



**GOVERNMENT OF
MAKUENI COUNTY**



ANNUAL CLIMATE CHANGE PROGRESS REPORT 2023/2024

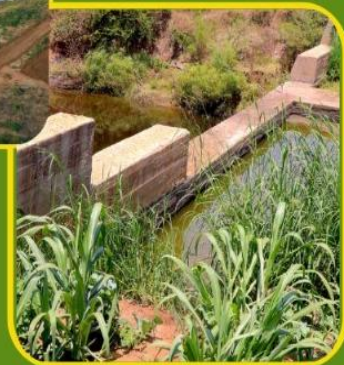


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LIST OF ACRONYMS

ADSE	Anglican Development Services Eastern
ATC	Agriculture Training Centre
CBOs	Community-Based Organizations
CCAP	County Climate Action Plan
CESPAD	Centre for Social Planning and Administrative Development
CFAs	County Forest Associations
CGA	Cereal Growers Association
Cifor-icraf	Center for International Forestry Research and World Agroforestry
CSOs	Civil Society Organizations
CSOs	Civil Society Organizations
DFID	Department for International Development
DFIs	Development Finance Institutions
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization
GBM	Green Belt Movement
GHGs	Greenhouse Gases
GIZ	German Agency for International Cooperation
MCCCCAP	Makueni County Climate Change Action Plan
MCCF	Makueni Climate Change Fund
NARIGP	National Agriculture and Rural Inclusive Growth Project
NAVCDP	National Agriculture Value Chain Development Project
NDCs	Nationally Determined Contributions
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
PCRA	Participatory Climate Risk Assessment
SIVAP	Small Scale Irrigation and Value Addition Project
SPA	Special Purpose Account

TWENDE	Towards Ending Drought Emergencies
VSO	Voluntary Service Overseas
WHH	Welthungerhilfe

EXECUTIVE SUMMARY

The Makueni County Annual Climate Change Progress Report for the 2023/2024 fiscal year presents a detailed overview of the county's first year implementing its Climate Change Action Plan (2023-2027). This ambitious plan targets key climate risks affecting the county, such as drought and flash floods, which significantly impact agriculture, water access, and local livelihoods. The report underscores a range of multi-sectoral initiatives aimed at building resilience across Makueni's communities, advancing sustainable development, and addressing climate challenges in this semi-arid region.

In the **Water and Sanitation** sector, substantial progress has been made in improving access to clean water. This has been achieved through initiatives like equipping 29 boreholes with solar pumping systems, laying 159 kilometers of pipeline, and constructing eight sand dams, benefiting over 3,000 people. Governance in urban and rural water systems has also been strengthened, with water service providers achieving a 70% compliance rate, helping ensure effective water management and sustainability.

In **Agriculture and Food Security**, the county has promoted climate-smart agricultural practices to support farmers in adapting to climate impacts. Over 11,000 farmers received training in sustainable farming, and 48,478 metric tons of certified seeds were distributed to bolster crop production. Mango production has been supported through partnerships with cooperatives, benefiting local farmers and boosting household incomes. To improve access to farm inputs, seven agricultural depots were established, aiding rural farmers and increasing food security across the county. In **Livestock Production**, the county prioritized dairy and meat production, resulting in a 5% increase in milk yield and a 20% rise in beef production. Efforts to enhance fish farming also showed progress, with a measurable increase in fish output, contributing to local food security and income.

The **Forest and Landscape Restoration** sector saw significant accomplishments, with over 32,000 hectares restored through activities such as tree planting, terracing, and grass reseeding. These efforts, supported by community groups, play a crucial role in reducing greenhouse gas emissions and preserving biodiversity. Agroforestry practices were widely adopted, and 1.2 million seedlings were planted with a 64.5% survival rate, underscoring the community's commitment to long-term environmental sustainability.

Disaster Risk Management efforts were strengthened through climate information services, reaching 1.5 million residents with early warnings and weather updates. To address flooding risks, five rescue centers were established, providing shelter and essential supplies to nearly 1,000 affected individuals, showcasing the county's responsiveness to climate-related disasters.

In **Health, Sanitation, and Social Protection**, the county declared over 1,300 villages Open Defecation Free and installed sanitation facilities in public markets, improving public health and hygiene. The county also supported vulnerable groups, including the elderly and people with disabilities, with food and non-food assistance to mitigate drought effects.

In the **Transport and Energy** sectors, improved rural connectivity and renewable energy access have bolstered community well-being. The county installed solar-powered street lights to enhance security and deployed solar power systems for several water projects, effectively reducing costs and supporting green energy initiatives.

Despite these achievements, the county faced several challenges, such as limited project funding, lack of interdepartmental coordination, and difficulties brought on by unpredictable weather. Limited stakeholder engagement and the underutilization of available data for informed planning also hampered the county's progress.

To overcome these challenges, the report offers several recommendations. Mobilizing additional resources, potentially through green bonds and other innovative funding mechanisms, is essential to sustain climate initiatives. Engaging communities in ongoing climate resilience and environmental campaigns will foster greater awareness and encourage sustainable practices. Strengthening cross-sectoral collaboration will also enhance resource efficiency and streamline project implementation. To ensure the longevity and impact of these projects, the report emphasizes the need for consistent monitoring and evaluation, allowing for timely feedback and adaptive management.

In summary, Makueni County has made significant strides in its climate action agenda, setting a foundation for sustainable development and community resilience. By implementing these recommendations, the county can build on its achievements, leveraging partnerships, innovative financing, and community involvement to strengthen its response to climate challenges.

1.0 Background Information

1.1 Introduction

The Makueni Annual Climate Report for the Financial Year 2023/2024 outlines the progress and status of the Makueni County Climate Change Action Plan (MCCCAP) 2023-2027 during its first year of implementation. This reflects the collective efforts of various actors in tackling the climate hazards and risks identified during the 2023 Participatory Climate Risk Assessment (PCRA), highlighting the progress made in addressing these challenges to build resilience communities. The report also highlights the contributions from key stakeholders, including government agencies, Civil Society Organizations (CSOs), and private sector actors, all working collaboratively to enhance climate resilience in the county. The implementation of the climate actions aims to improve water, food and nutrition and promote sustainable development across the County.

1.2 Makueni's Climate Profile

Makueni County is located in southeastern Kenya. It covers an area of 8,176.7 square kilometers and has a population of 987,653 people, according to the 2019 census. The County is largely characterized by semi-arid and arid conditions, making it vulnerable to the impacts of climate change, especially droughts, irregular rainfall, and temperature variations. Makueni is divided into six sub-counties, each with specific climate-related challenges and risks.

Makueni County is characterized by three main agro-ecological zones:

1. **Upper Middle Zone (UM):** Covers uplands such as Mbooni and Kaiti and experiences rainfall between 1,000-1,250mm annually. Farming activities in this region include coffee, avocado, macadamia, and dairy farming.
2. **Lower High Zone (LH):** Found in Makueni and Kilome sub-counties with rainfall ranging from 750-1,000mm per annum. Key agricultural activities include fruit farming, especially mangoes and citrus.
3. **Lower Middle Zone (LM):** Spans from Kibwezi East and Kibwezi West experiencing lower rainfall (250-750mm) and higher temperatures (up to 25°C). Major activities

include growing drought-resistant crops such as cowpeas, green grams, and sorghum, alongside livestock farming.

1.2.1 Climate Hazards and Risks

Based on the Participatory Climate Risk Assessment (PCRA) conducted in the 30 wards in 2023, the County identified several climate hazards and risks that threaten local livelihoods. The hazards identified include;

- **Drought** is the most prevalent hazard, affecting agriculture, livestock, and water availability and leading to widespread food insecurity.
- **Flash Floods:** These occur during intense rainfall events, resulting in soil erosion, crop damage, and destruction of infrastructure.

These hazards have resulted in climate risks, which have resulted in water and food insecurity, environmental degradation, and increased vulnerability of local communities. Other risks identified include human-wildlife conflicts, pollution, crop pests and diseases, livestock pests and diseases, human diseases, and gender-based violence. Over 70% of the population relies on rain-fed agriculture, which is heavily impacted by these climate risks.

1.3 Purpose and Process of the Report Development

The purpose of the annual report is to inform, educate and present the County performance in implementation of the Climate Actions across the County in the Financial Year 2023/2024. The report emphasizes interventions that strengthen the resilience and adaptive capacities of the local communities and institutions to climate-related hazards and risks. It highlights the challenges and lessons learned and provides recommendations for upscaling future climate actions while monitoring and evaluating the progress of implementation of the Makueni County Climate Change Action Plan 2023-2027 to achieve the Nationally Determined Contributions (NDCs).

The process of developing this report entailed:

1. Creation of the data collection tool to establish the various climate actions implemented;
2. Piloting applicability of the tool;
3. Submission of the tool to relevant sector heads and stakeholders for data collection;

4. Appointment of a technical working team
5. Desktop review, data analysis and drafting of the report;
6. Validation of the report by stakeholders and Incorporation of comments
7. Adoption by Steering Committee for adoption
8. Approval by County Executive Committee
9. Submission to the County Assembly for approval
10. Forwarding to Climate Change Directorate
11. Publishing and publicizing

1.4 Legal and Policy Framework

1.4.1 United Nations Framework Convention on Climate Change

The Framework binds member countries to Communicate to the Conference of the Parties information related to implementation of adaptation and mitigation actions in accordance with Article 12 of the Framework. All parties in the Paris Agreement are required to establish a National Determined Contribution (NDCs) every five years which provides for the Country's effort to minimize GHGs emission and adapt to Climate Change.

1.4.2 National Climate Change Act 2016

The Act obligates the Cabinet secretary in charge of Climate Change to formulate a National Climate Change Action Plan that will mainstream climate change into National, Sectoral and County development plans. Nationally Determined Contributions are implemented through the Action Plan.

1.4.3 National Climate Change Action Plan 2023-2027

It provides for Counties to develop a progress report on the implementation of climate change actions every financial year and submit to the County Assembly and forward the report to the Climate Change Directorate.

1.4.4 Nationally Determined Contributions

Kenya's Nationally Determined Contribution seeks to contribute to mitigation efforts by abating its GHG emissions by 32% by 2030 relative to the BAU scenario of 143 MtCO₂eq; and in line with its sustainable development agenda.

1.4.5 Makueni Climate Change Act 2022

The Act provides that County entities shall report to the steering committee annually on the performance and progress on implementation of climate change responses. The steering committee shall within three months after every financial year publicly publish and submit a report of the implementation status of the CCAP to the County Assembly. The report shall be forward to the Climate Change Directorate for compiling and submitting a summary for the Country to the National Climate Change Council. The County Assembly shall provide feedback and recommendations to the Steering Committee

1.5 Climate Finance Outlook and Partnership

The Makueni Climate Change Fund (MCCF) was established to finance climate actions in the County as envisioned in the Climate Change Act of 2022, and the Makueni Climate Change Action Plan 2023-2027. The funds are utilized through a special purpose Account (SPA). However, beyond the MCCF, there are other channels through which climate finance flows. These additional flows are crucial for the implementation of MCCAP 2023-2027. The following outlines the broader climate finance ecosystem in Makueni County:

1. **County Departments:** Various County departments receive finance from government budgets and external sources. These include allocations from the County Treasury, development partners, and specific climate-focused grants. These funds enable relevant sectors to implement localized climate adaptation and mitigation strategies such as water conservation, sustainable farming, and disaster preparedness.
2. **National Government Ministries and Agencies:** National-level funding flows into Makueni through government ministries and agencies that implement climate-related projects within the county. The funds aim to address key challenges, including forest conservation, renewable energy projects, and climate-smart agriculture. Key programs

currently under implementation include; Towards Ending Drought Emergencies (TWENDE project), NARIGP, NAVCDP, SIVAP.

3. **Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs), and Community-Based Organizations (CBOs):** Climate finance also flows to CSOs, NGOs, and CBOs working in Makueni. These funds come from donor agencies, international development organizations, and philanthropic foundations dedicated to climate resilience. During the reporting period the following organizations took part in implementation of climate actions in the County; CESPAD, VSO, WHH, Water Mission, RECONCILE, World Vision, Fadhili Trust, Jumuisha Initiative, CARITAS, Green Belt Movement, Emali Dedicated Children Agency (EDCA), Cereal Growers Association, ADSE and Biovision
4. **Private Sector and Development Finance Institutions:** In addition to public and non-governmental sources, the private sector and development finance institutions (DFIs) play an increasing role in climate finance flows. Through investments in renewable energy, sustainable infrastructure, and eco-friendly technologies, the private sector contributes to Makueni's climate goals. DFIs often provide loans or grants for large-scale climate adaptation projects, including renewable energy installations and water management systems.

This include; World Resource Institute, Strathmore University, African Wildlife Foundation, Givepower,

5. **Bilateral and Multilateral Development Partners:** Makueni also benefits from direct bilateral and multilateral support, where funds flow into the County from global initiatives such as the European Union, World Bank, United Kingdom (UKPACT), or Bilateral Aid Agencies (like DFID, GIZ, and others). These partners offer financial assistance in the form of grants, loans, or technical assistance to support climate action projects such capacity building of Youth and County Technical officers by GIZ, CFAs by FAO and Nature Based Enterprises by CIFOR/ICRAF.



Figure 1: Launching of the green financing assessment for Makueni County

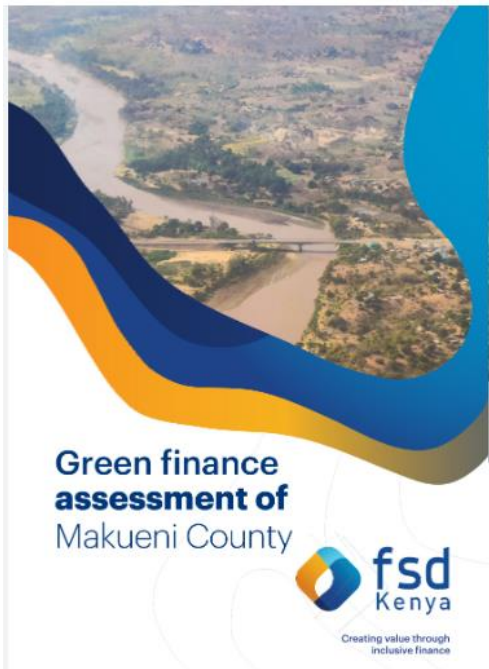
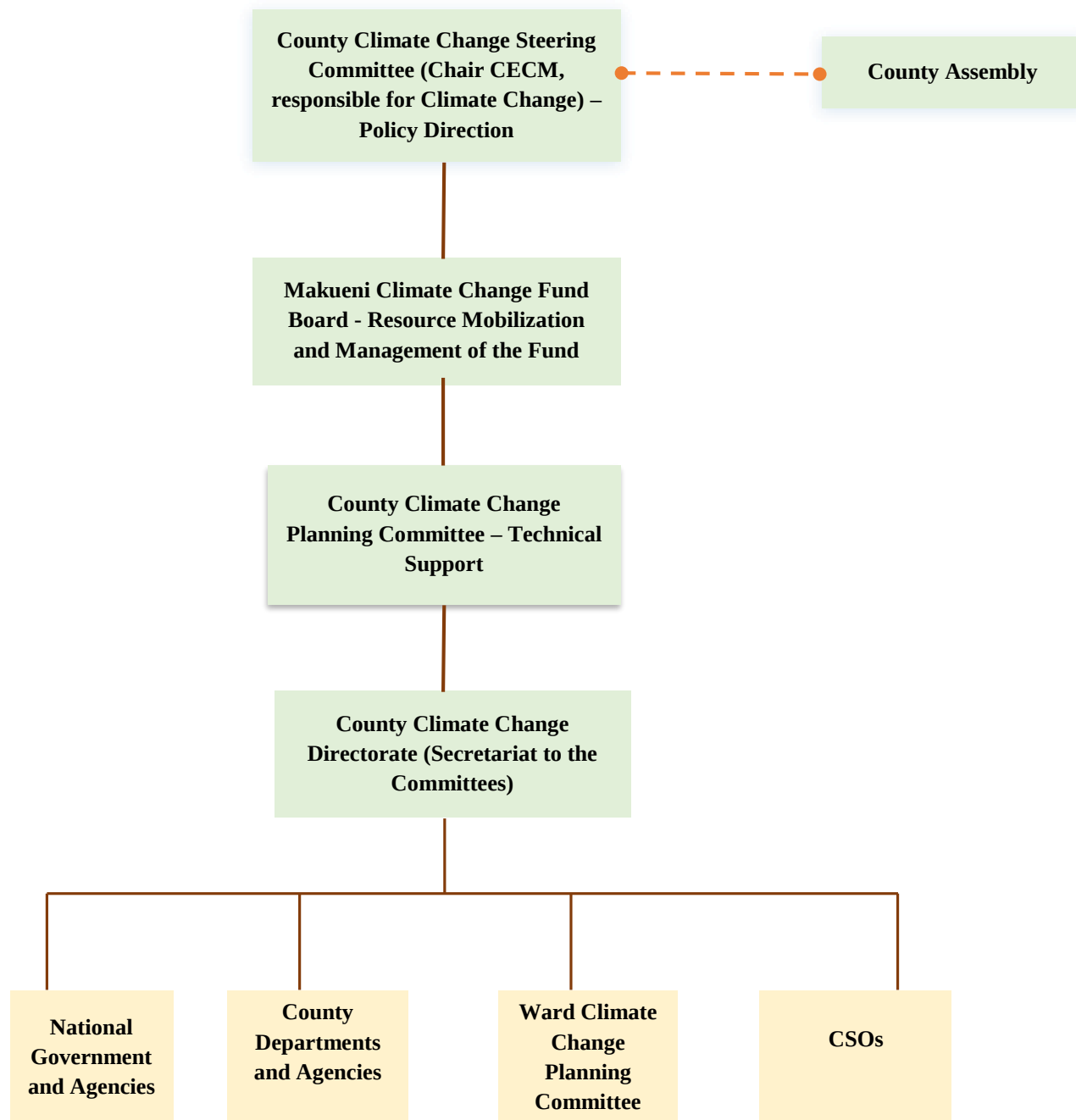


Figure 2: Makueni County Green Finance Assessment Report

1.6 Institutional Arrangement

The Makueni Climate Change Act, 2022 sets out institutional structures and responsibilities as below;



2.0 Climate Actions

2.1 Water and Sanitation

The goal of the sector is to increase access to improved water sources from 44.2% to 70%. Over the period under review, efforts to increase water access were enhanced through drilling and equipping 29 boreholes with a solar pumping system. To reduce the distance to access water and minimize the time taken to water sources, 159 Km of pipeline extension were done and 35 markets supplied with water.

Under Innovative Climate Adaptation Actions construction of eight sand dams with sump tanks with 3000 beneficiaries including Kwa Kitungu Sand Dam across kaiti river with a capacity of 70,000 M³.



Figure 3: Ndukuma Earth Dam

On urban and Rural Water governance, the sector reduced poor water governance through the Water Service Providers meeting 70% compliance as set out in the regulators' guidelines resulting to effective water management and sustainability

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
Water and Sanitation				
Increase access to water for irrigation and domestic use	% of HHs accessing potable/ safe water	44.2%	70	-
	Average distance in Kms to water points	5	2.5	-
Water Infrastructure	No. of large dams constructed of $\geq$ 750,000M3 complete with treatment system, distribution and irrigation infrastructure	0	2	0
	No. of medium sized dams of 500,000M3 constructed/ desilted/ expanded/ rehabilitated	0	5	0
	No. of small dams of 50,000M3 and < 500,000M3 constructed/desilted/ expanded/rehabilitated	327	30	13
	% of rural HHs with piped water	-	80	-
	No. of sand dams/weirs with sumps/treatment	219	10	8
	No. of rock catchments constructed with storage	31	6	
	% of water facilities with green/solar pumping systems	-	50	21

2.2 Agriculture and Food Security

Efforts to boost climate smart Agriculture, the sector trained farmers on CSA increasing the number by 11,178 in the year 2023/2024.

Agricultural production and productivity was intensified by distributing 48,478 metric tons of certified seeds to 24,239 beneficiaries. This initiative resulted in the production of 2,193.6 metric tons of cereal grains. The total value of this produce at farm gate prices was Kshs 171,443,000, driven by high market demand, which significantly increased household incomes enhancing livelihoods. Additionally, the Makueni Agriculture Training Center (ATC) trained 60 youth in school-based programs and 190 farmers in field-based programs on value chains, including dairy, poultry, and apiculture. The county has also established seven (7) agricultural satellite depots, which serve as distribution points for seeds, fertilizers, and other farming inputs, making them accessible to farmers in remote areas

Makueni County Fruit Development and Marketing Authority purchased 593,460 kilograms of mangoes through five (5) cooperatives at a rate of Ksh 20 per kilogram, benefiting 2,800 farmers. Additionally, 281,600 kilograms of mango puree resulted in a revenue of Ksh 1.28M.



Figure 4: Makueni Fruit Processing Plant

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement For 23/24
Agriculture and Food Security				
	No. of irrigation zones established/rehabilitated	2	4	1
	Area under irrigation(Ha)	326	20,000	15.2
	No. of farm ponds in use	3220	100	80
	% increase in HHs with farm ponds	3123	5	3
Promotion of modern agricultural technologies	No. of people adopting climate smart agriculture and conservation agriculture	15600	100,000	20,233
	No. of farmers accessing subsidized farm inputs	38,000	20,000	24,239
	No. of farmers trained on climate smart agricultural technologies	15600	100,000	20,000
Integrated Soil and Fertility management (ISFM)	No. of HHs with farms tested of soil fertility	120	1000	50
	No. of farmers trained on ISFM	2300	3000	2639
Reduction of losses from agricultural production	No. of farmers enrolled in crop insurance programme	3500	4,000	711
	No. of farmers trained on integrated pest and disease control	10,000	10,000	11,939
Training and extension	% increase in productivity for targeted crop value chains	9	30	14%
Marketing and value addition	No. of aggregation centers established	20	90	46
	% increase in quantity of agricultural produce processed	8	20	15

2.3 Livestock production

Over the period under review, the government initiated programmes to promote dairy development, meat value chain development, and fisheries enhancement. Milk production increased by 5% and beef production by 20% as compared in FY22/23. Fisheries enhancement effort led to increased fish production from 8 Tons in FY 2022/23 to 8.6 Tons in FY 2023/24 hence playing a significant role in enhancing food security.



Figure 5: Grass baling



Figure 6: Livestock Vaccination

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
Livestock Production				
Breed improvement	No. of subsidized AI given	23,16	2,000	1,000
	No. of farmers with improved breeds	85,000	30,000	-
	No of farmers trained on breed improvement	45,000	10,000	300
	No. of A.I Service providers	53	60	18
Disease and pest control	No. of farmers accessing subsidized farm inputs	12,000	10000	5000
	No. of livestock vaccinated	350,000	200,000	100,000
	No. of mobile livestock labs conducted	5	10	5
	No. of farmers reached/ benefitted on pest and disease control programmes	55,000	30,000	38,562
	% increase in quantity of livestock produce processed	15%	20%	2.5%

2.4 Forest and Landscape Restoration

Through a County Forest and Landscape restoration plan 2023-2032, partners in landscape restoration are expected to contribute to achieving a restored area of 200,000 hectares by 2032 and contribute to reduction in greenhouse gases (GHGs). In the Financial year 2023/2024 the area of land restored was 32,364 ha.



Figure 7: Kiu Wetland Restoration

The activities include tree and non-tree-based restoration. Among such interventions include; tree growing on farm and forest landscapes, construction of structures that encourage water retention while reducing soil erosion, grass reseeded, capacity building and strengthening of community landscape restoration governance structures.



Figure 8: Sand Dam at Kalamba

The government partnered with other stakeholders in the forestry sector and planted 1,195,668 seedlings across the country with a survival rate of 64.5%. Four (4) community forest associations have been formed and strengthened. One (1) of the community forest associations (CFA) has undergone gender, equity and social inclusion training in landscape restoration. The CFAs have a membership of 4,321 community members.

15,500 members of the public and learners were reached through advocacy and sensitization, where about 5,400 were women, 5,100 men and 5,000 youths, 30 persons with disability. The sector has invested in Sustainable land management practices including; excavation of 1034m length of terraces, grass reseeding of 28,987 ha and 20,190 farmers adopted agroforestry practices.



Figure 9: Mtito Andei Wildlife Electric Fence



Figure 10: Kamungi Eco-tourism Banda

Source: Tsavo Trust

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
Forest and Landscape Restoration				

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
Farmland and rangeland restoration	No. of Kms terraced	-	500	1034
	No. of gulleys site rehabilitated	115	6	5
	No of HHs adopting agroforestry	-	80,000	20,190
	Acres reseeded with appropriate grass species	-	1,000	28,987
	No. of nature-based enterprises established	-	40	0
Forest restoration	No. of tree seedlings planted and surviving ('000')	-	4,500	1,195,668
	No. of forests surveyed, beaconed and protected	-	5	0
	No. of CFAs formed and strengthened	1	12	4
	No. of PFMP developed and implemented	0	12	0
	Area under plantation forests	-	200	
	No. of nature-based enterprises identified and promoted in the forests	-	6	1
	No. of forests with nature-based activities	-	3	1

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
	% increase in tree cover	12.47	2	-
	% increase in forest cover	5.1	0.4	-
Forest protection and management	Length of forest road maintained (Kms)	-	-	4
	Length of forest firebreak maintained (Kms)	-	-	2
	Area of forest destroyed by fire	-	-	0
Wetland and riparian reserves restoration	No. of wetlands Gazetted	-	4	0
	No. of wetlands restored, protected and conserved	-	2	2
	Area (Ha) of wetlands restored	-	50	100
	No. of Kms of rivers conserved	-	100	
	No. of sand dams constructed	219	10	7
	No. of earth dams conserved	-	20	1
	No. of WRUAs formed and strengthened		3	
	No. of SCMPs prepared and implemented		3	

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
	No. of rivers pegged		12	
Germplasm / Seedlings propagation	No. of tree nursery groups established and strengthened	56	16	15
	No. of seedlings raised	-	3,500,000	4,800,000
Wildlife conservation	Kms of electric fence done	-	120	158
	No. of water infrastructure developed in the parks		-	
	No. of animals translocated from farmlands to protected areas	-	-	2 (Elephants)
	No. of claim forms processed and settled per year	-	-	350
	No. of people sensitized on wildlife management and human wildlife coexistence	-	100,000	30,000
Eco-tourism	No. of nature-based enterprises (establishment of conservancies, eco-lodges, tented camps, game drive, picnic sites, tourist attraction sites)	-	3	1 Bandas 1 (Kamungi) Tentent camps-2 paton, Kiima Kiu) Tourism attraction site

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
				2 (Nzaui forest, Akamba cultural site)
	No. of established community game farms	-	1	3 (permits)

2.5 Disaster Risk Management and Climate Information Systems

The sector implemented the climate information service plan by developing bi-annual agro climate information and disseminated the information to 900,000 farmers through different communication channels (bulk sms, social media, radio talk shows and community forums)

During short and long rains, the County experienced flash floods that affected some communities. To cushion the affected populations, the County provided food and non-food items to those displaced/affected by the El Nino rains. It established five (5) rescue camps, namely Kya Kituku, Katulye, Kavata Nzou, Ndulu Kiangi/Mikululo and Kawese primary schools supporting a total population of 986 individuals.



Figure 11: Effects of Flash Floods on Infrastructure

In the reporting period, a total of 100 fire incidents were recorded, alongside 10 cases of drowning, 2 pit rescue incidents, and 2 whirlwinds. Additionally, there were 5 human-wildlife conflict incidents, resulting in 2 deaths and 5 injuries.

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
Disaster Risk Management, Social Protection, and Climate Information Systems				
Development and dissemination of climate/ weather data	No. of climate information systems developed	2(OND 2023, MAM 2024)	6 – 2 achieved. Additionally (OND 2024, MAM OND2025, OND 2026, MAM 2027).	2

	No. of people receiving climate information	Approximately 244, 000 households and all relevant government agencies and stakeholders got the information.	10,000	900,000
	No. of people reached through early warning systems alerts	Approximately 244, 000 households and all relevant government agencies and stakeholders got the information.	2	900,000
Establishment of flood/mudslides related rescue centers.	5 No. of flood/mudslide rescue centers established.	5 Flood/mudslides related rescue centers.	All affected populations.	5 Rescue centers with 986 persons assisted.
Response to fire and other emergencies.	No. of fire and other emergency incidents responded to.	Fire and other emergency incidences responded to (Wildfires, farmland fires and residential fires)	All incidences reported.	121
Drought related incidences.	No. of domestic/wildlife deaths reported.	Total no. of deaths reported.	Total no. of deaths reported.	Total no. of deaths reported.

2.6 Health sanitation and human settlement (Social Protection, Pollution control and compliance, Preventive and curative healthcare)

The County declared 1,381 villages Open Defecation Free (ODF) and constructed 6 toilets in market centers improving sanitation status within the County. In addition, market/town sanitation services were also improved through cleaning 238 towns and market centers, management of transfer stations/collection centres and 4 dumpsites.

The County supported 1,832 elderly persons and 1,800 PWDs with food and non-food items to address drought.

To equip the youth with job market skills and prepare them for employability, the government recruited, replaced, and managed a total of 100 interns, 128 apprentices and 785 student attachés. Efforts to create job opportunities were enhanced through skill enhancement where 97 youths were trained and issued with tools of trade to start their own businesses. Additionally, a total 101 youths receiving driving course training to equip.



Figure 12: World Clean Up Day 2023



Figure 13: Wote Town Clean Up Exercise



Figure 14: Environmental Monitoring at Makueni Fruit Processing Plant

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement 2023/2024

Health sanitation and human settlement (Social Protection, Pollution control and compliance, Preventive and curative healthcare)				
Promotion of preventive healthcare	No. of households receiving routine visits by community health promoters		2,4900	249000
	No of preventive healthcare sensitization forums		2880	960
	No of people sensitized on preventive healthcare		99600	99600
	No of water borne disease cases		6000	20899
	No of stunted growth among children			20%
Social Protection	No. of sensitization forums on GBV		300	30
Creation of an enabling environment for pollution control	No. of policies formulated		1	3 (Draft Makueni County Integrated Solid Waste Management Bill, 2024 and Makueni County Environment Bill, 2024, Wote municipality solid waste management policy-work in progress)
	No. of Acts enacted on environmental management		1	0
	No. of sensitization forums done		120	100

	No. of Designated dumpsites		6	4
	No. of established legal dumpsites		6	0
	Number of waste segregation collection /transfer centers established		40	23
	Number material recovery centers established		2	0
Promoting sustainable environmental management	No. of markets under the market cleaning programme		200	218
	No. of pollution incidents reported, investigated and managed		10	17
	No. of environmental inspections carried out		20	110
	No. of water, air and soil quality analyses done		10	0
Enforcement of relevant environmental management laws	No. of cases handled on pollution		5	2

2.7 Transport and Energy

To improve connectivity and accessibility, the county, through routine maintenance programme has opened 445.3km, graded 1273.4km, and graveled 102 km of the rural roads. The department constructed 12 drifts, 2,190 Meters of culverts, 813 gabion boxes and 33,965Metric cubic of catch water drains were installed along the roads.



Figure 15: Roads for water program

The county in partnership with REREC enhanced rural electricity access, promoted renewable energy adoption and encouraged clean cooking practices. The REREC partnership led to implementation of 12 projects across the County with 602 households being connected to electricity. To enhance security and stimulate economic development, 6 high mast flood lights were installed, Additionally, 78 integrated solar lights and 63 grid-powered streets. lights were installed contributing to the overall safety and well-being of the community.



Figure 16: 205kWp grid-tier Solar System in Makueni Referral Hospital

To promote green energy, a 205kWp grid-tier solar system was installed at Makueni County Referral Hospital. This system is expected to cut power consumption bills by 30% and

contribute to environmental sustainability.29 water projects were connected to solar power, reducing operational costs and enhancing climate mitigation.

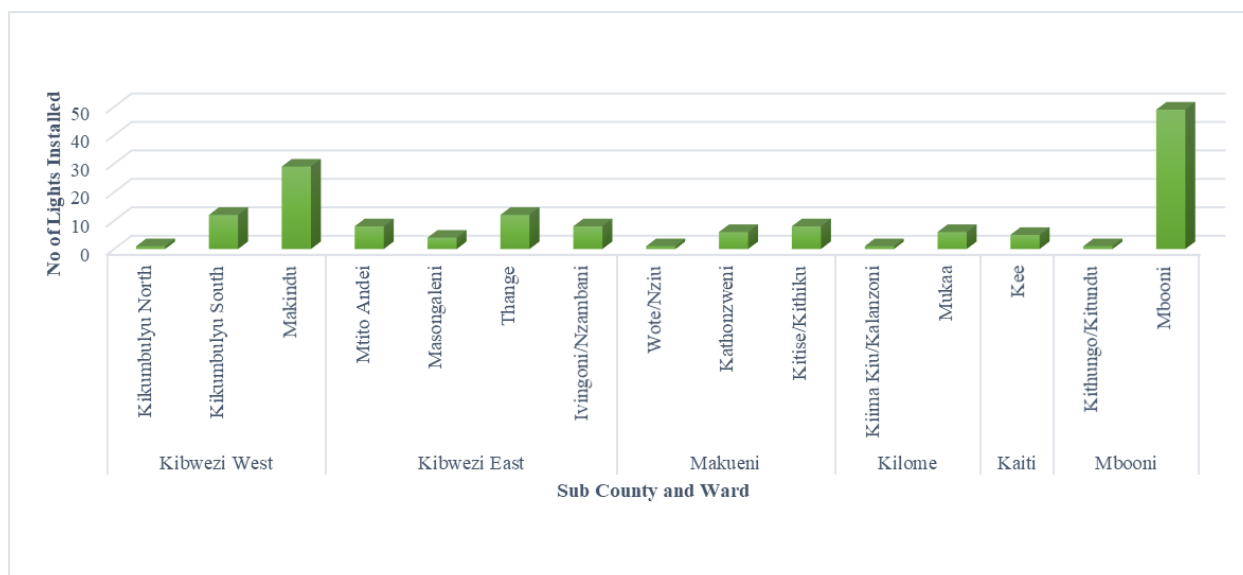


Figure 17: Solar-powered streetlights and floodlights

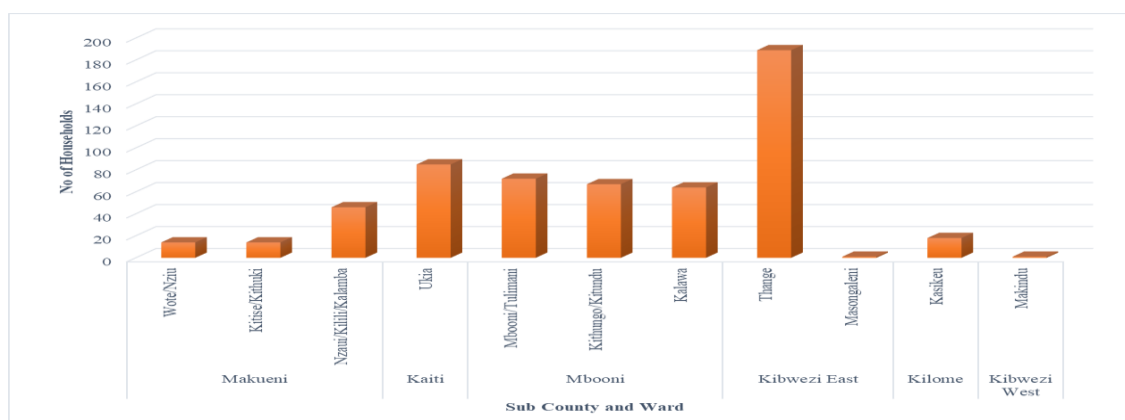


Figure 18: Households Connected to Electricity in Partnership with REREC

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
Transport and Energy				
Promotion of clean energy technologies at household level	No. of households using solar lighting		100,000	

Priority action	Key Performance Indicator	Baseline	Target up to June 2027	Annual achievement
	No. of HHs using improved cooking technologies		80,000	
Promotion of clean energy sources for commercial production	No. of institutions (schools, hospitals) taking up use of biogas as source of cooking energy		400	

2.8 Enablers

Priority action	Key performance indicator	Target up to June 2027	Annual achievement
Enabling policy and Regulatory Framework			
Creation of an enabling environment for pollution control			2 (FOLAREP and Energy Plan)
			1 (Draft climate fund regulations)
Technology and innovations			
Climate Information		10,000	1,500,000
Capacity development and knowledge management			
Climate finance and resource mobilization			
Climate Change Financing	Percentage of funds allocated from development to climate change	2%	7%
	Percentage of funds allocated from development equitable share	2%	2%
	Percentage of funds allocated from conditional allocation (grants and donors)	-	5%
	No of climate proof projects financed		

Climate Change Financing in Makueni County Government in FY 2023/24

The County Treasury ensured that prioritization of Climate Initiatives was part of the main development objectives. Integrating Climate actions and mitigation objectives into the county

budget helps align local development plans with County, National and global climate commitments. The overall climate change allocation in FY 2023/24 budget was Ksh 221,625,788, translating to 7 percent of the county's development budget. In FY 2023/24, the county allocated Ksh 64,491,480, representing 2 percent of the development budget, to climate initiatives. Additionally, the county received Ksh 157,134,308, translating to 5 percent of the county's development budget.

3.0 Monitoring and evaluation (monitoring reporting and verification)

The M&E process assisted in; identifying and addressing implementation gaps, providing information about climate change programmes and project activities to key stakeholders, and assessing the achievements of the set development targets in the County Climate Action Plan. This facilitated effective, evidence-based decision making towards county goals and aspirations.

To effectively monitor and evaluate climate actions in Makueni County, several means of verification (MoV) were employed. These include:

- a) **Baseline Studies:** Establishment of initial conditions regarding climate-related indicators.
- b) **Field Surveys:** Conducting regular ground-based assessments to collect data on climate actions and ecosystem conditions
- c) **Multi -sectoral engagements:** the CCU has frequently used the technical staff from all relevant sectors implementing climate actions to provide and validate all the data provided
- d) **Community Engagement:** The CCU has involved local communities through ward climate planning committees in data collection to provide insights into local climate impacts and adaptation strategies.
- e) **Administrative Records:** the data was also verified through analysis of government progress reports, environmental assessments, and agricultural extension services to track progress on climate initiatives.
- f) **Climate Action Indicators:** The government developed specific indicators related to climate resilience and M&E work plan to fast-track the level of implementation of climate actions at all levels and relevant sectors.
- g) **Financial Tracking:** The government developed regulations and legal frameworks to monitor funding sources and expenditures related to climate actions to ensure resources are being allocated effectively as per the climate change provisions.

On climate reporting, the government has been submitting quarterly and annual climate change reports to the County Assembly and National Treasury. This reports have assisted in tracking implementation of climate actions in the county. The progress reports provide key achievements, challenges, recommendations and stakeholder engagements with their priority areas and implementation levels.

4.0 Challenges and Lessons Learnt

4.1 Challenges

- i. **High Costs and Financial Constraints:** The climate project faces significant financial challenges, including high maintenance costs and limited funding, making sustainability difficult.
- ii. **Vulnerability and Dependency:** There is a high level of vulnerability among certain groups, particularly with high dependency rates for the most vulnerable populations, compounded by issues related to aging and ageism.
- iii. **Staffing and Capacity Building:** The projects struggles with inadequate staffing and limited capacity-building initiatives to equip personnel with necessary skills.
- iv. **Stakeholder Engagement:** Limited engagement and support from stakeholders affect collaboration, project ownership, and overall success.
- v. **Low interdepartmental synergies:** Absence of inter-departmental linkages in projects planning and implementation limits synergy towards climate action implementation and realization of results
- vi. **Underutilization of available statistical data:** Data informs decision making and planning. Inadequate use of data has led to decision- making that are not well informed and aligned and therefore implementing interventions which do not adequately solve the needs of the community

4.2 Lessons Learnt

The challenges and experiences constituted important lessons that could inform the implementation of the county's future implementations. The following lessons were learnt

- Citizen engagement in development is key in enhancing ownership and sustainability of development projects
- Effective coordination of development partner's activities is key to enhancing climate actions.
- Mainstreaming climate change in to planning, budgeting and implementation of programs enhances efficiency in climate actions.

- Future efforts should incorporate targeted social support measures and plan for dependency management strategies. Tailored support for vulnerable groups fosters inclusivity and reduces dependency over time.
- Flexibility should be built into project planning to allow for adaptation as challenges arise. Projects that are prepared to pivot are better equipped to manage risks and maintain continuity amid changing circumstances.
- Future projects should secure diversified funding sources, consider cost-sharing models, and ensure continuous financial monitoring to avoid resource constraints. Proactive budget planning can mitigate the impact of financial pressures over time.

5.0 Recommendations

1. **Resource mobilization:** Establish and implement external resource mobilization strategies to bridge the financing gap with respect to infrastructure development and other capital investment initiatives.
2. **Enhance Community Engagement and Education:** Conduct regular sensitization campaigns on climate resilience, waste management, and environmental conservation and sustainable utilization.
3. **Strengthen the cross-sector linkages:** Integrating resources and expertise from various departments will reduce duplication, improve efficiency and enhance service delivery.
4. **Promote Sustainable Livelihoods:** Develop income-generating activities and nature based enterprises to enhance livelihoods.
5. **Implement Monitoring and Evaluation:** Regularly assess project outcomes, ensure community feedback through forums, and maintain oversight to achieve long-term impact.
6. **Explore innovative financing mechanisms:** Explore new revenue streams, such as green bonds or climate resilience funds, to finance projects aimed at mitigating climate change.
7. **Foster Partnerships and Capacity Building:** Strengthen collaborations with stakeholders for resource management, funding, and technical support.
8. **Development of urban Disaster Risk Management plans:** The plan will be part of a framework to address disasters in urban areas.
9. **Mainstreaming DRR and Climate Change in all programs and projects.**
10. **Actions to provide market linkages for value chains should be prioritized**
11. **Actions to address forest fires should be put in place**

6.0 Conclusion

The Makueni Annual Climate Change Report (2023/2024) provides a comprehensive overview of the ongoing efforts to tackle climate change impacts through various sectoral actions. In this inaugural year of the Makueni County Climate Change Action Plan (2023-2027), the report showcases progress in addressing climate risks like drought and flash floods, which have adversely affected agriculture, water availability, and local livelihoods. Key interventions include expanding water access through boreholes and sand dams, promoting climate-smart agricultural practices, and restoring forest landscapes.

Despite positive strides, the report highlights several challenges, such as unpredictable weather impacting project timelines, insufficient interdepartmental synergies, and low utilization of statistical data in decision-making. To improve future efforts, recommendations focus on enhancing resource mobilization, fostering cross-sector linkages, adopting evidence-based decision-making, and exploring innovative financing. The report underscores the importance of community engagement and effective partnerships, setting a foundation for sustainable climate resilience in Makueni County.

Contributors

S/NO	Organization
1.	Makueni County Environment, Natural Resources, Mining and Climate Change.
2.	Kenya Meteorological Department
3.	Department of Trade
4.	Sheldrick Wildlife Trust
5.	Department of Water, Sanitation and Irrigation
6.	Emali-Sultan Hamud Municipality
7.	RECONCILE
8.	Kaiti greening
9.	Friends of Kiu Wetlands
10.	Department responsible for Energy
11.	Emali Dedicated Children's Agency
12.	ActionAid international
13.	Wote Municipality
14.	Stay alive
15.	Jumuisha Initiative Community Organisation
16.	Department of Gender
17.	Lands, Urban Planning and Development
18.	Department of Roads and Infrastructure
19.	Makueni Sand Conservation and Utilization Authority
20.	Ahadi Achievers Empowerment CBO
21.	Kenya Forest Service (KFS)

S/NO	Organization
22.	Anglican Development Services Eastern (ADSE)
23	Micro Enterprise Support Programme Trust (MESPT)
24	Kenya Red Cross Civil Society (KRCS)
25	Makueni Civil Society Network (MCSN)
26	Makueni Environmental Conservation Shift Initiative (MECOSI)
27	Voluntary Service Overseas (VSO)
28	HATUA Achievers
29	Jumuisha Initiative
30	CWWSI
31	KAFOCO
32	National Drought Management Authority (NDMA)
33	National Environment Management Authority (NEMA)