COUNTY GOVERNMENT OF VIHIGA

COUNTY CLIMATE CHANGE ACTION PLAN (CCCAP) 2023-2027.

The Vihiga County Climate Change Action Plan (CCCAP) (2023-2028)

COUNTY GOVERNMENT OF VIHIGA

Printed by;

Kadesh Ventures

P.O. Box, 45637 - 00100

GPO, KENYA.

Telephone 07224 352 399

E-mail- kadeshventuresltd@gmail.com

For bibliographic purposes this document shall be cited as follows:

County Government of Vihiga (2023) County Climate Change Action Plan (CCCAP) (2023-2028)

Directorate of Climate Change.

All Correspondence should be addressed to:

The Governor,

County Government of Vihiga,

P.O Box 344 – 50300,

Maragoli.

Or

Tel: 0800 720 378

e-mail: directorclimatechange@Vihiga.go.ke

APENDIX 4: EDITORIAL TEAM

NAME	DESIGNATION
1. Dr. Richard Boiyo	Chief Officer, Department of Environment, Energy, Natural Resources and Climate Change
2. Winston M. Atamba	Director – Directorate of Climate Change
3. Alice Musuluve	Environment Officer
4. Caren Olesi	Environment Officer
5. Alex Ogola	Environment Officer
6. Irene Obura	Environment Officer
7. Hudson Mukanga	Environmental Planner

FOREWORD

Climate hazards such as floods, droughts, temperature extremes, shifts in rainfall patterns, rising sea level are projected to increase in frequency and intensity across Africa (UNFCCC, 2021). These adversely affect food and nutrition security, human health and infrastructure, the environment, water resources and presents significant disaster risks to exposed populations. Addressing the above challenges will be a great milestone towards realization of Sustainable Development Goals across all sectors.

Kenya, like many other African countries, suffers from climate change impacts such as droughts with 2020- 2023 being the most severe and longest in recent times. The drought exposed more than 4.2 million people to high levels of acute food insecurity. Severe floods are projected to leave about 5.4 million people in Kenya without adequate access to food and water between March and June 2023 while Erratic Rainfall Patterns adversely affect agricultural productivity given the high dependence on rain-fed agriculture.

The Vihiga County Climate Change Action plan 2023-2027 shall coordinate the County's Climate Change adaptation and mitigation actions. This Plan is a framework for the County contribution towards the achievement of Kenya's Nationally Determined Contribution (NDC) under the Paris Agreement.

This Action Plan is based on the Vihiga County Participatory Climate Risk Assessment (PCRA) exercise which was carried out between July 2022 and February 2023, to prioritize climate change risks and propose response strategies. The prioritized climate risks in Vihiga are: erratic rainfall patterns, environmental degradation manifested through soil erosion, gulleys and landslides; degradation and reduction in the quantities and quality of water resources, prevalence of pests and diseases. These climate hazards with their associated impacts pose significant disaster risks to communities.

The aforementioned climate change impacts call for coordinated mitigation and adaptation strategies prioritized by the affected communities. The Vihiga County Climate Change

Action Plan, 2023-2027 provides a framework for coordinated prioritization, financing and implementation of climate action. Based on the PCRA findings, the Action Plan prioritizes resilience actions in water resources conservation and management, agriculture, environmental conservation and disaster risk reduction.

This is in line with the National Climate Change Act, 2016 and National Climate Change Action Plan, 2018-2022, which requires counties to mainstream climate action in their functions and programs. Furthermore, Section 5.2.2 of the Vihiga County Climate Change Policy and the Vihiga County Climate Change Act, 2019 (Amended 2021) guides financing and implementation of Climate Change Programs in the County.

The County Government Vihiga, through this Climate Change Action Plan, sets its climate financing target at KES. 1.46 Billion. The County Government through the County Climate Change Fund shall contribute 2% of the County's total annual budget as stipulated in the Vihiga County Climate Change Fund Act, 2019 (Amended 2021). This amounts to a total of KES. 400 Millionfor the 5 years of the action plan which is an equivalent of 27.4% of the total action plan budget.

The County also expects to receive a total sum of KES. 400 million or 27.4% of the total action plan budget from FLLoCA, in three financial years ending in 2026. The money shall be used for implementation of this Action Plan. The remaining climate financing gap of 45.2% (KES. 657 million),shall be realized through mainstreaming of climate actions across National and County Government Departments and Agencies, Civil Society Organizations (CSOs), Faith Based Organization (FBOs), Private Sector and other resource mobilization strategies.

Implementation of this Action Plan shall be enabled by the Climate Change Governance Framework established in the County. The Vihiga County Climate Change Steering Committee shall provide strategic leadership during implementation while Vihiga County Climate Change Planning Committee shall plan and supervise implementation. Ward Climate Change Planning Committees shall facilitate community- centered climate action planning and implementation. The Directorate of Climate Change shall coordinate implementation of the county's climate change programs, while the County Environment Committee (CEC) shall provide guidance on all matters of environmental concerns during the entire implementation period.

H.E. Dr. Wilber K. Ottichilo, (E.G.H)
Governor, Vihiga County

APENDIX 3: VIHIGA COUNTY CLIMATE CHANGE TECHNICAL WORKING GROUP, 2023

	NAME	DESIGNATION
1.	Dr. Richard Boiyo	Chief Officer Department of Environment, Energy, Natural Resources and Climate change
2.	Winstone Atamba	Director – Directorate of Climate Change and Technical Coordinator
3.	Alice Musuluve	Climate Change officer
4.	Godfrey Omusonga	County Director Meteorology
5.	Valery Kidaha	Geospatial Technology Services Officer
6.	Patrick Amoke	Sub County Water Officer
7.	Henry S. Anjila	County Livestock Production Officer
8.	Benard Oremo	County Social Development Officer
9.	Frankline Muganda	Economic Planning Officer
10.	Darence Aligula	Public Participation Officer
11.	Juliet Ajema	Program Coordinator- SOFDI
12.	Brenda Okong'o	Climate Change Project Coordinator - ADS Western
13.	Brenda Obura	Environment Officer-NEMA
14.	Lindah Mudaki	Communication Officer

Figure 25: An image of a landslide at Madira village in Lugaga/ Wamuluma Ward.

EXECUTIVE SUMMARY

The National Climate Change Act, 2016 requires County Governments to develop Climate Change Action Plans in order to outline mitigation and adaptation measures towards mainstreaming of Climate Change into County plans and functions. This Vihiga County Climate Change Action Plan is a framework for coordinating prioritization and implementation of community resilience investments.

The main objective of this Action Plan is to guide planning, identification of priority areas, budgeting and implementation of climate action in Vihiga County. Specifically, the Action Plan shall guide utilization of finances under the Vihiga County Climate Change Fund, into which 2% of the County Budget is apportioned for climate action in line with the Vihiga County Climate Change Fund Act, 2019(Amended 2021). A County Climate Change Action Plan is one of the requirements for accessing the National Treasury's Financing Locally Led Climate Action Program (FLLoCA) County Climate Resilience Investment Grants (CCRI). This climate change action plan shall enable mobilization of resources for climate action from external sources.

Building on the Participatory Climate Change Risk Assessment (PCRA) with guidance from the National Treasury's FLLoCA program, the process of formulating this Climate Change Action Plan Involved: Formation and training of the Technical Working Group, community engagements at ward level to prioritize actions for risks identified during the PCRA. Subsequently, Climate Change Action Plan writing and multi-stakeholder validation workshops were held at the county level. This culminated in cabinet approval of the Action plan on 30th May 2023.

This Action plan proposes response strategies for climate risks and their impacts identified during the Participatory Climate Risk Assessment in the County. The risks include: prolonged dry spells, erratic rainfall patterns, strong winds, flash floods, emerging pests, diseases and noxious weeds. In addition, Environmental degradation mainly manifested through soil erosion, degradation of water catchment areas and landslides. Other climate related hazards such as hailstones and lightening are experienced across the county.

This action presents sector wise climate change response strategies prioritized through participatory processes. Adaptation strategies for the water sector include conservation and restoration of water catchment areas and wetlands, promotion of rain water harvesting, afforestation, improved drainage and integrated watershed management and investment in climate resilient water storage and reticulation infrastructure. Mainstreaming of renewable energy such as solar and gravity in water supply is also proposed.

In the agriculture sector, prioritized strategies include entails promotion of climate smart agriculture, diversification of livelihoods, strengthening extension services, soil and water conservation and regulation of human activities in riparian areas. Other strategies include integrated pest and disease management to be achieved through establishing crop pest and disease surveillance and capacity building and promotion of crop and livestock insurances in the agricultural sector.

Prioritized response strategies for the environment sector include: afforestation and reforestation, protection of ecologically sensitive areas, reclamation and rehabilitation of degraded sites, Control of pests and diseases for sustainable environmental management, capacity building on environmental conservation. County spatial planning was proposed to be undertaken to guide settlements away from disaster prone areas.

Strategies proposed for addressing climate related disaster risks include: development of early warning systems and enhancing dissemination of weather/climate information, strengthening institutional framework for disaster risk reduction and contingency planning. The Action Plan calls for: -capacity building, strengthening response capacity, pest surveillance, strengthening extension services and resource mobilization as well as installation of lightning arrestors in strategic public institutions as disaster risk reduction measures.

The County therefore, expects to receive a total sum of KES. 400 million or 27.4% of the total action plan budget from the FLLoCA, in three financial years ending in 2026. This money shall be used for the implementation of this Action Plan. The 45.2 per cent climate financing gap, which is equivalent to KES. 657 million, shall be realized through mainstreaming of climate actions across National and County Government Ministries, Departments and Agencies (MDAs, Civil Society Organizations, (CSOs) Faith Based Organization (FBOs) Private Sector and other resource mobilization strategies.

Hon Meshak Onzere Mulongo,
County Executive Committee Member (CECM),
Environment, Energy, Water, Natural Resources and Climate Change.

Figure 19: *Chavakali and Izava/Lyaduywa wards*

Figure 20: *Mungoma and Central Maragoli wards*

Figure 21: *Lugaga/Wamuluma and Central Maragoli Wards*

Figure 22: *North East Bunyore and Wemilabi Wards*

Figure 23: *An area affected by flooding in Tambua Ward*

Figure 24: *Central Bunyore and West Bunyore Wards*

Figure 13: *Shiru Ward*

Figure 14: *Wodanga Ward*

Figure 15: *Gisambai Ward*

Figure 16: *North Maragoli Ward.*

Figure 17: *Tambua and Jepkoyai Wards*

Figure 18: *Busali Ward and West Sabatia wards*

ACKNOWLEDGEMENT

I highly acknowledge H. E Dr. Wilber K. Ottichilo, E.G.H, the Governor of Vihiga County and the Climate Change Steering Committee for strategic guidance that made the development of this Action Plan successful.

I highly appreciate the National Treasury's FLoCCA Program Implementation Unit for the financial and technical support that enabled successful completion of this Action Plan. The Vihiga County Directorate of Climate Change and Members of the Action Planning Task Force that coordinated the successful completion of this Action Plan are sincerely appreciated.

Appreciation also goes to the members of the County Assembly, Ward administrators, Chiefs and Assistant Chiefs who were instrumental in mobilizing the communities during engagement processes. Contributions of county technical staff, National Government, civil society, the academia, women's groups, youth groups, and the private sector towards development of this Action plan is also acknowledged.

The County acknowledges the contribution of communities for their active participation in the identification and prioritization of climate change issues in their Wards which informed the process of developing this action plan. The Ward Climate Change Planning Committees are also appreciated for their role in identification and prioritization of response strategies. Last but not least I want to appreciate the input of the editorial team who put in a lot of man-hours to ensure that this action plan is well presented.

Dr. Richard Boiyo, PhD

Chief Officer,

Environment Energy, Natural Resources and Climate Change

TABLE OF CONTENTS

ANNEX 2: PHOTOGRAPHIC EVIDENCE FOR CCAP CONSULTATIVE MEETINGS.

The following are images of stakeholders engagement on CCAP preparation for each Ward.

Figure 7: *Luanda Township Ward*

Figure 8:*Banja Ward*

Figure 9: *Luanda South Ward*

Figure 10: *Emabungo ward.*

Figure 11: *Muhudu Ward*

Figure 12: *Mwibona ward.*

Ward	Hazard	Impact	Priority Actions	Targeted Group/s	Targeted Area	Source of Funds	Responsible	Timeframe in Years					
Emabungo Ward	Environmental degradation	• Soil erosion • Siltation of rivers	• Awareness creation on the environmental conservation • Land reclamation & rehabilitation programs (like Nusery establishment and tree planting activities)	• Farmers living near steep slopes • Children • Persons Living with Disability • Elderly	Emabungo Ward	• CGV • FLOCCA • Devt. Patners	• Dept. of A & L Directorate of CC • Dept. of Water						
	Unpredictable rainfall patterns	• Food insecurity											
	Prolonged dry spell	• Reduced water availability both for domestic and agricultural production											
Luanda South	Environmental degradation	• Soil erosion • Siltation of rivers • Accidents/death	• Climate smart agriculture • Enhanced Water harvesting and storage technologies • Agroforestry	• Farmers living in environmentally degraded areas • School going children living in the affected areas	Luanda South	• CGV • FLOCCA • Devpt. Patners	• Dept. of A & L Directorate of CC • Dept. of Water, Dept. of Envnt, NEMA						
	Unpredictable rainfall patterns	• Food insecurity											
	Prolonged dry spell	• Delayed planting • Low food productivity • Emergency of invasive pests like Fall Army Worm, African army worm • Loss of animal fodder and vegetation cover • Water shortage due to drying of water sources											
West Bunyore	Unpredictable rainfall patterns	• Low food productivity	• Climate smart agriculture • Enhanced Water harvesting and storage technologies • Wetland and Riparian protection policy	• Farmers living in environmentally degraded areas • School going children living in the affected areas	West Bunyore	• CGV • FLOCCA • Devpt. Patners	• Dept. of A & L Directorate of CC • Dept. of Water, Dept. of Envnt, NEMA						
	Shifts in rainfall patterns	• Extinction of indigenous plant species											
	Prolonged dry spell	• Low food productivity • Emergency of invasive pests like Fall Army Worm, African army worm • Loss of animal fodder & vegetation cover • Water shortage due to drying of water sources											
Central Bunyore	Unpredictable rainfall patterns	• Flooding and landslides • Drying water sources, • Increase in pests and diseases	• Climate smart agriculture • Increase green energy technology • Land reclamation and rehabilitation programs like Nursery establishment and tree planting activities	• Children • Crop farmers • Livestock farmers • Elderly, • business community, • PWD	Central Bunyore	• CGV • FLOCCA • Devpt. Partners	• Dept. of A & L Directorate of CC • Dept. of Water, Dept. of Envnt, NEMA						
	Pests and diseases	• low crop yields • Loss of lives for livestock, increased cost of production and living conditions											
	Environmental degradation	• Increased water, soil and air pollution, poor transport and communication networks, • Dried water sources											
Wemilabi	Prolonged dry season	• Flooding and landslides • Reduction in Agricultural production	• Protection of existing unsafe water sources (springs/borehole drilling) • Enhanced Water harvesting & storage technologies • Tree planting & Agroforestry • Construction of foot bridges	• School going children • Crop farmers • Livestock farmers • Elderly, • Business community, • PWD, • Youth, • Women	Wemilabi	• CGV • FLOCCA • Devpt. Partners	• Dept. of A & L Directorate of CC • Dept. of Water, Dept. of Envnt, NEMA						
	Deforestation	• Reduced fish farming • Destruction of habitat and indigenous trees • Global warming											
	Flooding	• Soil erosion • Destruction of infrastructure											
Luanda Township	Unpredictable rainfall patterns	• Soil infertility • Low crop yields, • drying water sources, increase in pests and diseases,	• Climate smart agriculture • Increasing water sources through piping • Construction of water reservoirs • Capacity building on soil erosion	• Farmers • Business community • Children • PWD	Luanda Township	• CGV • FLOCCA • Devpt. Partners	• Dept. of A & L Directorate of CC • Dept. of Water, Dept. of Envnt, NEMA						
	Prolonged dry spell	• Low crop yields, post-harvest losses, • Loss of lives for livestock, increased cost of production and living conditions											
	Soil erosion	• Low food productivity • High cost of living, • Siltation in rivers, • Destruction of infrastructure											
		• Food insecurity											
Mwibona	Unpredictable rainfall patterns	• Low crop yields • Food insecurity • Soil erosion • Drying water sources • Emergency of invasive pests like Fall Army Worm, African army worm	• Climate Smart Agriculture • Increase green energy technologies • Enhanced Water harvesting & storage technologies • Livelihoods diversification • Nursery establishment and tree planting activities	• Children • Crop farmers • Livestock farmers • Elderly, • Business Community, • PWD	Mwibona	• CGV • FLOCCA • Devpt. Partners	• Dept. of A & L Directorate of CC • Dept. of Water, Dept. of Envnt, NEMA						
	Prolonged dry spells	• Food insecurity • Water shortages • Crop failure											
	Environmental degradation	• Landslides • Soil erosion • Destruction of infrastructure, • Food insecurity											

Ward	Hazard	Impact	Priority Actions	Targeted Group/s	Targeted Area	Source of Funds	Responsible	Timeframe in Years				
Tambua	Prolonged dry season	• Loss of pasture • Drying of water Sources • Drying of Crops • Emergence of Pests and diseases	• enhance climate smart agriculture • Rain water harvesting • drilling of borcholes	• Elderly person • School going children • PWD	• Gamalenga, • Gimarakwa, • Kiptemes, • Mwembe	• CGV • FLLoCA	• Directorate of CC					
	Landslides	• Destruction of property • Death /loss of life • Destruction of infrastructure and homesteads	• Geological research on fault lines • Planting of trees • Buying off of lands near affected areas and residents moving on other areas • Hydrological research on water pathways/aquifers • Provision of alternative sources of livelihoods e beekeeping, fish farming and fruit farming	• Elderly persons School going children PWD	• Mwembe, • viyalo, • ikonza & Suguta, • Gamarakwa, • Kiptemes	• CGV • FLLoCA	• Research institutes • Dept. of Envnt.					
	Environmental degradation	• Mudslides • Soil Erosion • Reduced water levels	• Sensitization and awareness creation on environmental conservation • Planting of indigenous trees • Enforcement of policies against sand harvesting • Enforcement of policies on planting of Eucalyptus along river banks • Provision of alternative source of livelihood	• Elderly persons • School going children • PWD	Tambua	• CGV • FLLoCA	• Dept. of Envnt. • Community					
Gisambai	Unreliable rainfall	• Food insecurity • Destruction of infrastructure • Loss of lives and property	• Roof water catchment	• Elderly persons School going children PWD Elderly persons	Gisambai	• CGV • FLLoCA	• Dept. of Envnt					
	Environmental degradation (Landslides, soil erosion)	• Loss of lives and property	• digging of trenches to reduce soil erosion	• School going children • PWD • women	Ward wide	• CGV • FLLoCA	• Dept. of Envnt.					
	Crop pests and diseases	• Low agricultural productivity	• Intercropping and crop rotation	• Farmers	Gisambai	• CGV • FLLoCA	• Dept. of A & L					
Banja	Environmental degradation	• Soil infertility, • Destruction of infrastructure	• Building of gabions, Afforestation	• Elderly persons • Community	Ward wide	• CGV • FLLoCA	• Dept of Envnt • Directorate of CC					
	Prolonged dry spell	• Reduced Pastures and water for livestock	• Provision of irrigation schemes, establishment of green houses	• School going children • Community	Ward wide	• CGV • FLLoCA	• Dept. of Envnt. • Directorate of CC					
	Unreliable rainfall	• Food insecurity	• Water harvesting	• PWD, • Business community, • Elderly persons, • School going children	Ward wide	• CGV/FLLoCA	• Dept. of A & L • Directorate of Climate Change					
Muhudu	Unpredictable rainfall/Intense	• low crop productivity • Soil erosion • Outbreak of diseases	• Digging of terraces • Use of sand bags, • Agricultural advisories	• Elderly persons	Ward wide	• CGV/FLLoCA	• Dept. of A & L • Directorate of CC					
	Environmental degradation (Defforestation,Mining)	• Drying of water sources, • Increased soil erosion, • Low crop productivity, • Extinction of some animals and birds species, • Reduction in herbal medicines natural fruits and honey, • Water pollution	• Restricting mining activities along river banks, • Planting of indigenous trees • Rain water harvesting, • Sinking of shallow wells	• Farmers	Ward wide	• CGV • FLLoCA	• Dept. of A & L • Directorate of CC					
	Invasive pests and diseases	• Low livestock productivity • low quality crop production due to on farm losses and post-harvest losses, • Increased human diseases	• Livelihood diversification, • Vaccination of animals, • use of mosquito nets, • immunization and vaccination	• PWD • Farmers	Ward wide	• CGV • FLLoCA	• Dept. of A & L • Dept. of health • Directorate of CC					
Shiru	Unpredictable rainfall pattern	• Crop failure, pest and diseases, • Changing Cropping calendar affecting productivity	• Small scale irrigation • Agriculture advisories, • Rain water harvesting	• Farmers • Community	Ward wide	• CGV/FLLoCA	• Dept. of A & L • Dept. of Envnt. • Directorate of CC					
	Soil Erosion	• Gulley, siltation, landslides, poor drainage, increased • Water pollution, • Soil infertility	• Terracing, • mulching, • cover crops, • Zero grazing units	• Community • Traditional herbalists	Ward wide	• CGV • FLLoCA	• Dept. of A & L • Dept. of Envnt.					
	Extreme temperatures	• Emergence of pests and diseases	• Integrated pest and disease control	• Children, Expectant mothers , • PWD	Ward wide	• CGV • FLLoCA	• Dept. of A & L					
North East Bunyore Ward	Prolonged dry spell	• Reduced crop productivity • Water shortage due to drying of water sources • Emergency of invasive pests like Fall Army Worm, African army worm	• Climate smart agriculture • Enhance Water harvesting and storage technologies • Soil and land management practices	• Children • Crop farmers • Livestock farmers • Elderly	Entire North East Bunyore Ward	• CGV • FLOCCA • Devt • partners	• Dept. of A & L • Directorate of CC • Dept. of Water					
	Shifts in rainfall patterns	• Delayed planting										
	Unpredictable rainfall patterns	• On farm, • Harvest and Post-harvest losses										

Ward	Hazard	Impact	Priority Actions	Targeted Group/s	Targeted Area	Source of Funds	Responsible	Timeframe in Years				
Wodanga Ward	Pests and Diseases	• Reduced crop yield, • Post-harvest losses, • Outbreak of diseases	• Climate Smart Agriculture, • Awareness Creation, • Integrated pest management,	• Elderly • Children, • PWDs, • Farmers	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					
	Soil erosion	• Reduced crop yields • reduced soil fertility, • Siltation of water resource	• Soil and land management practices, • Promotion of rain water harvesting techniques									
	Prolonged dry spells	• Low crop productivity • Drying up of water sources, conflicts over resources, extinction of indigenous species										
North Maragoli	Prolonged dry spells,	• Low crop productivity • Drying up of water sources • Extinction of indigenous species, • Drying up of vegetation and pasture	• Promotion of climate smart agriculture, • Increase access to water, • Promotion of soil and land management services	• Farmers, • Women • School going children, • Business community	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					
	Invasive pests and diseases,	• Low crop yields, • Low livestock productivity, • Reduced immunity										
	Environmental degradation	• Food insecurity, • drying up of water sources, • Extinction of indigenous tree species										
Chavakali	Increased crop pest and diseases	• Low crop productivity • High cost of production	• Promotion of soil and land management practices. • Promotion of access to water, • Rain water harvesting	• PWDs • Farmers, • School going children, • Business community	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC • Dept. of A & L • Dept. of Envnt.					
	Environmental degradation	• Soil infertility, • Soil erosion, • High cost of production, • Water pollution										
	Prolong dry spells	• Reduced crop yields, • Outbreak of crop pest and diseases, • Extinction of indigenous species,										
Busali	Unpredictable rainfall patterns	• Low food production • ØLow incomes • ØInadequate water supply										
	Environmental degradation	• spread of diseases • Increased deaths										
	Increased pest and diseases	• low crop productivity • reduced immunity										
West Sabatia	Change in rainfall patterns	• Low crop procivity, • increased prevalence of communicable diseases, • Destruction of infrastructure, • water pollution, • waterborne diseases	• Irrigation, • Agroforestry, • Water harvesting									
	flooding	• Low crop productivity, • Displacement of people, • Destruction of property	• Soil and water conservation structures	• Farmers, • Community	Ward wide	• CGV • FLLoCA	• Directorate of CC • Dept. of A & L • Dept. of Agriculture					
	Extreme temperatures	• Emergence of pests and diseases	• Afforestation									
Shiru	Changing rainfall pattern	• Food insecurity, • Increased cost of agriculture • productivity • severe water shortage during dry seasons	• Planting of short seasoned crops • Planting of drought tolerant crops-cassava, sweet potatoes • water harvesting	• Children • Resource poor farmers around steep slopes	Ward Wide	• CGV • FLLoCA	• Dept. of Envnt. • Dept. of A & L					
	Landslides	• Displacement of people • Destruction of property and infrastructure • Siltation of rivers	• Digging trenches • Construct terraces • Community advisories to avoid settlements	• Children • Resource poor farmers around steep slopes	Ward Wide	• CGV • FLLoCA	• Dept. of Envnt. • Dept. of A & L					
	Environmental degradation	• Planting of Eucalyptus in wetlands leading to drying up of water sources • Sinking of land masses and land dereliction • Increased the cost of agricultural productivity	• Digging trenches • Planting cover crops	• Ward wide	Ward Wide	• CGV • FLLoCA	• Dept. of Envnt. • Dept. of A & L					

LIST OF FIGURES

APPENDICES

ANNEX 1: WARD CLIMATE CHANGE ACTION PLANS (2023 – 2028)

Ward	Hazard	Impact	Priority Actions	Targeted Group/s	Targeted Area	Source of Funds	Responsible	Timeframe in Years				
								1	2	3	4	5
Lugaga/ Wamuluma	Unpredictable rainfall patterns	• Low crop yields • Flooding • High cost of production • Increase in spread of diseases	• Promotion of Climate Smart Agriculture • Increasing access to water, • Establishment of Agricultural emergency kitty • Restoration of degraded landscape	• Farmers living in environmentally degraded areas.	Wardwide	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
	Shift in rainfall patterns	• Low crop yields, post-harvest losses, outbreak of diseases, soil erosion		• Business community around areas prone to flooding and soil erosion.	• Wardwide • Madira	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
	Prolonged dry seasons	• Low crop productivity. • Drying up of water sources • Outbreak of crop pests and diseases		• School going children around the areas prone to land slides and flooding. • People living with disabilities	Wardwide	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
Central Maragoli	Emergence of pests and diseases.	• Death of animals. • Low crop production • low livestock production, • Increase in incidences of diseases	• Promotion of Climate Smart Agriculture • Soil and land management practices. • Integrated pest management	• Children • Elderly • Farmers • women,	Central Maragoli	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
	Environmental degradation	• Soil erosion • Poor crop harvest • Flooding • Water pollution, • Destruction of infrastructure	• Rain water Harvesting for irrigation • Climate smart agriculture, I • Investment in renewable energy	• Children • Elderly • Farmers • Women,	Central Maragoli		• Dept. of Envnt. • Dept. of A & L					
	Intense rainfall (flooding and soil erosion)	• Low crop yields • Soil erosion • Flooding • Spread of diseases • Destruction of infrastructure	• Surface run off control through construction of dam	• Children • Elderly • Farmers • Women,	Ward wide							
South Maragoli	Environmental degradation	• Extinction of indigenous tree species • Reduction in soil fertility • Reduced rainfall	• Rain water harvesting for irrigation • Climate smart agriculture • Investment in renewable energy	• Children • Elderly • Farmers • Women,	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					
	Unpredictable rainfall pattern	• Reduced agricultural productivity • Increased post-harvest losses	• Adoption of Climate Smart Agriculture	• Children • Elderly • Farmers • Women,	Ward wide	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
	Food insecurity	• Reduced agricultural productivity • Land fragmentation	• Adoption of Climate Smart Agriculture	• Farmers	Ward wide	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
Mungoma	Change in rainfall Patterns	• Post-harvest losses, Outbreak of waterborne diseases	• Irrigation • Climate Smart Agriculture	• Children • Elderly • Farmers • Women	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					
	Pests and Diseases	• Post-harvest losses, Increased cost of agricultural production,	• Integrated crop pest and disease control	• Children, Elderly, Farmers, Women.	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					
	Landslides	• Distraction of property and infrastructure, • Displacement of people • Soil infertility	• Construction of gabions • Awareness creation • Afforestation and re-afforestation	• Children • Elderly • Farmers • Women	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					
Izava/Lyaduywa	Environmental degradation	• Water pollution • Loss of lives • Soil erosion	• üConstruction of gabions	• Elderly, Farmers, Children, PWDs	Izava/Lyaduywa	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
	Pests and Diseases	• Low livestock productivity • Low crop production	• Climate Smart Agriculture • Awareness • Creation, Integrated pest management • Soil and land management practices	• Community	Izava/Lyaduywa	• CGV • FLLoCA • Development Partners	• Dept. of A & L • Directorate of CC					
	Unpredictable/Intense rainfall	• Soil erosion • Soil infertility, • Post-harvest losses	• Adoption of Climate Smart Agriculture	• Elderly, Children, PWDs, Farmers	Ward wide	• CGV • FLLoCA • Development Partners	• Directorate of CC					

Hazards, Impacts and Objectives	Priority Actions	Expected Output/ Outcome	Key Performance Indicator	Responsible Institutions	Targeted Group/ Area	Timeframe 2023-2028 (in Years)					Source of Funds	INDICATIVE BUDGET (KES. Millions)					
						1	2	3	4	5		TOTAL	2023/4	2024/5	2025/6	2026/7	2027/8
Hazard 6: Prevalence of Pests and Diseases **Impacts:** • Reduced agricultural productivity • Increased cost of production • Crop failure • Loss of livelihood **Objective:** To reduce the effects of pests and diseases in agricultural production	Promote the adoption of integrated pest management strategies	• Integrated pest management strategies adopted	• No. of pest management strategies adopted • No. of farmers adopting integrated pest management.	• Dept. of A & L • Directorate of CC • Devpt. Partners • CSOs • Farmers	County wide						• CCF • FLLoCA	10	3	2	2	2	1
	Develop & implement early warning system	• early warning system developed & implemented	• No. of early warning systems developed & implemented	• Directorate of Disaster Mangt. • Dept. of A & L • Directorate of CC	County Wide						• CCCF • FLLoCA	10	2	2	2	2	2
	Total											**1460**	**276**	**317**	**313**	**285**	**269**

LIST OF TABLES

ACRONYMS

A&L	Agriculture and Lands
Ada	Adaptation Consortium
BAU	Business as Usual
CC	Climate Change
CCAP	Climate Change Action Plan
CCCF	County Climate Change Fund
CCCF	County Climate Change Fund
CGV	County Government of Vihiga
CH_4	Methane Gas
CIDP	County Integrated Development Plan
CISP	Climate Information Service Plan
CO_2	Carbon Dioxide
CSO	Civil Society Organizations
Dept.	Department
DNMP	Division of National Malaria Programme
ECDC	Early Childhood Development Centers
Envnt'	Environment
FBO	Faith Based Organization
FLLoCA	Financing Locally Led Climate Action
GHG	Green House Gas
GoK	Government of Kenya
Govt.	Government
HFCs	Hydro Fluoro Carbon
IPCC	Intergovernmental Panel on Climate Change
KCSAS	Kenya Climate Smart Agriculture Strategy
KeRRA	Kenya Rural Roads Authority
KFS	Kenya Forest Service
KMD	Kenya Meteorological Department
KURA	Kenya Urban Roads Authority
Mangt.	Management
MDAs	Government Ministries, Departments and Agencies

Hazards, Impacts and Objectives	Priority Actions	Expected Output/ Outcome	Key Performance Indicator	Responsible Institutions	Targeted Group/ Area	Timeframe 2023-2028 (in Years)					Source of Funds	INDICATIVE BUDGET (KES. Millions)					
						1	2	3	4	5		TOTAL	2023/4	2024/5	2025/6	2026/7	2027/8
Hazard 4: Hailstones **Impact:** Agricultural losses **Objective** Strengthen resilience of agriculture sector against hailstorms	Build capacity in adoption of smart agricultural practices	• smart agricultural practices adopted	• No. of smart agricultural practices adopted	• Dept. of A & L • Directorate of CC • KMD	Farmers						• CGV • FLoCCA • Devpt. Partners	10	2	2	2	2	2
	Adopt crop insurance policies	• Crop insurance policies adopted	• No. of insurance policies adopted • Types of insurance policies adopted	• Dept. of A & L • Dept. of T & I • Directorate of CC • Insurance Farms • Financial Institutions	Crop farmers (Hamisi, Luanda, Emuhaya)						• Communit • CGV • FLoCCA • Devpt. Partners	20	4	4	4	4	4
Hazard 5: Landslides • **Impacts:** Destruction of property & infrastructure • loss of lives **Objective:** To reduce the effects of landslides	Rehabilitate & protect fragile sites	• fragile sites rehabilitated	• No of fragile sites rehabilitated •	• Dept. of T & I • Directorate of CC • Dept. of Lands • Community • CSOs • KeRRA • KURA	County wide						• CGV • FLoCCA • Devpt. Partners	50	10	10	10	10	10
	Sensitize communities on protection of fragile sites	• Communities sensitized on protection of fragile sites	• No. of sensitization forums • No. of community members sensitized	• Dept. of A & L • Directorate of Public Participaiton • County Commissioner • Dept. of Envnt. • NEMA • Directorate of CC	County wide												
	Stabilize slope areas prone to landslides	• Slope areas stabilized	• No. of sloppy areas stabilized •	• Dept of Envnt. • Directorate of CC • Dept. of Lands • County Commissioner • Community • CSOs	County wide						• CGV • FLLoCA	25	5	5	5	5	5

Hazards, Impacts and Objectives	Priority Actions	Expected Output/ Outcome	Key Performance Indicator	Responsible Institutions	Targeted Group/ Area	Timeframe 2023-2028 (in Years)					Source of Funds	INDICATIVE BUDGET (KES. Millions)					
						1	2	3	4	5		TOTAL	2023/4	2024/5	2025/6	2026/7	2027/8
Hazard3: Floods • **Impacts** Soil erosion, gullies • Destruction of crops • Destruction of properties and infrastructure • Waterborne diseases • Water pollution **Objective** Reduce the adverse impacts of floods on livelihoods and infrastructure	Construct/ rehabilitate storm water drainages	• storm water drainages constructed/ rehabilitated	• No. of drainages constructed/ rehabilitated	• Dept. of T & I, • KeRRA • KURA • Directorate of CC • Dept of Envnt • Dept. of Lands	County wide						• CGV • FLoCCA • Devpt. Partners	30	6	6	6	6	6
	construct on farm storm water drainage & storage	• on farm storm water drainage constructed • on farm storm water storages constructed	• No. of on farm storm water drainage constructed • No. of on farm storm water storages constructed	• Dept. of A & L • CSOs • Directorate of CC • Dept. of T & I, • KeRRA • KURA	Farmers						• CGV/ • FLoCCA • Devpt. Partners	20	4	4	6	3	3
	Promote adoption of rain water harvesting techniques	• rain water harvesting technique adopted	• No of public institutions adopting rain water harvesting techniques • No of households adopting rain water harvesting techniques	• Directorate of water Directorate of CC • CSOs • Min. of Education • Min. of Health	• Community • Public Institutions						• CGV • FLoCCA • Devpt. Partners	100	20	20	20	20	20
	Rehabilitate degraded landscapes	• Degraded landscapes rehabilitated	• No. of degraded sites rehabilitated	• Dept of Envnt. • KFS • Dept. of T & I • KeRRA • KURA • Development Partners	County wide						• CGV • FLoCCA • CCCF	150	30	30	30	30	30
	Rehabilitate, protect & conserve riparian zones	• Riparian zones rehabilitated/ protected/ conserved	• No of riparian zones rehabilitate/ protected/ conserved.	• Dept of Envnt. • Directorate of CC • KFS • CSOs • CBOs • Development Partners	County wide						• CGV • FLoCCA • Devpt. Partners	100	30	20	20	20	10
	Develop & implement soil erosion control programmes	• Soil erosion control programmes developed • Soil erosion control programmes implemented	• No of soil control programmes developed • No. of control programmes implemented	• Dept. of A & L • Dept of Envnt. • Directorate of CC	County wide						• CGV • FLoCCA • Devpt. Partners	20	5	5	5	5	0

MDAs	Ministries, Departments and Agencies
MoA	Ministry of Agriculture
MoL	Ministry of Lands
MRV	Monitoring, Reporting and Verification
MtCO2eq.	Metric Tons of Carbon Dioxide Equivalent
MTP	Medium Term Plan
N_2O	Nitrogen Oxide
NAP	National Adaptation Plan
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contribution
NEMA	National Environment Management Authority
NF_3	Nitro Fluoride
NIB	National Irrigation Board
PCRA	Participatory Climate Risk Assessment
PWD	Persons with Disability
SF_6	Sulphur Fluoride
SOFDI	Sustainable Organic Farming and Development Initiatives
T&I	Transport and Infrastructure
TVTC	Technical and Vocational Training Centers
UNDP	United Nations Development Program
UNEP	United Nations Environment Programmes
UNFCCC	United Nations Framework Convention on Climate Change
VCCCAP	Vihiga County Climate Change Action Plan
WG	Working Group

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:	Ability of systems, institutions, humans, and other organisms to adjust to potential damage, take advantage of opportunities, or respond to consequences.
Climate Change:	Change in the climate system that is caused by significant changes in the concentration of greenhouse gasses due to human activities, and which is in addition to the natural Climate Change that has been observed during a considerable period.
Global warming:	Observed or projected gradual increase in global surface temperature. It is one of the consequences of Climate Change.
Greenhouse gasses:	Gasses that absorb and emit radiant energy within the thermal infrared range. The main GHGs measured in a GHG inventory are, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), per-fluorocarbons (PFCs), hydro-fluorocarbons(HFCs), sculpture hexafluoride (SF_6) and nitrogen trifluoride (NF_3).
Mitigation:	Human interventions to prevent or slow down atmospheric GHG concentrations by limiting current or future emissions, and/or enhancing potential sinks for greenhouse gasses.
Resilience:	Capacity of social, economic and environmental systems to cope with a hazardous event, trend, or disturbance.
Vulnerability:	Propensity or predisposition to be adversely affected. It encompasses sensitivity or susceptibility to harm, and lack of capacity to cope and adapt.
Climate Smart Agriculture:	Agricultural practices that reduces the drastic effects of climate change such as use of irrigation, modern technologies, early maturing seed varieties, certified seeds and drought tolerant seed varieties and breeds.

Hazards, Impacts and Objectives	Priority Actions	Expected Output/ Outcome	Key Performance Indicator	Responsible Institutions	Targeted Group/ Area	Timeframe 2023-2028 (in Years)					Source of Funds	INDICATIVE BUDGET (KES. Millions)					
						1	2	3	4	5		TOTAL	2023/4	2024/5	2025/6	2026/7	2027/8
Hazard 2: Erratic Rainfall Patterns • **Impact:** Disruption of planting calendar • Reduction in agricultural production • Shortage of pastures • **Objective:** To Strengthen resilience of agriculture sector against erratic rainfall	Strengthen dissemination of climate information services and early warning	• Early warning systems & dissemination of climate information strengthened	• Frequency of dissemination • No. of early warning system strengthened	• KMD • Dept. of A & L • Directorate of CC • Directorate of Communication • Media Houses •	Crop farmers Livestock farmers in all the 25 Wards						• CGV • FLoCCA • Devpt. Partners	15	10	2	1	1	1
	Adopt alternative livelihoods such as apiculture	• alternative livelihood adopted	• No. of alternative livelihoods adopted • No. of farmers adopting alternative livelihoods	• Directorate of CC • Dept. of A & L • Farmers • Cooperatives • Development Partners • CSOs •	Farmers						• CGV • FLoCCA • Devpt. Partners	50	10	10	10	10	10
	Build capacity to promote crop diversification and value addition	• capacity to promote crop diversification and value addition built	• No. Farmers capacity built •	• Farmers • Dept. of A & L • Directorate of CC •	Farmers						• CGV • FLoCCA/ • Dept. of A &L	50	15	15	10	5	5

4.3: Implementation Matrix

Table 8:Implementation Matrix

Hazards, Impacts and Objectives	Priority Actions	Expected Output/ Outcome	Key Performance Indicator	Responsible Institutions	Targeted Group/ Area	Timeframe 2023-2028 (in Years)					Source of Funds	INDICATIVE BUDGET (KES. Millions)						
						1	2	3	4	5		TOTAL	2023/4	2024/5	2025/6	2026/7	2027/8
Hazard 1: Prolonged dry spells **Impact:** • Reduced agricultural productivity. • shortage of pasture. • Emergence of pests and diseases. • water conflicts • encroachment of water sources **Strategic objectives:** 1. Increase water supply and storage 2. Strengthen capacity to manage water resource 3. Strengthen the community's capacity to enhance agricultural production	Build capacity for improved food and fodder production	• Enhanced capacity in food production • Enhanced capacity in fodder production	• No. of farmers capacity built	• Directorate of CC • Dept. of A & L • Research Organizations • Academic institutions • National Govt.	Farmers						• CGV • FLoCCA	20	4	4	4	4	4
	Undertake afforestation programmes	• afforestation programmes undertaken	• No. of afforestation programmes undertaken	• Dept of Envnt. • KFS • Schools,	Community,						• CGV • FLoCCA							
	Expand reticulation and storage of water incorporating clean energy	• Increased piped water connectivity	• No. of households accessing portable water	• Dept. of Water • Directorate of CC • WUAs • CSOs • MDAs	Communities across the County						• CGV • FLoCCA	500	60	120	100	100	120
	Protection and conservation of water catchment areas	• Water catchment areas protected and cons erved	• No of water catchment areas conserved/ protected	• Dept of Envnt. • Directorate of CC • NEMA • Local Communities • Dept. of Water • Dept. of Envnt.	Water catchment areas						• CGV • FLoCCA • Devpt. Partners	100	20	20	20	20	20
	Establish irrigation schemes	• Irrigation schemes established	• No. of irrigation schemes established	• Dept of Envnt. • NEMA • NIB • Development Partners • WARMA • Local Communities	County wide						• CGV • FLoCCA • Devpt. Partners	80	16	16	16	16	16
	Promote adoption of climate smart agriculture technologies	• adopted climate smart agriculture technologies	• No. of climate smart agriculture technologies adopted	• Dept. of A & L • Research Organizations • CBOs, • FBOs • NGOs	Farmers						• CGV-CCF • FLoCCA	100	20	20	20	20	20
	Conduct Feasibility study on ground water potential in the county	• Feasibility studies conducted	• No of feasibility studies conducted	• Directorate of CC • Dept. of Water • National Govt Agencies • CSOs	County wide						• CGV-CCF • FLoCCA	10	2	2	2	2	2

CHAPTER ONE: BACKGROUND AND CONTEXT

1.1 Introduction & Background

1.1.1 Position and Size of Vihiga County

Vihiga County borders Nandi County to the east, Kisumu County to the south, Siaya and Kakamega Counties to the west and North respectively within Lake Victoria Basin in Western Kenya. The County covers an area of 563.7 km^2 and has five Sub Counties namely: Emuhaya, Hamisi, Luanda Sabatia and Vihiga. The position of the five sub counties and the neighboring counties is shown in figure 1 below.

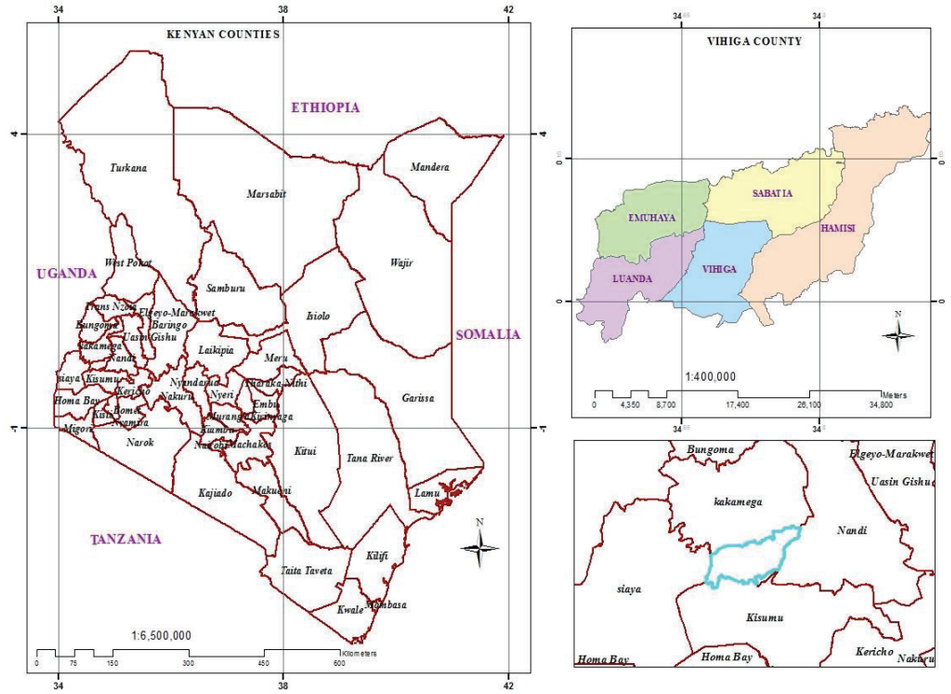

Figure 1: Position of Vihiga County, (Source GIS Department, 2022)

1.1.2 Socio-Economic Characteristics

The main economic activities in Vihiga County are: small scale subsistence farming, cottage industries, tea farming, wholesale and retail trade, quarrying and artisanal mining. The overall poverty index for Vihiga County is 38.6 percent (KIHBS 2015-16) against the national index of 33.4 percent. Food poverty index is estimated at 30.2 percent while extreme poverty is estimated at 7.6 percent (Vihiga County CIDP, 2018-2022)

1.1.3 Agriculture

The average farm size in the county is 0.4 ha for small scale and 3 ha for larger farms; 98.7 % of the arable land is under farming, mostly subsistence, while 1.3% is under housing. The main cash crop grown in the county is tea which is under 1,530ha. Food crops grown include maize, beans, bananas, sweet potatoes, and vegetables produced under rain-fed agriculture. The main livestock kept include Zebu Cattle and cross- breeds of dairy cattle. Aquaculture is taking root in the county with about 1200 fish ponds (Vihiga CIDP 2018-2022)

1.1.4 Water, Environment and Natural Resources

Households' access to piped water is 2.8% while 53.1% rely on protected springs. The area under forest cover is 12%. The average volume of solid waste generated annually is 30,000 tonnes and there exists a huge potential for reforestation, expanding water supply and sustainable waste management (Vihiga CIDP, 2017-2022)

1.1.5 Education and literacy

Vihiga County has a literacy rate of 82.1 per cent which is slightly higher than the national literacy rate of 81.5 per cent. The number of primary schools in the county is 475, Early Childhood Development Centers (ECDC) are 852, Adult Learning Centers are 107 while Technical and Vocational Training Centers (TVTC) total up to 35 with1 university – Kaimosi Friends University. (Vihiga CIDP, 2018-2022).

During implementation, the directorate shall coordinate technical support to ensure that projects are implemented within the set timelines and budget while ensuring quality for optimal value for money. The directorate shall document and keep records of all activities implemented towards achievement of this action plan.

4.2.2 County Climate Change Planning Committee

In line with the Climate Act, the County Climate Change Planning Committee shall ensure need based allocation of the monies available in the fund with regard to the projects received from the Ward Planning Committees. The Committee shall also provide linkages between the county executive committee and the county assembly with regard to the Climate Change Fund.

The Planning committee is responsible for evaluation of project proposals from ward committees to ensure that the projects to be implemented are socially, environmentally and economically viable.

4.2.3 Office of the Chief Officer responsible for Climate Change Affairs

The Chief Officer shall coordinate technical support for the Director of climate change in procurement, accounting and logistical facilitation for effective implementation of this action plan. In addition, the Chief Officer shall ensure the deployment of sufficient qualified personnel required for effective implementation of this action plan.

4.1.10 Institutional Roles and Responsibilities

Successful implementation of this Action Plan shall be enabled by collaboration and coordination among various institutions at county and ward level. Table below demonstrates various institutions and roles expected to play in the implementation;

Table 7: Institutions and roles expected to play in the implementation

Institution	Role
County Climate Change Steering Committee	Provide Strategic direction in implementation of climate action
County Climate Change Fund Planning Committee	Oversee implementation of climate change programs and budgets
County Climate Change Directorate	Is the secretariat to all Committees and Coordinates the implementation of Climate Change programs
Ward Climate Change Planning Committee	Facilitates community participation in climate action
County Assembly	Provides oversight and approves budgets for climate action
County Treasury	Disbursement of funds for implementation of climate action
County Environment Committee	Provides guidance on all matters of environmental concern

4.2 Implementation and Coordination Mechanisms

4.2.1 Directorate of Climate Change

The Directorate of Climate Change shall be the principal implementation and coordination entity for this Climate Change Action Plan in line with the Vihiga Climate Change Fund Act 2019 and the Vihiga County Climate Change Policy. The directorate shall coordinate the community consultation forums for project identification, guide ward committees in proposal writing, mobilize country climate change committees in evaluation and decision making with regards to ward proposals.

1.2 Purpose and process of the County Climate Change Action Plan

1.2.1 Purpose of the County Climate Change Action Plan

This Participatory Climate Change Action Plan is the framework for coordination of climate action in the County. Building on the Participatory Climate Risk Assessment, the action plan documents major climate risks, drivers of vulnerability and prioritizes response actions to address the identified risks. The County Climate Change Action Plan is also one of the conditions for accessing the Climate Resilience Investment Grants from the National Treasury's Financing Locally Led Climate Action, (FLLoCA) Program.

Specific objectives of the Action Plan are: -

I. To identify and prioritize climate change risks at community level through the PCRA Process

II. To prioritize response measures to address the climate hazards, risks and impacts identified during the PCRA Process

III. To guide the mainstreaming of climate action in various sectors in the county through identification of sector response strategies

IV. To enable the County to Access the County Climate Resilience investment grants from the FLLoCA program and provide basis for budgeting for County Climate Change Fund

V. To provide a basis for mobilization of resources from external sources for climate action

1.2.2 The Process of Developing County Climate Change Action Plan

The climate change action plan started with the participatory climate risk assessment through which communities identified climate risks. These were then validated by various stakeholder forums and formed the basis for climate action planning.

The Climate Change Action Planning process is as summarized in the table below:

Table 1: The Climate Change Action planning process

Step	Activity	Output
Step 1:	**Constitution of the Task Force and Review of Key Documents:** A technical task force appointed by the Chief Officer Responsible for Climate Change. The Task force drew membership from various sectors such as environment, water, public participation, national government agencies and the civil society. The National Climate Change Action Plan, 2017-2022, Climate Change Act, 2016, The Vihiga County Climate Change Policy 2022-2027, the PCRA Report among other documents were reviewed	Theoretical understanding of the Climate Change Action Planning Secondary data input into the action plan collected
Step 2:	**Collection of Public Input:** Ward level engagements were held in 25 wards to collect inputs of the communities in the action plan. Deliberate efforts were made to ensure inclusion of the PWDS, Women, Youth, Community Interest Groups, Civil Society organizations and technical officers at ward level were involved. Fifteen members of the community were engaged in the Focused Group Sessions per ward.	Voices of the Communities, the marginalized and technical officers working at the ward level integrated into the action plan
Step 3:	**Drafting the Action Plan:** The taskforce held workshops to develop the first draft the action plan based on the secondary data reviewed and the data collected from ward level community discussions	Draft 1 Climate Change Action Plan developed
Step 4:	**Validation of the Action Plan:** The Action Plan was validated by experts drawn from various sectors. Community representatives, PWDS, academia, youth, women and other marginalized segments of society were mobilized for the task	Climate Change Action Plan Validated by sector experts and communities
Step 5:	**Second Drafting Workshop**: To incorporate the inputs of the validation workshop into the draft action plan	Draft 2 Climate Change Action Plan
Step 6:	**Feedback on the Action Plan**: Sharing of the Action Plan with CSOs, Academia and other stakeholders for feedback. The Task force incorporated the feedback into the Action Plan	Voices of the Civil society, academia and other stakeholders incorporated into the Action Plan
Step 7:	Presentation of the Action Plan to the Cabinet: The Action Plan was presented to the cabinet on 30th May 2023.	Cabinet Approved Action Plan.

4.1. 8 Resilience Planning Tools

Climate Information Service Plan(CISP) presents a communication strategy for sharing Climate information and knowledge in the County. The main objective of the CISP is to provide location and sector specific climate information for services at devolved level, to harness and integrate existing climate information services and provide a platform for early warning systems based on climate information.

Participatory Climate Change Risk Assessment (PCRA) shall continually be undertaken to enable communities to identify the climate change hazards, their impacts and propose practical solutions for evidence-based County Climate Change Action Planning and implementation of climate action. Based on the findings of the PCRA the County Government shall strengthen climate change governance through enhancing the capacity of the directorate of climate change, mainstreaming climate change across all sectors.

4.1.9 Monitoring, Reporting and Verification (MRV)

Effective implementation of this Action Plan 2023-2027 is highly dependent on feedback generated through Monitoring, Reporting and Verification. The Climate Change Directorate is primarily responsible for monitoring, evaluation and reporting on climate action implementation. The directorate will work closely with the ward committees in monitoring implementation of projects at ward level and report to the county climate change planning and steering committees. In addition, the directorate shall be responsible for monitoring and reporting back to any partners who give financial support towards implementation of this action plan.

The directorate shall keep data in its repository to ensure that reported actions are verifiable at all times. The GIS systems shall provide an ideal platform for verification of projects. The Governor's delivery unit shall also support the Climate Change Directorate in monitoring and evaluation. The county department of Planning shall also support the integration of climate change reports into county planning reports.

The table below summarizes actions required for effective implementation of this Action Plan:

Table 6: Enabling Actions for implementation of the Action Plan

Enabling Actions	Coordinating Institution	Process Indicator
Operationalization of the County Climate Change Fund with a special purpose account, including management and oversight of the Fund; annual budgeting and reporting;	• County department of Environment, Natural Resources and Climate Change • County treasury • Climate Change unit	CCCF operationalized, and the oversight management in place.
Enhance the capacity of the climate finance management to mobilization, tracking and reporting of financial flows. The Vihiga County Climate Change Fund act 2019 provides for mobilization of resources from international sources, National Government, Grants and Donations. One way is through 2% of the county's budget to finance Climate change programs and budget	• County treasury • All other relevant county departments	County Climate resource mobilization strategy implemented Capacity building of county treasury staff in tracking and reporting
Capacity building of the local community, private sector and civil society to develop bankable projects. The Vihiga County Climate Change Fund act 2019 provides for capacity building of the ward climate change planning committees to develop project proposals from the project priorities identified for funding.	• Climate Change unit • All other relevant county departments • Ward based Climate Change committees	Project proposals submitted with elaborate feasibility studies.

4.1.7 Climate Information Services & Climate Data Access

The County Department of Meteorological Services is responsible for generating climate/weather information. Timely dissemination of climate information is required for enhanced resilience of citizens against climate shocks. The County Government shall partner with the KMD in generation and dissemination of climate data such as: historical data, weather Forecasts, early warnings and advisories.

The partnership with the Kaimosi University and University Fund on establishment of a Climate Change Center shall enable collation and dissemination of data to communities.

1.3 Underlying Climate Resilience Context

1.3.1 Impacts of Climate Hazards in the County

This section outlines impacts of climate hazards across the County as prioritized in the Participatory Climate Risk Assessment (PCRA) which include; prolonged dry spells, erratic rainfall patterns, increased prevalence of crop pests and disease vectors, degradation of water catchment areas and landslides among other disaster risks.

The spatial distribution of climate hazards across the sub counties is determined by the prevailing landscape formation and the human activities. There are very minimal spatial variations of climate hazards across the County due to her small geographic size.

1) Emuhaya Sub County

Emuhaya Sub County comprises three wards namely: Central Bunyore, North East Bunyore, and West Bunyore. The main climatic hazards prevailing in Emuhaya are: erratic rainfall with delays, intense hailstorms, increased crop pests and diseases. As a result of the climatic hazards, shortage of pasture, crop failure, low yields in the farms, reduced quantities of water in streams, boreholes and springs are frequently experienced.

Pests such as locusts and army worms have become more common. The prevalence of malaria is on the rise with 70% of the population being at risk, (Division of National Malaria Programme - DNMP 2021). Water borne diseases are also on the rise. Soil erosion in the sub county is rampant which has resulted in reduced agricultural productivity, destruction of infrastructure such asroads and buildings, increased cost of farming and siltation of rivers. Heavy rains have led to flooding in low lying riverine areas and growing of eucalyptus trees in water catchment areas have compounded the challenge of water shortage. Figure 6 below shows the spatial distribution of climatic hazards in Emuhaya Sub County.

2) Hamisi Sub County

Hamisi Sub County has seven wards namely: Banja, Gisambai, Jepkoyai, Muhudu, Shamakhokho, Shiru and Tambua. The main climate change hazards in the sub county include: Erratic rainfall patterns which adversely affects agricultural

productivity and cause post-harvest losses. Incidences of excess rainfalls lead to floods in the lower sides of the ward as witnessed in Mwisavatia and Saosi in Kisasi sub location. Dry seasons have also become prolonged which leads to stresses on water sources.

Crop pests and diseases, which mainly include fall army worms and African fall armyworms invasion that occurs almost annually since 2013. The pests are usually tackled with traditional approaches such as concoctions of ashes with pepper or detergents while some farmers apply commercial pesticides. Inadequate early warning system and low levels of understanding of appropriate response mechanisms hinders response against the pests. Vectors causing human diseases such as mosquitoes are responsible for increased prevalence of malaria. Diseases associated with extreme temperatures such as pneumonia during cold seasons and respiratory diseases caused by dust during dry seasons; and crop failure such as reduced tea production have also been recorded.

Landslides are also common in the area as a result of human activities interaction with land such as quarrying, artisanal mining, cultivation on slopes and hilly areas and climate change effects which are more pronounced in Tambua ward. Figure 2 (a and b) below shows some of the impacts of climate risks in Hamisi.

Figure 2: *(a) A Gully erosion in Shamakhokho Ward (2022) and (b) Artisanal gold mining Muhudu Ward (2022)*

4.1.5 County Government Structures

Implementation of the action plan shall be guided by the County Executive Committee where cabinet endorsement is required for high level decision making. The County government has appointed a CECM and a Chief Officer responsible for climate change affairs who provides executive leadership in climate action implementation. The implementation shall further draw support from other county government departments such as accounting, auditing, procurement, communication, transport and logistics. The county assembly shall provide oversight during the process of implementation, while the County Environment Committee shall provide guidance on all matters of environment concerns.

The County Climate Change Directorate is the lead technical agency at the county level in the implementation of this Action Plan. It is also the secretariat for all the climate change planning committees; prepares and submits operational and statutory reports to the relevant authorities.

4.1.6 Governance - Climate Change Planning Committees

Guided by the legal frameworks enacted, the County Government has established climate change coordination committees at county and ward level. The County Climate Change Steering Committee is chaired by the Governor and is mainly composed of County Executive Committee Members. The Steering Committee is mandated to provide strategic direction during implementation of this Action Plan.

The County Climate Change Planning Committee is a technical committee mandated in supervising implementation of climate action at county level. On the other hand, Ward Climate Change Committees are established to provide an interface between the county governments and communities during planning and execution of climate change adaptation initiatives. These committees are popularly elected among community members and they comprise of representatives of: women, youth, people with disabilities, faith based organization in the wards, the elder/men, and community based organizations,

In addition to the above, the County Environment Committee (CEC) which is established by EMCA CAP 387, shall provide guidance on all matters of environmental concerns during the implementation of this action plan.

engagement of practitioners in technical, professional and academic spheres in the relevant sectors.

The stakeholder engagement processes shall continue in the implementation of the action plan as guided by the Vihiga County Climate Change Fund Act, 2019(Amended 2021) which calls for community consultation forums in identification and implementation of climate change projects.

4.1.4 Finance: County Climate Change Fund

The Vihiga County Climate Change Fund is established under the CCCF Act, 2019(Amended 2021). The Act apportions 2% of the county budget into the Fund for implementation of community prioritized climate action. The Act proposes that monies in the Act shall be used to support administrative functions of the ward committees, research, awareness on climate change and implementation of community prioritized climate change resilience projects at ward and county levels.

The County targets to disburse at least KES. 400 million into the climate change fund for the 5-year Action Plan period being 2% of its budget for the period. The grants expected from the FLLoCA program shall provide the financing gaps required in the implementation of this action plan. The County Government of Vihiga shall also mobilize resources externally for climate action.

The County Government Vihiga, through this Climate Change Action Plan, sets its climate financing target at KES. 1.46 Billion. The County Government through the County Climate Change Fund shall contribute 2% of the County's total annual budget as stipulated in the Vihiga County Climate Change Fund Act, 2019 (Amended 2021). This amounts to a total of KES. 400 Million for the 5 years of the action plan which is an equivalent of 27.4% of the total action plan budget.

The County also expects to receive a total of KES. 400 million or 27.4% of the total action plan budget from FLLoCA, in three financial years ending in 2026 for the implementation of this Action Plan. The remaining climate financing gap of 45.2% (KES. 657 million), shall be realized through mainstreaming of climate actions across National and County Government Departments and Agencies, Civil Society Organizations (CSOs), Faith Based Organization (FBOs), Private Sector and other resource mobilization strategies.

Figure 3: *A landslide in Tambua Ward (2021)*

3) Luanda Sub county

Luanda Sub County comprises of five wards namely: Emabungo, Luanda Township, Luanda South, Mwibona and Wemilabi. The main climatic risks in this Sub County are: Erratic rainfall patterns, increased number of consecutive dry days before and during rainy seasons, increased frequency and intensity of hailstorms (particularly in Wemilabi) and increased number of rainy days in the short rain season. Water has reduced in quantity and quality from theirsources due to climate risks such as prolonged dry spells and human activities such as growing of eucalyptus in water sources and unsustainable sand harvesting.

Human activities like deforestation and charcoal burning have led to loss of biodiversity and destruction of habitats as seen around Ebusiekwe Hills in West Bunyore Ward. Destruction of vegetation cover along river banks have led to increased riverbank erosion, flooding and siltation of the rivers.

Delay in onset of long rains and prolonged dry season leads to delayed planting, water scarcity, reduced harvests, crop failure and insufficient pastures. Lightning was reported to be common in the sub county especially in Wemilabi ward. These climates related challenges are compounded by poor agricultural practices.

Figure 4: *(a) A failed Maize crop and (b) a fall army worm infested maize stalk in South Bunyore, Luanda Sub County (Picture May 2022).*

4) Sabatia Sub County

Sabatia Sub County consists of six wards namely: Busali, Chavakali, North Maragoli, Izava/Lyaduywa, West Sabatia and Wodanga. The climate risks dominant in Sabatia Sub County are: delayed onset of long rains which affects agricultural calendar, rainfall received during long rain season has drastically reduced while the short season rainfall quantities have increased.This leads to destruction of infrastructure and flooding in farmlands. Wetlands have greatly diminished due to climatic stresses and human interference such as encroachment and growing of eucalyptus around catchment areas. Soil erosion is rampant around the quarries, sloppy areas, farms and mining sites which has led to pollution of water in rivers and springs. Emerging insect pests and diseases have increased leading to low crop productivity and prevalence of vector borne diseases.

5) Vihiga Sub County

The Sub County comprises of four wards namely: Central Maragoli, Lugaga Wamuluma, Mungoma and South Maragoli. The Sub County's main climate risks and hazards are erratic rainfall patterns and increased intensity of the rainfall especially during the short rains. The increased intensity of the rains coupled with human activities such as sand harvesting and deforestation has increased soil erosion and consequently soil infertility and thus reduced crop productivity and formation of gullies. This increase in intensity of rainfall has also contributed to increased incidences of flooding and vector borne diseases such as malaria.

CHAPTER FOUR: DELIVERY MECHANISM FOR THE CCAP

4.1 Enabling Factors

4.1.1 Enabling Policy and Regulations

A range of cross cutting enabling actions are required to implement the adaptation and mitigation actions to enhance resilience against climate change. The Vihiga County Climate Change Fund Act, 2019 (amended 2021), the Vihiga County Climate Change Policy, 2021 and the Vihiga County Climate Change Fund Regulations, 2022 establish an institutional framework for climate change. The governance framework comprises the Climate Change Steering Committee which shall provide strategic direction during implementation. The County Climate Change Planning Committee and Directorate of Climate Change shall provide technical coordination. The Ward Climate Change Planning Committees shall facilitate community participation in implementation of the action plan. The County Climate Change Fund shall provide enabling financing for the action plan.

4.1.2 Mainstreaming in CCAP in the CIDP

This Action Plan is mainstreamed in the County Integrated Development Plan, 2023-2027 through: capacity building of local communities for effective implementation, promotion of partnerships for research and implementation of community-led climate action with focus on disaster risk reduction, environmental conservation, water resources conservation; and climate smart agriculture.

Furthermore, it promotes the use of clean energy, ecosystem restoration, and implementation of green growth and circular economy strategies which shall be achieved through implementation of this action plan.

4.1.3 Multi-stakeholder participation processes

This CCAP was developed through a multi-stakeholder participatory process. The Identification of climate risks and the response strategies involved multi-stakeholder consultative processes. The Process involved participation of communities at ward level, women, youth, PWDs among others. In addition, the process involved

Intense rainfall/ erratic rainfall			
Water	**Agriculture**	**Environment**	**Disaster Risk Reduction**
• Adopt appropriate water harvesting & storage technologies • Rehabilitate, protect & conserve wetlands & rivers riparian zones	• Promote climate smart agriculture • Undertake appropriate soil conservation measures	• promote tree planting activities • Establish soil and water conservation structures.	Strengthen climate information systems. • Adopt & apply indigenous knowledge
Lightening			
Water	**Agriculture**	**Environment**	**Disaster Risk Reduction**
	• Install lightening arresters on farms	• Install lightening arresters on buildings	• Strengthen mapping of lightning prone areas, • Create awareness & sensitization on coping lightening disasters • Install lightening arresters in strategic places • Adopt & apply indigenous knowledge

Climate hazards are compounded by human activities such as deforestation and cultivation in fragile areas as witnessed in Maragoli Hills in Mungoma and South Maragoli Wards.

There is observed increase in temperature extremes resulting to increase in crop pests which leads to low crop productivity. There are also incidences when temperatures fall too low thus increasing incidences of human diseases such as pneumonia.

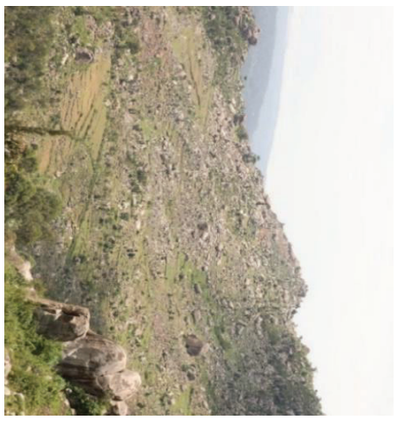

Figure 5: (a) Gulley erosion and (b) the Degraded Maragoli Hills Forest, South Maragoli Ward 2022.

1.3.2 County Climate Hazard Map

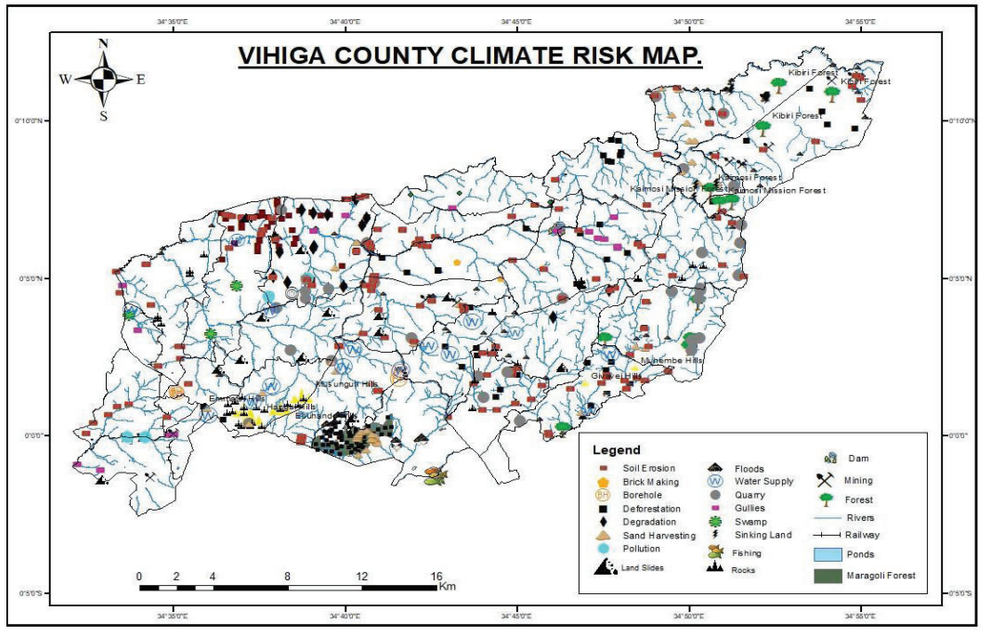

Figure 6: Vihiga County Climate Risk Map, (GIS Directorate, 2023)

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

Kenya Meteorological Department Climate Projections indicate that Vihiga County shall receive enhanced rainfall for the short rain season and reduced rainfall for the long rains season. Consecutively dry days within and between rainy seasons are expected to increase by an average of 5 days suggesting a marginal increase in incidences of prolonged dry periods with likelihood of crop failure and water scarcity. The maximum number of running rainy days will average 5 days which indicates risks of floods, flash floods, destruction of infrastructure and crop losses. (County Climate Risk Profile, 2021)

Increase in disease transmitting vectors such as mosquitoes affect children, the expectant mothers, the elderly and the terminally ill more than the rest of the population. Reduced quality of water, causes water-borne diseases that severely affects the above mentioned categories of people

Environmental degradation(deforestation, soil erosion, water catchment destruction, sand harvesting and Landslides)	**Water**	• Adopt & promote appropriate water harvesting & storage technologies (on farm ponds) • Rehabilitate, protect & conserve water catchment areas • Adopt & implement climate proof water infrastructure • Rehabilitate existing water infrastructure • Promote clean energy in water supply	**Agriculture**	• Provide seedlings to communities to encourage agroforestry &on farm woodlots • Promote afforestation, agroforestry and reforestation • Enhance soil erosion control through construction of gabions terracing, grass striping and cover cropping with focus on nature based solution	**Environment**	• Rehabilitate, protect & conserve water catchment areas • Promote uptake of green energy • Create awareness on environmental conservation • Adopt best practices in cultivation near riparian zones • Reclaim& rehabilitate degraded sites(mines, sand harvesting sites, quarries, gullies and landslide sites). • Develop and implement County Eucalyptus Management Policy	**Disaster Risk Reduction**	• Strengthen the existing disaster response units. • Promote research and strengthen early warning systems • Diversify livelihoods
Hailstones	**Water**		**Agriculture**	• Promote the adoption of crop insurance policy. • Promote Agricultural enterprise and livelihood diversification • Adopt best agricultural practices & technologies (use of agriculture shade nets) • Adopt & promote climate smart agriculture	**Environment**	• Undertake tree planting activities to increase tree cover	**Disaster Risk Reduction**	• Strengthen early warning system on hailstones. • Promote insurance policy.

• Promote rain water harvesting and storage. • Construct/rehabilitate storm water drainage channels in urban areas. • Promote cultivation of cover crops • Protect riparian zones. • Construct earth dams and on-farm ponds	• Promote conservation agriculture through terracing, planting cover crops and mulching.	• Plant trees and cover crops • Rehabilitate extend existing drainage systems • Develop and implement Environmental Management plans • Rehabilitate, protect and conserve wetlands and rivers and their riparian zones • Rehabilitate degraded landscapes sites	• Strengthen institutional capacity for effective disaster response • Create awareness to minimize disaster risks in the community • Build capacity for communities' response to disaster risks • Strengthen early warning systems.
Emerging pests, diseases and noxious weeds			
Water	**Agriculture**	**Environment**	**Disaster Risk Reduction**
• Develop/implement relevant policies, laws, regulations & standards to prevent water pollution from on farm chemicals • Increase public access to sanitation services • Improve public access to potable water.	• Strengthen crop pest and disease surveillance. • Promote pest resistant crop varieties and livestock breeds • Strengthen agricultural extension services. • Facilitate insurance cover for crops and livestock.	• Promote environment-friendly pesticides • Promote growing of disease resistant trees and crops • Undertake research on best practices to control, pests diseases and weeds • Control of pests and diseases for sustainable environmental management • Regulate, monitor and control use of agrochemicals	• Establish an agricultural emergency kitty • Strengthen extension services. • Adopt &apply indigenous knowledge in disaster risk reduction &response

The elderly and Persons with Disabilities (PWD) are more vulnerable to reduced water in springs as their physical limitation hinders them from competing for the resource in the periods of scarcity. It was also noted that destruction of infrastructure during periods of excess rainfall pose more challenges for PWDs.

Reduced quantities of water in springs affects women more because culturally, women bear the responsibility of fetching water for their families and carrying out cleaning chores. As water in the springs and wells declines during periods of prolonged dry periods, women take more time on queues at water points. For cultural reasons, most women have no rights towards ownership of land resource which limits the extent to which they can make decisions regarding investment on land.

Impacts of Climate change varies across sectors with some sectors affected more severely than others.

The table below provides a summary of the impacts of climate hazard across sector

Table 2: The impacts of climate hazard across sectors

Sector	Impacts of Climate Change
Agriculture, Fisheries and Livestock	• Prolonged dry spells which lead to reduction in ~~agricultural p~~roductivity • Erratic rainfall patterns result to disruption of farmers' planting calendar hence reduction in agricultural productivity • Floods results to soil erosion leading to crop failure • Episodes of crop pests invasions have become more frequent and more severe
Disaster and Risk Reduction	• Landslides pose risks to human life and property • Heavy rainfall results into storm water which lead to massive land degradation (landslides and gullies) • Prolonged dry spells result in drying up of water sources • Incidences of lightning which leads to loss of lives and livelihood • Hailstones result into destruction of crops
Environment	• Environmental degradation such as deforestation, poor cultivation practices, growing of eucalyptus trees in catchment areas aggravates climate risks • Heavy rainfall leads to landslides
Water	• Prolonged dry spells reduces quantity of water • Reduced quality of water as a result of pollution(e.g. from erosion)
Health	• High rainfall intensity result in pollution of water sources leading to increased water-borne diseases such as cholera and typhoid • Prolonged dry spells leads to water scarcity which results in increased water-borne diseases
Public infrastructure	• Heavy rainfall results to damage of infrastructure such as roads and bridges which increases cost of maintenance.

1.4 Overview of Climate Change Actions in the County

1.4.1 Mainstreaming of National Climate Action Plan (NCCAP) in County Actions

The County Government of Vihiga is implementing strategies to strengthen the capacities of the vulnerable groups as required by the National Climate Action Plan. This is through review and mainstreaming climate actions in its policies, strategies and plans. The Vihiga County CIDP 2023-2027 has mainstreamed climate actions as required by the NCCAP. By establishing a climate change fund anchored in the Vihiga County Climate Change Fund Act, 2019, the county has ensured a continuous, regular flow of climate finances for climate action as required by the NCCAP.

Table 5: the prioritized climate change actions:

Prolonged dry spell			Flash Floods		
Water	**Agriculture**	**Disaster Risk Reduction**	**Water**	**Agriculture**	**Disaster Risk Reduction**
• Adopt appropriate technologies for water harvesting and storage. • Rehabilitate, protect and conserve water sources. • Build capacity for coping with prolonged dry spells at all levels. • Carry out a feasibility study to establish groundwater potential in the county. • Take stock of all water resources in the County.	• Adopt and implement agro-ecology principles, • Adopt and implement Climate Smart Agriculture. • Diversify livelihoods. • Strengthen extension services.	• Build capacity for disaster management • Adopt & implement indigenous knowledge in disaster coping mechanisms • Strengthen early warning systems. • Establish/Improve climate information systems. • Strengthen the existing local weather stations for improved information dissemination.	**Environment**		**Disaster Risk Reduction**
Environment					
• Undertake environmental conservation and protection activities. • Build/strengthen county and community capacity in forest management • Establish tree nurseries • Promote agroforestry • Mobilize resources for environmental conservation.					

such as Tambua, Jepkoyai, Shamakhokho and Lugaga/Wamuluma are particularly more vulnerable to landslides, while communities bordering wetlands and river valleys are more exposed to erosion due to steep slopes and human activities. Those residing on steep slope areas such as Maragoli Hills are also exposed to topsoil erosion, rock falls and landslides, which occur as a result of anthropogenic activities such as sand and murram harvesting.

3.1.4 Increased prevalence of emerging insect, pest, diseases and noxious weeds

Crop pests and other emerging crop diseases have become more frequent and more severe in the recent past. In particular Fall armyworms and African armyworms have been more common.

3.2 Priority County Climate Change Actions

Identification of climate hazards was followed by sector-wise identification and prioritization of the response actions for the identified climate risks. This section presents the prioritized sector specific climate actions and strategies for addressing climate risks and their climate impacts in the four priority sectors namely; water, agriculture, environment and disaster management.

Through establishing committees for climate change at ward level, encompassing the women, youth, PWD, the county has ensured that voices of the marginalized and vulnerable groups are integrated in climate action and decision making.

1.4.2 Mainstreaming of Climate Change in CIDP

The Vihiga County Integrated Development Plan (CIDP) 2023- 2027 prioritizes enhancing capacity at community and county levels for effective identification, implementation, monitoring and reporting of climate action. The CIDP provides for community training programs, exchange programs, capacity building of staff and creating awareness.

The CIDP calls for strengthening of Climate Information Services and Early Warning System for reduced climate induced disasters. In addition, the County has planned for enhanced climate change research, conferences and learning sessions. Mainstreaming of Climate Change across various sectors has been prioritized for enhanced climate action at county and ward levels. The Climate Change Research Centre proposed in the CIDP in partnership with the Kaimosi Friends University and the University Fund shall enable evidence based climate action.

These shall be in line with the climate change impacts identified in the Participatory Climate Risk Assessment Process and the programs prioritized in this Action Plan.

1.4.3 Other key climate actions/strategies in the County

The county is promoting climate smart agriculture through strategies such as irrigation, soil and water conservation. The County has the largest fish hatchery in the region with a capacity of 20,000 fingerlings per month to promote aquaculture among communities. In the water sector, the county is conserving water catchment and promoting use of solar energyin pumping water.

Various partners support climate action in Vihiga and they include: The World Bank, Equity Bank, the United Nations Environment Programmes (UNEP), Sustainable Organic Farming and Development Initiatives (SOFDI), Anglican Development Services Western, the Caritas Movement, the Ada Consortium, Christian Aid Kenya, Catholic Justice and Peace Department among others.

CHAPTER TWO: POLICY ENVIRONMENT

2.1 National Policy Context

2.1.1 National Perspective

Kenya suffers from climate change impacts such as droughts, floods, increased prevalence of pests and diseases and erratic rainfall patterns. Drought has most recently been witnessed during the following years: 2010-2011, 2016-2017 and 2020-2023. The 2020- 2023 droughts have been the most severe and longest, exposing more than 4.2 million people to acute food insecurity. Severe floods are projected to leave about 5.4 million people in Kenya without adequate access to food and water between March and June 2023 while Erratic Rainfall Patterns adversely affect agricultural productivity given the high (98%) dependence on rain-fed agriculture.

Through her Nationally Determined Contribution, Kenya, commits to abate GHG Emission by 32% by 2030 relative to Business as Usual Scenario with a financing ambition of USD 62B. Kenya's priority actions in line with the Paris agreement to Strengthen capacities at all levels for accurate prediction and response to climate change disasters strengthen coping ability while incorporating an early warning system.

In addition, Kenya seeks to upscale the uptake of technologies towards clean and affordable energy, food security, affordable housing, clean and safe water for all. This is to be attained through mobilization of Climate Finances through an ambition to raise USD 62B for adaptation and mitigation initiatives in her Nationally Determined Contributions.

2.1.2 National Legal and Policy Framework

Article 42 of the Constitution of Kenya, 2010 provides for the right to a clean and healthy environment for every Kenyan, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures. Further, the National Climate Change Act, 2016 provides for the development, management, implementation and regulation of

CHAPTER THREE: PRIORITY CLIMATE CHANGE ACTIONS

3.1 Identification of strategic climate action priorities in the PCRA

The major climate risks and hazards identified by stakeholders across the five Sub-Counties in Vihiga include: erratic rainfall patterns, prolonged dry seasons, landslides, flash floods, environmental degradation, hailstones and emerging pests, diseases and noxious weeds. During community consultation forums and the County Level multi-stakeholder workshop, the climate hazards in the county prioritized at ward level were presented in the view of the current and projected climate outlook.

The main climate change risks identified in the PCRA are:

3.1.1 Floods

Floods occur in some parts of the County as a result of high rainfall intensity. This leads to destruction of property and infrastructure as well as proliferation of water related diseases such as typhoid and cholera. Floods lead to destruction of crops, scarcity of clean water due to pollution of water bodies and increased soil erosion resulting in gully formation. Floods also destroy vegetation causing reduction in the quality of pasture. Floods are common in low lying areas along rivers in Hamisi, Emuhaya, Sabatia and Luanda.

3.1.2 Prolonged Dry Spells

The impacts of prolonged dry spells include drying up of water sources, reduced pasture for livestock and low crop production. The effects are felt in most of the wards across the county. Growing Eucalyptus trees in water catchment areas further compounds the impactsof prolonged dry spells.

3.1.3 Landslides and soil erosion

Impacts of landslides and soil erosions include rocks fall and gully formation. These are more common in sloppy areas in the county. Some of the Wards in the County

mechanisms to enhance climate change resilience and low carbon development for the sustainable development of Kenya.

To achieve these, the act establishes governance structures (Climate Change Steering Committee and the Directorate of Climate Change) and guides climate change action planning. A fund for climate change is established under section 25 of the Act. National Climate Change Action Planning is undertaken in a 5-year cycle. Part IV (Section19) of the Act requires county governments to mainstream climate change in performance of their functions

The main policies, plans and frameworks that influence and guide climate change actions in Kenya are described in Table 3 below:

Table 4: Summary of the County's Climate Change Legal Framework

County Framework	Description
County Integrated Development Plan 2023-2027.	The Plan mainstreams climate change by prioritizing strengthening of research. The CIDP also calls for enhanced awareness and implementation of community prioritized climate change programs.
Vihiga County Climate Change Policy 2022 - 2027	The Policy gives a broad strategic direction for Climate Change in Vihiga. The policy prioritizes locally led climate initiatives and proposes establishment of Climate Change governance framework
Vihiga County Climate Change Fund Act 2019 (Amended in 2021)	The Act provides for establishment of the County Climate Change Fund; Climate Change governance structures; Climate Change adaptation and mitigation plans; and up-scaling of climate information services. This is in order to facilitate community-prioritized climate action.
Vihiga County Climate Change Fund Regulations	The Regulations operationalize the Vihiga County Climate Change Fund Act. It provides for financial management, communication and reporting pathways and provides a specific framework for execution of the CCCF.
Vihiga County Environment Action Plan	The Action Plan provides a framework for an integrated approach to planning and sustainable development for Vihiga county for conservation of the environment.

Table 3: Kenya's National Climate Change Legal and Policy Framework

Climate Policy Framework	Description
Kenya Vision 2030 (2008) and its Medium Term Plans	Recognized climate change as a risk that could slow the country's development. Climate change actions identified in the Third Medium Term Plan (2018-2022) recognized climate change as a crosscutting thematic area and mainstreamed climate change actions in sector plans.
National Climate Change Response Strategy (2010)	This was the first national policy document on climate change. It aimed to advance the integration of climate change adaptation and mitigation into all government planning, budgeting and development objectives.
National Climate Change Action Plan (2013-2017)	Kenya's National Climate Change Action Plan, 2013-2018 was a five-year plan that aimed to further Kenya's development goals in a low carbon climate resilient manner. The plan set out adaptation, mitigation and enabling actions and calls for mainstreaming of climate action across various sectors.
National Adaptation Plan (2015-2030)	Kenya's National Adaptation Plan 2015-2030 was submitted to the UNFCCC in 2017. The NAP provides a climate hazard and vulnerability assessment and sets out priority adaptation actions in the 21 planning sectors in MTP II.
Kenya's Nationally Determined Contribution (NDC) (2016)	This is a commitment under the Paris Agreement of the UNFCCC for mitigation and adaptation contributions. Through her NDCs Kenya commits to abate her GreenHouse Gas emissions by 30% by 2030 relative to the BAU scenario of 143 MtCO2eq.
Climate Change Act (No. 11 of 2016)	This is the first comprehensive legal framework for climate change governance for Kenya. The objective of the Act is to "Enhance climate change resilience and low carbon development for sustainable development of Kenya." The Act establishes the National Climate Change Council (Section 5), Climate Change Directorate (Section 9), and Climate Change Fund (Section 25).
Kenya Climate Smart Agriculture Strategy (2017-2026)	The objectives of the Kenya Climate Smart Agriculture Strategy (KCSAS) are to adapt to climate change and build resilience of agricultural systems while minimizing greenhouse gas emissions. The actions will lead to enhanced food and nutritional security and improved livelihoods.
Climate Risk Management Framework (2017)	The Climate Risk Management Framework for Kenya integrates disaster risk reduction, climate change adaptation, and sustainable development so that they are pursued as mutually supportive rather than stand-alone goals. It promotes an integrated climate risk management approach as a central part of policy and planning at National and County levels.
National Climate Change Framework Policy (2018)	It aims to integrate climate change considerations into planning, budgeting, implementation and decision-making at the National and County levels and across all sectors.
National Climate Finance Policy (2018)	The National Climate Finance Policy promotes the establishment of legal, institutional and reporting frameworks to access and manage climate finance. The goal of the policy is to further Kenya's national development goals through enhanced mobilization of climate finance that contributes to low carbon climate resilient development goals.
Environmental Management and Coordination Act (EMCA 1999) Cap 387	The act provides for environmental protection through; environmental impact assessment, environmental audit and monitoring

2.2 County Level Legal and Policy Framework.

In order to effectively plan, finance and implement climate change programs, the County Government of Vihiga has enacted legislative and planning instruments that include: The Vihiga County Climate Change Policy, 2019-2024 which provides the strategic direction for the county in matters of climate change. In addition, the County has enacted the Vihiga County Climate Change Fund Act, 2019 which is the principal legislative framework for planning, budgeting and implementation of climate action.

The Vihiga County Climate Change Fund (CCCF) apportions 2 percent of county development budget for climate action in line with the Act. Climate change governance structures at the ward and county levels are also established. The Vihiga County Climate Change Steering Committee, chaired by H.E. the Governor, comprises of CECMs from climate change line departments and private sector provides strategic direction for climate action.

The Vihiga County Climate Change Planning Committee is responsible for planning and coordination of climate change programs, projects and activities. For effective locally- led climate action, the Ward Climate Change Planning Committees are established and capacity built to provide a platform for public participation, consultation and involvement in climate change governance in their respective wards. The ward committees guarantee inclusion to the lowest levels of governance because of their membership which is drawn from every village and incorporates the most vulnerable groups such as women, youth, PWDs and the elderly among others. The Climate Change Directorate is also established to coordinate climate action in the County.