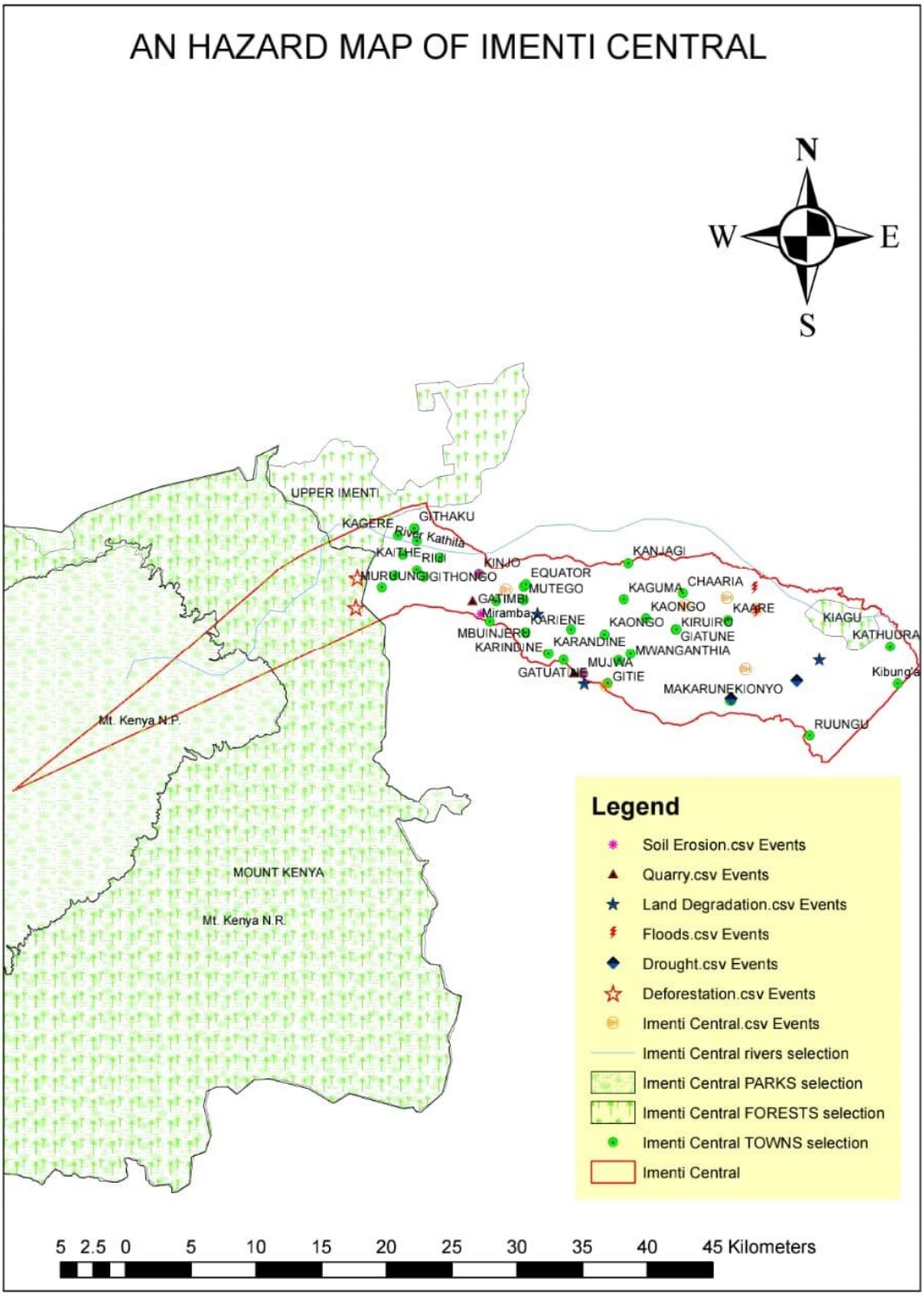
Knowledge management and access to information												
Develop climate change information portal	Sharing best practices and lessons Accessible and up to date climate information Timely and accurate information	Functional website	County Governments ; FLLoCA ; Kenya Waters Towers Agency (KWTA); ; WSRB ; Private sector investors; and Planning NEMA ; KFS WRA KWS, KEFRI, KALRO, CRF	Industries; Household consumer; Corporate consumers Investors	2023-2027	Department of Energy, FLLoCA, County Government	**96.25**	19.25	19.25	19.25	19.25	19.25
Climate Information Services (CIS)	Improved Climate Information Services (CIS), with number of recipients of CIS	No. of early warning systems. Number of people who received the early warning systems. No of warnings sent out.										
Develop GIS application	Gather, store, analyze and visualize data	No. of analyzed data										

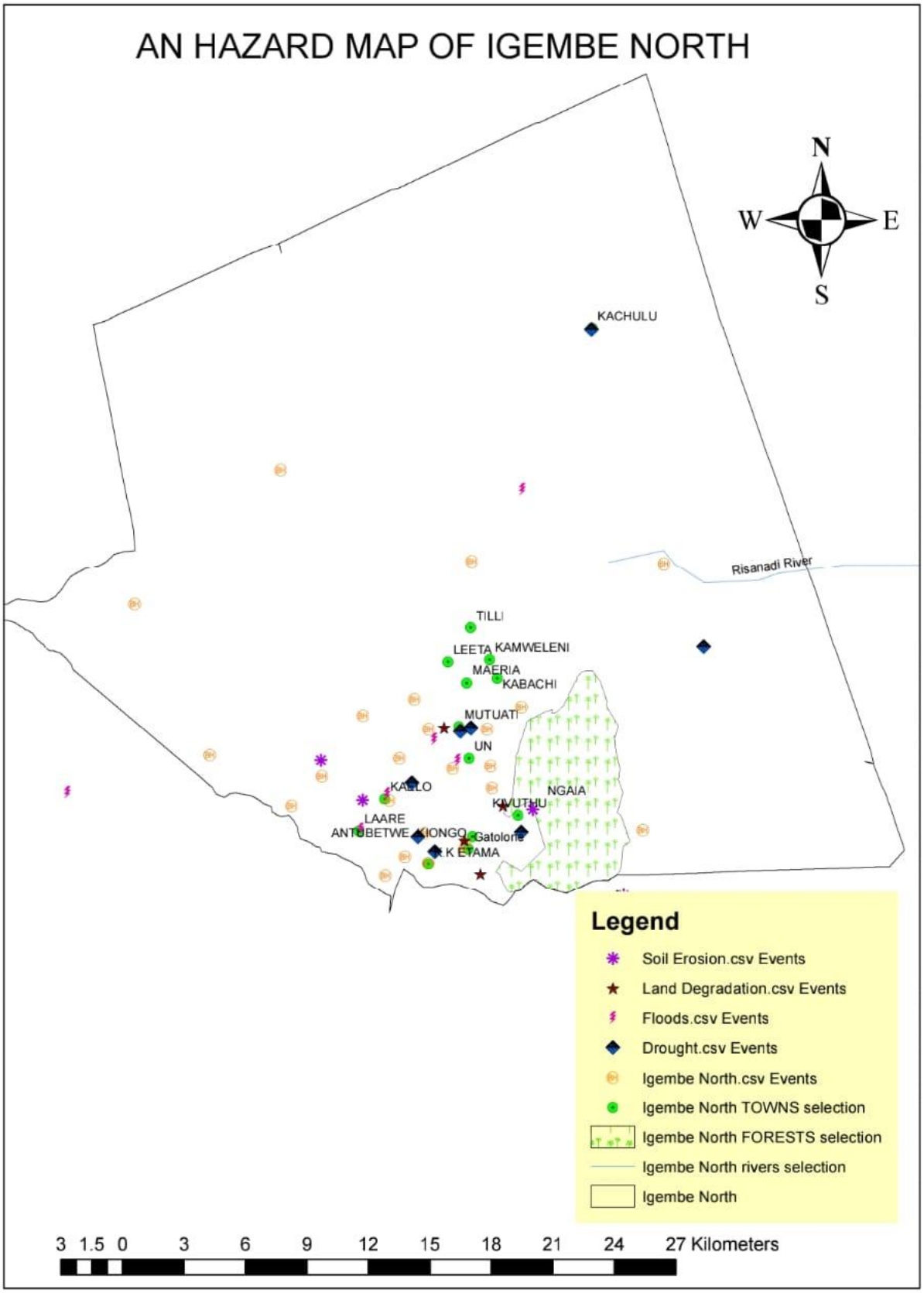
ANNEX I: SPATIAL DISTRIBUTION OF CLIMATE HAZADS PER SUB-COUNTY



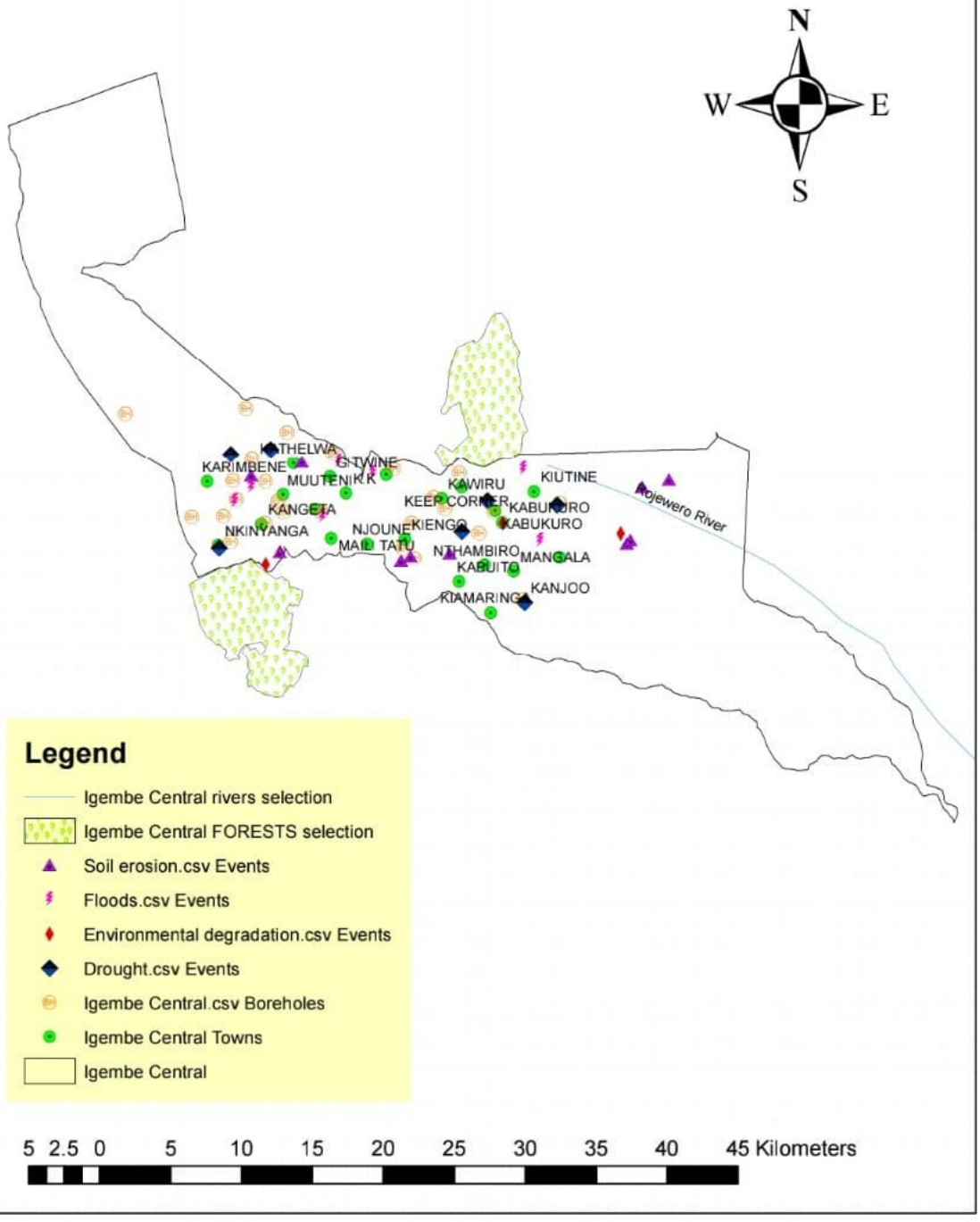

AN HAZARD MAP OF IMENTI NORTH
N
W
E
S
KITHOKA
GANKERE
LOWER IMENTI
UPPER IMENTI
KIENDERU
KAUTHENE
RWANYANGEWANYANGE
GITORO
MAKUTANO
MJINI
MERU
MUOGONE
THIMANGIRI
GIANTUNE
MPURI
KIROGINE
River Kathita
KATHURINE
KARIRWARA
GIAKI
KABAUNE
KAINGINYO
GIKUMENE
NJUKINGIRU
GATIEGE
KAOKENE
Legend
Imenti North.csv Boreholes
Soil Erosion.csv Events
Land Degradation.csv Events
Deforestation.csv Events
Imenti North TOWNS selection
Imenti North FORESTS selection
Imenti North rivers selection
Imenti North
2 1 0 2 4 6 8 10 12 14 16 18 Kilometers

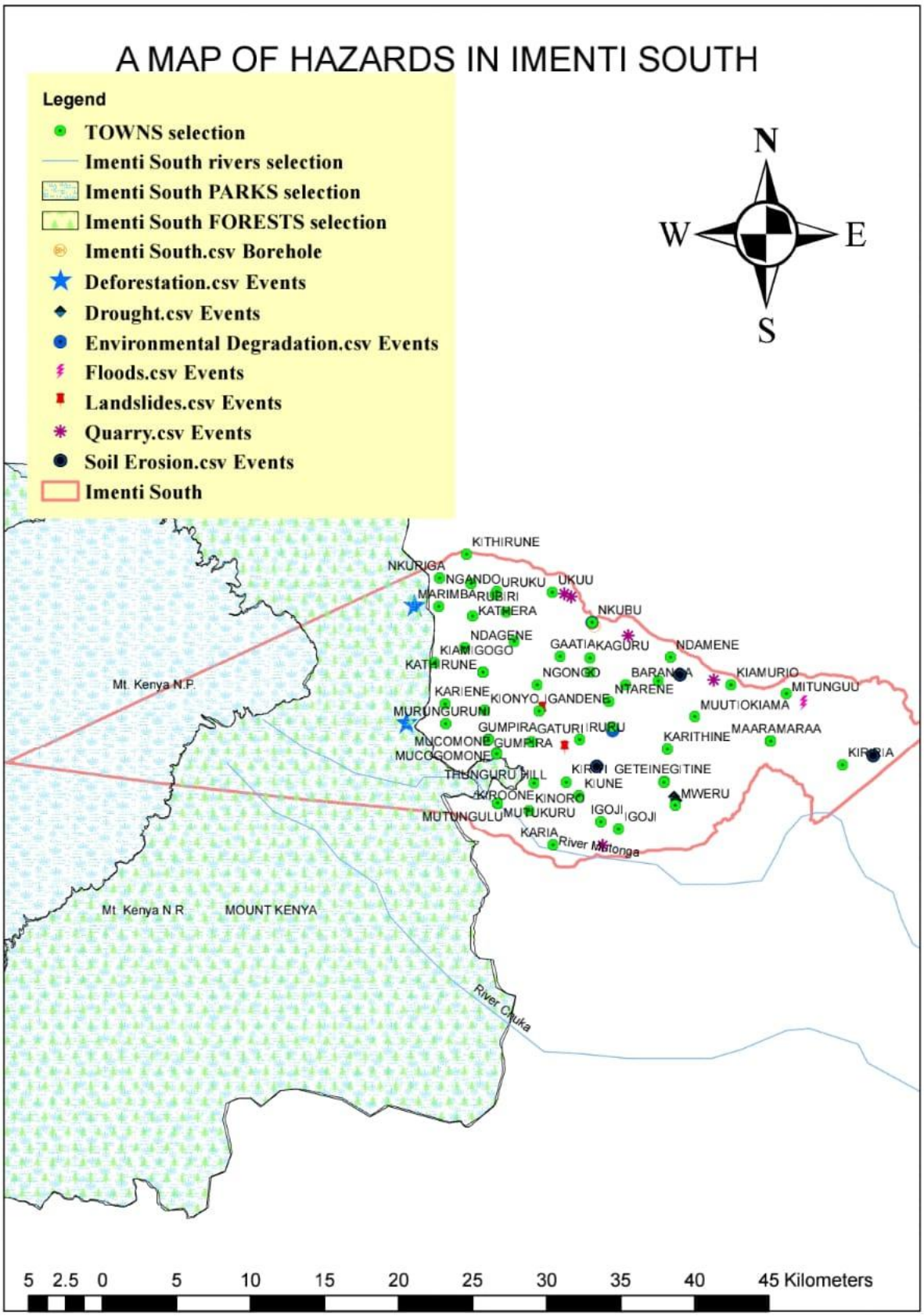
AN HAZARD MAP OF IMENTI CENTRAL

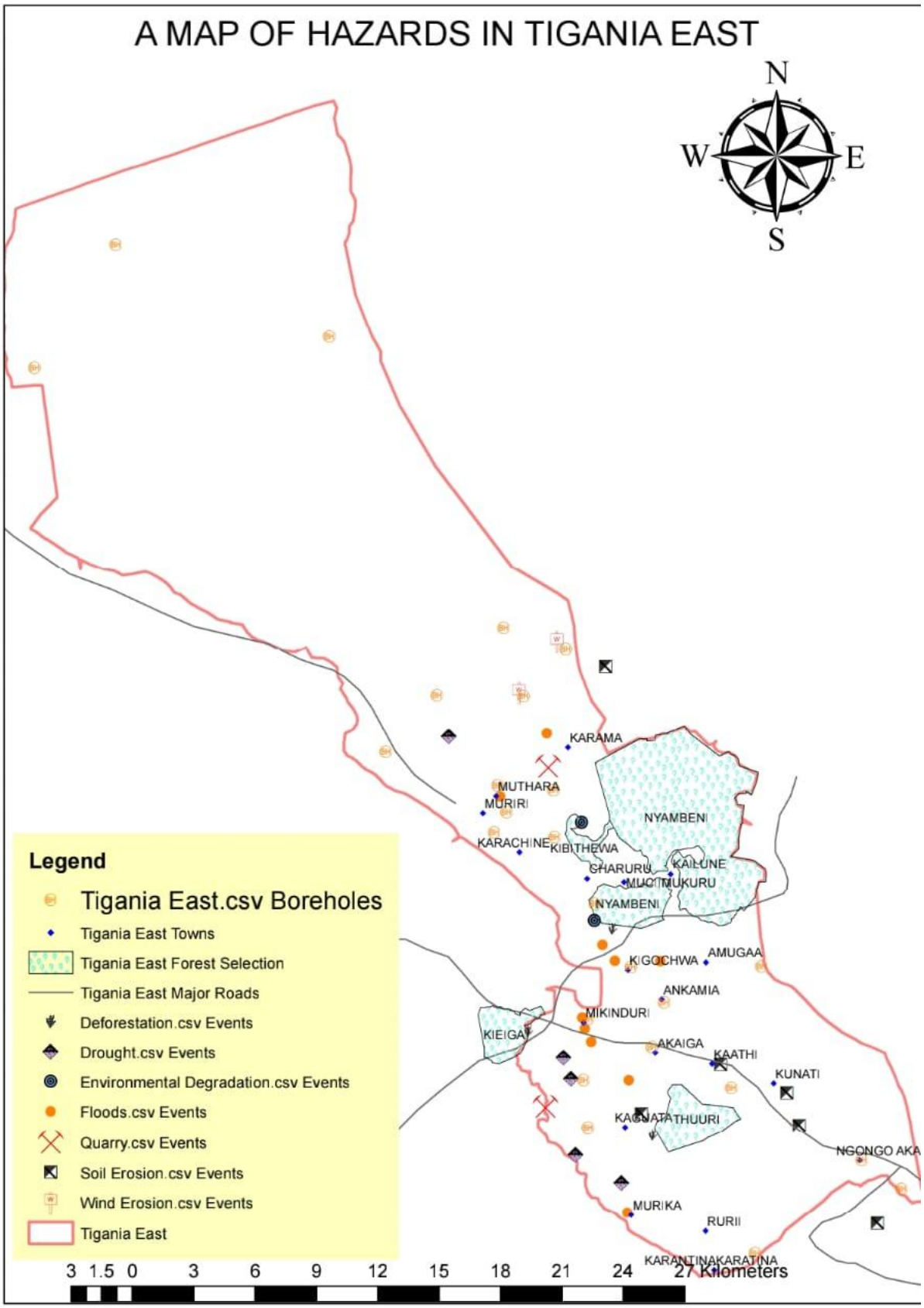


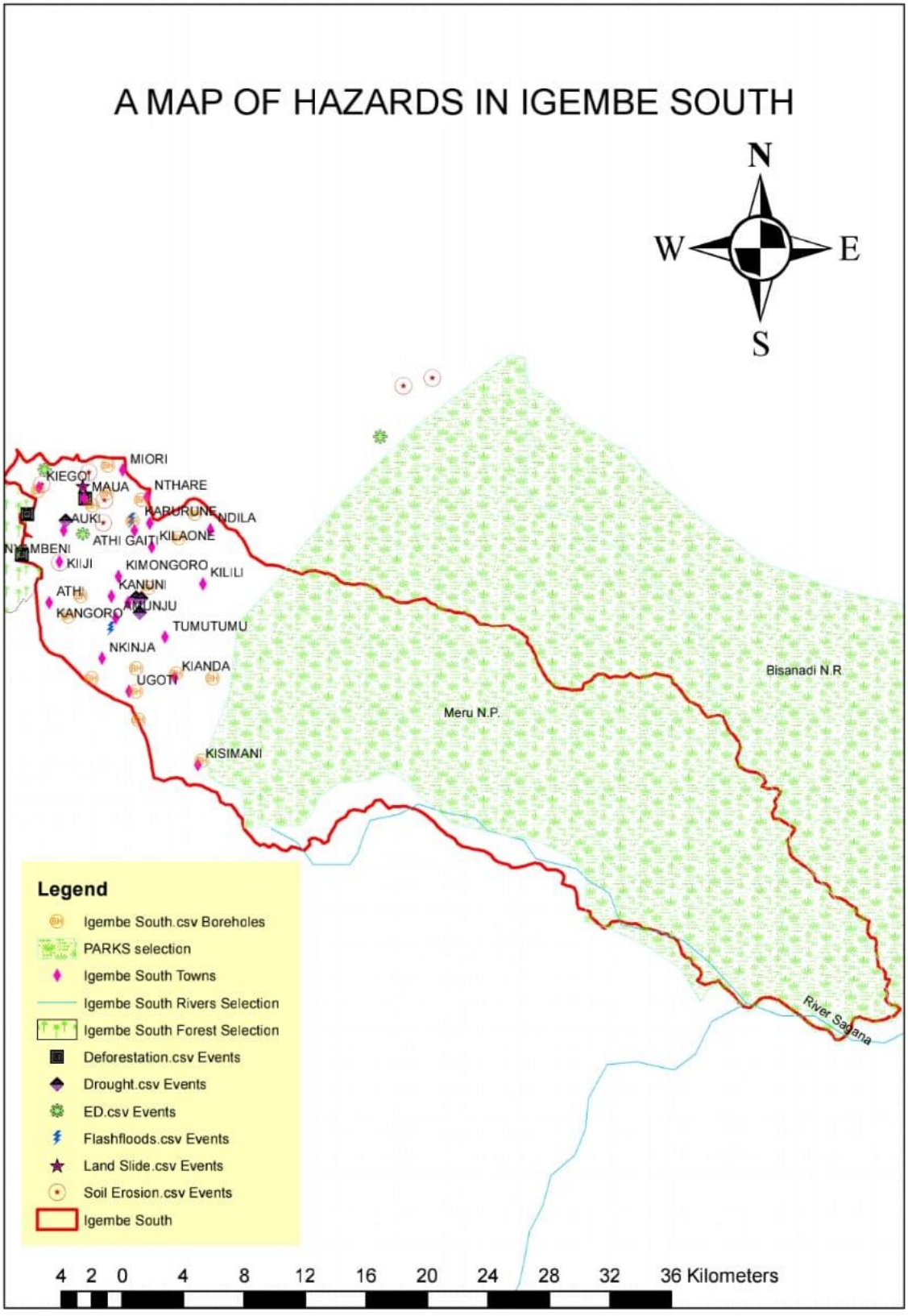

AN HAZARD MAP OF IGEMBE NORTH
N
W
E
S
KACHULU
Risanadi River
TILLI
LEETA
KAMWELENI
MAERIA
KABACHI
MUTUATI
UN
KAELO
NGAIA
KIVUTHU
LAARE
ANTUBETWE KIONGO
Gatoloria
K ETAMA
Legend
Soil Erosion.csv Events
Land Degradation.csv Events
Floods.csv Events
Drought.csv Events
Igembe North.csv Events
Igembe North TOWNS selection
Igembe North FORESTS selection
Igembe North rivers selection
Igembe North
3 1.5 0 3 6 9 12 15 18 21 24 27 Kilometers

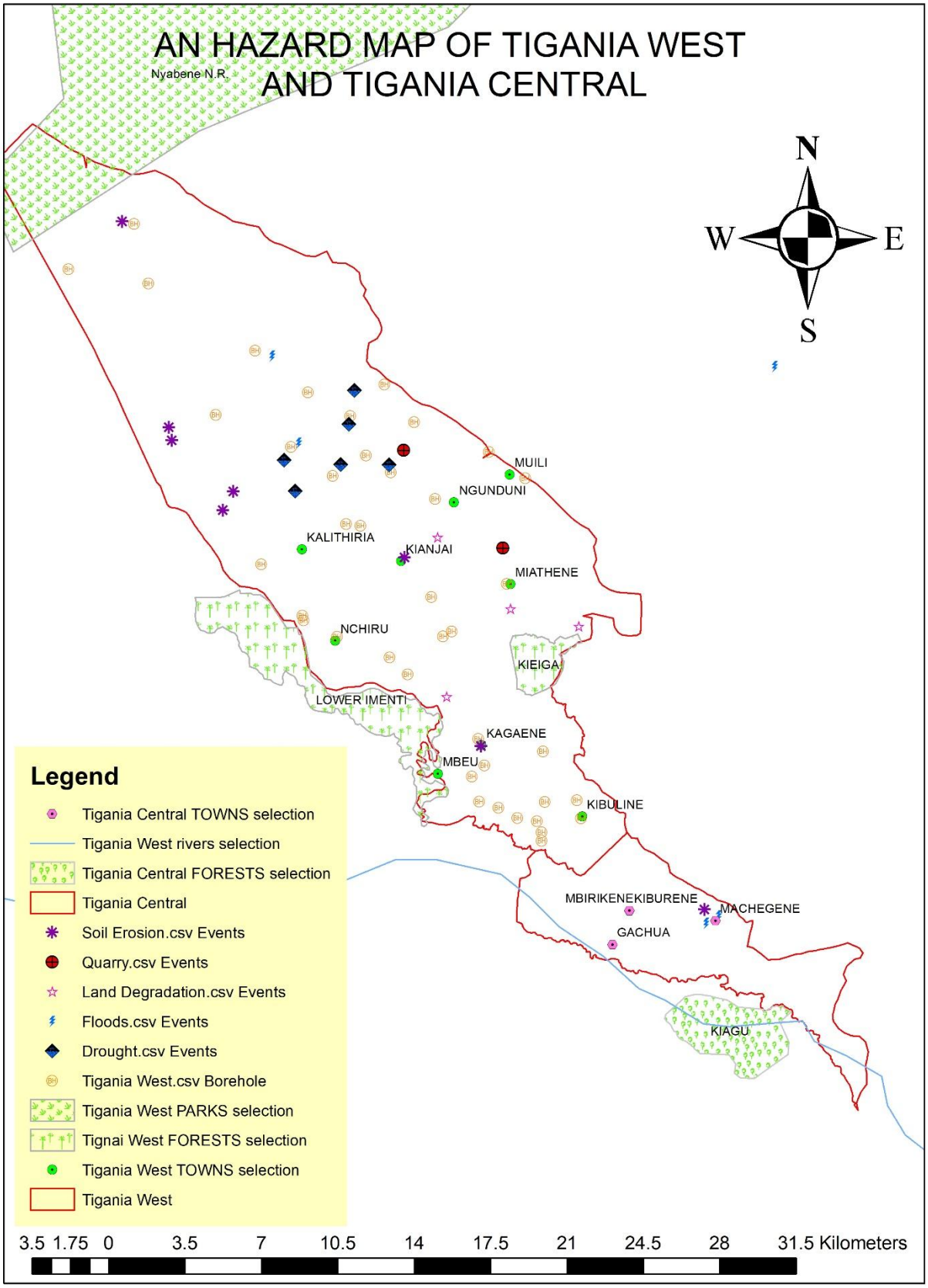
AN HAZARD MAP OF IGEMBE CENTRAL




A MAP OF HAZARDS IN IMENTI SOUTH
Legend
TOWNS selection
Imenti South rivers selection
Imenti South PARKS selection
Imenti South FORESTS selection
Imenti South.csv Borehole
Deforestation.csv Events
Drought.csv Events
Environmental Degradation.csv Events
Floods.csv Events
Landslides.csv Events
Quarry.csv Events
Soil Erosion.csv Events
Imenti South
N
W
E
S
KITHIRUNE
NKURIGA
NGANDO
URUKU
UKUU
MARIMBA
RUBIRI
KATHERA
NKUBU
NDAGENE
KIAMIGOGO
GAATIA
KAGURU
NDAMENE
KATHIRUNE
NGONGO
BARANGA
KIAMURIO
MITUNGUU
KARIENE
KIONYO
GANDENE
NTARENE
MUUTIOKIAMA
MURUNGURUNI
GUMPIRA
GATURI
RURU
MAARAMARAA
MUCOMONE
GUMPIRA
KARITHINE
MUCOGOMONE
KIRIRIA
THUNGURU HILL
KIRIRI
GETEINEGITINE
KIUNE
MWERU
KIROONE
KINORO
MUTUNGULU
MUTUKURU
IGOJI
GOJI
KARIA
River Mitonga
Mt. Kenya N.P.
Mt. Kenya N R
MOUNT KENYA
River Chuka
5 2.5 0 5 10 15 20 25 30 35 40 45 Kilometers


A MAP OF HAZARDS IN TIGANIA EAST
N
W
E
S
KARAMA
MUTHARA
MURIRI
NYAMBENI
KARACHINE
KIBITHEWA
CHARURU
KAILUNE
MUCHUKURU
NYAMBENI
KIGOCHWA
AMUGAA
ANKAMIA
MIKINDURI
KIEIGA
AKAIGA
KAATHI
KUNATI
KAGNATATHUURI
NGONGO AKA
MURIKA
RURII
KARANTINAKARATINA
Legend
Tigania East.csv Boreholes
Tigania East Towns
Tigania East Forest Selection
Tigania East Major Roads
Deforestation.csv Events
Drought.csv Events
Environmental Degradation.csv Events
Floods.csv Events
Quarry.csv Events
Soil Erosion.csv Events
Wind Erosion.csv Events
Tigania East
3 1.5 0 3 6 9 12 15 18 21 24 27 Kilometers


A MAP OF HAZARDS IN IGEMBE SOUTH
N
W
E
S
MIORI
KIEGOI
MAUA
NTHARE
KARURUNE
NDILA
AUKI
ATHI GAITI
KILAONE
NYAMBENI
KIJI
KIMONGORO
KILILI
KANUNI
ATHI
KANGORO
AMUNJU
TUMUTUMU
NKINJA
KIANDA
UGOTI
KISIMANI
Meru N.P.
Bisanadi N.R
River Sadana
Legend
Igembe South.csv Boreholes
PARKS selection
Igembe South Towns
Igembe South Rivers Selection
Igembe South Forest Selection
Deforestation.csv Events
Drought.csv Events
ED.csv Events
Flashfloods.csv Events
Land Slide.csv Events
Soil Erosion.csv Events
Igembe South
4 2 0 4 8 12 16 20 24 28 32 36 Kilometers


AN HAZARD MAP OF TIGANIA WEST AND TIGANIA CENTRAL
Nyabene N.R.
N
W
E
S
MUILI
NGUNDUNI
KALITHIRIA
KIANJAI
MIATHENE
NCHIRU
KIEIGA
LOWER IMENTI
KAGAENE
MBEU
KIBULINE
MBIRIKENEKIBURENE
MACHEGENE
GACHUA
KIAGU
Legend
Tigania Central TOWNS selection
Tigania West rivers selection
Tigania Central FORESTS selection
Tigania Central
Soil Erosion.csv Events
Quarry.csv Events
Land Degradation.csv Events
Floods.csv Events
Drought.csv Events
Tigania West.csv Borehole
Tigania West PARKS selection
Tignai West FORESTS selection
Tigania West TOWNS selection
Tigania West
3.5 1.75 0 3.5 7 10.5 14 17.5 21 24.5 28 31.5 Kilometers

ANNEX II: PCRA AND CCCAP MULTI-STAKEHOLDER WORKSHOP PARTICIPANTS				
SNO	**NAME**	**DESIGNATION**	**ORGANIZATON**	**TEL. NO**
1	RUTH KAWIRA	CEO	NETCARE	720135502
2	DAISY MAINA		NEMA	796252729
3	JAMES KANYI		KPCG	729037817
4	MILKA MUSYOKI		NATURE KENYA	720703213
5	CHARLENE WANDELA		MT. KENYA TRUST	726228333
6	BEN MWANGI		KFS	728101241
7	JOHN NGALIA		KWS	727565053
8	PATRICK MWIRIGI		MERU WRUAS	725321299
9	ZIPPORAH MATUMBI		CFA	725664059
10	DANIEL KARANJA		EDEN RESTORATION	718034897
11	MORIS KIRIMI	DIRECTOR	CARITAS	721355650
12	NURO A GODANA		NDMA	720488916
13	JUSTIN MURIITHI		MET	735809085
14	JOHN KINOTI		LEWA DOWNS	721661072
15	EVANS KIOGORA		MEDIA COUNCIL	724777404
16	KANANA NTEERE	CHAIRLADY	MAENDELEO YA WANAWAKE	724555501
17	REUBEN MUTHINJA		WRA	720987608
18	MOHAMMED SALIM		SUPKEM	722261889
19	RAMJI VENOD		CHAMBER OF COMMERCE	722872314
20	STEPHEN MWORIA	CHAIRMAN	NJURI NCHEKE IMENTI	727515101
21	JOSEPH MURIUNGI	CHAIRMAN	NJURI NCHEKE TIGANIA	721348160
22	FRANCIS GITIYE	MEMBER	NJURI NCHEKE	714015567
23	PATRICK M'ACIETA	CHAIRMAN/PWD	NJURI NCHEKE IMENTI NORTH	727473260
24	DR. ESTHER MBAABU		KEMU	722552530

25	JOSHUA THAMBURA		MUST	722351312
26	ONESMUS KIRUI		MUST	724716912
27	DR. MUCHIRI		KEMU	705269086
28	MWENDA ITHANA	CECM	EDUCATION,GENDER,CULTURE	
29	MONICA KATHONO	CECM	FINANCE	
30	JACKSON MUTHAMIA	CECM	WATER,ENVIRONMENT&C C	724644798
31	GEORGE MUNGANIA	CECM	HEALTH	727326193
32	ANGELO GITONGA	DIRECTOR	WATER,ENVIRONMENT&C C	725851659
33	PAUL MWITI MBAE		YOUTH REP	726238935
34	FRANCIS MITHIKA		PRIVATE SECTOR	710411523
35	DENNIS MURIIRA	DIRECTOR	YOUTH REP	726683155
36	JANICE KAGENI IKIANYA	DIRECTOR	SOCIAL SAFEGUARDS	712443788
37	JOYCE KAGWIRIA	CCU	ENV OFFICER NORTH IMENTI	724986029
38	RITA MURUNGI	CCU	ENVIRONMENTAL SAFEGUARDS	722556168
39	EVELYN KAIMENYI	CCU	GRM	721946210
40	PURITY NKATHA	CCU	ADMIN	726789268
41	KELVIN MUNENE	CCU	COMMUNICATION	743165896
42	NELLY GATWIRI	CCU	GIS	729533089
43	GEORGE MWENDA	CCU	DATA ANALYST	710613012
44	JAMES KOOME	CCU	ACCOUNTANT	725875748
45	BONFACE MIRITI	CCU	M&E	700676970
46	STANLEY KIUNGA	CCU	ENV OFFICER IMENTI CENTRAL	103593678
47	FLORENCE GAKII	CCU	ENV OFFICER TIGANIA EAST	729948911
48	ELLYJOY MUKOMUNENE	CCU	ENV IGEMBE SOUTH	719831756
49	FRANK KOOME	CCU	ENV IGEMBE CENTRAL	706948166
50	MISHECK THIRARI	CCU	ENV IGEMBE NORTH	714643420
51	ELIJAH KOBIA	CCU	NATURAL RESOURCES	727663486

52	ALEX GUANTAI	CCU	BUURI EAST	727546720
53	PURITY WANJA	CCU	TIGANIA WEST	729746547
54	EDITH MUKAMI		SIGN LANGUAGE INTERPRATOR	721416001
55	ADIEL MURITHI	PWD	MEMBER	713072205
56	BEATRICE KIMATHI	PWD	BOARD MEMBER	720215416
57	DOREEN MWENDWA	PWD	MEMBER	708403202
58	THOMAS KITHINJI	PWD	MEMBER	725705765
59	ISAIAH NKUMBUKU	PWD	MEMBER	728739121
60	REV. SOLOMON GITONGA	PWD	ADAP KENYA	111899056
61	MOSES KIMSON		MUYOFO	758166721
62	ATHANASIO KOBIA	PWD	GREEN CHAMPION MPOROKO PWD	726161393
63	KEN MATIBA		GREEN CHAMPION THANGATHA	795895836
64	NATHAN MUTABARI		CGM	723422309
65	ISAAC KIOME		GREEN CHAMPION	720876538
66	KARANI MWENDA		GREEN CHAMPION	719414569
67	LINUS KAIYONGI		KARAMA CBO	728260360
68	SHADRACK GITONGA		SALI CBO	726981055
69	JUSTUS MWINZI		GREEN CHAMP ATHIRU	700694966
70	RASHID O. WAZIR		SUPKEM	726882404
71	ACHIKU DANIEL		GREEN CHAMP MUTHARA	718331339
72	SELINA KITHINJI		ALF	728526603
73	FRANCIS MUTHWA		GREEN CHAMP IGEMMBE .C	710411523
74	PATRICK MURITHI		NETCARE	716208082
75	NICHOLUS MUREGA		GREEN CHAMP/YOUTH NYAKI WEST	745771972
76	WALTER M MUTWIWA		NETCARE	712557212
77	JOHN MAGAJU		GREEN CHAMP MUNICIPALITY	720881033
78	KOBIA JULIUS		GREEN CHAMP IGEMBE C	723890703

79	TITUS MURITHI		FCPS	700773545
80	MARTHA K MUGUNA		NETCARE	712093663
81	JOHN KIRERIA		GREEN CHAMPION	725705765
82	HENRY KINYUA		NCFA	727080158
83	JAMLICK THARAMBA		NETCARE	713224952
84	PHYLLIS MURUNGI		GREEN CHAMPION	721526445
85	DAVID GIKUNDA		MWERU CFA	724087450
86	MARY KIRIMA		FORK	711655074
87	NANG GACHERI		KFS	702671417
88	DORCAS MAKENA		CIFORD KENYA	724625264
89	NAMAN MUKARIA		MAUA DEAF COMMUNITY	713778325
90	ELIAS MWIRIGI		KFS	720251818
91	MARTIN MWIRIGI		GREEN CHAMPION	704728283
92	JOHN MBAABU		KAMULU CFA	721335522
93	MUKUCHA JOSHUA		CGM	711572615
94	EDWARD GITONGA		GREEN CHAMPION IGEMBE NORTH	740066301
95	BRIAN THURANIRA		KFS	725661503
96	MARGARET MUGURE		KFS	729262861
97	LONAH KAGENDO		CGM-ENV	798449371
98	ERIC GIKUNDA		CGM	724757880
99	KEN KIRIMA		CGM	703445495
100	DANIEL KITHIA		GREEN CHAMPION	725238447