



MAKUENI COUNTY CLIMATE CHANGE ACTION PLAN 2023-2027

SECOND IMPLEMENTATION STATUS REPORT - (FY 2024/2025)



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List of acronyms

CCCF	County Climate Change Fund
CIDP	County Integrated Development Plan
CSA	Climate Smart Agriculture
CSOs	Civil Society Organizations
FLLoCA	Financing Locally Led Climate Actions
FOLAREP	Forest and Landscape Restoration Implementation Action Plan
LLA	Locally Led Adaptation
MCCCAP	Makueni County Climate Change Action Plan
MERL	Monitoring Evaluation Reporting and Learning
NCCAP	National Climate Change Action Plan
NDCs	Nationally Determined Contributions
NMTs	Non-Motorized Transportation Systems
SAGAs	Semi-Autonomous Government Agencies
PWD	People with Disability
RO	Reverse Osmosis
WASH	Water Sanitation and Hygiene

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Executive summary

The Makueni County Climate Change Action Plan (MCCCAP) 2023–2027 guides the County’s transition toward a low-carbon, climate-resilient economy, aligning the priorities with the Makueni County Climate Change Act, 2022, National Climate Change Action Plan (NCCAP 2023–2027) and Kenya’s Nationally Determined Contributions (NDCs).

This Second Implementation Status Report covers the period July 2024 to June 2025. It is based on submissions from thirty-two (32) institutions including: six (7) County departments, five (5) Semi-Autonomous Government Agencies (SAGAs), three (3) National Government agency, fifteen (15) Civil Society Organizations (CSOs), one (1) private sector entity, and one (1) research institution. Data was collected using a structured reporting tool that was disseminated to climate actors within the county. Additional information gathered through stakeholder consultations, desk reviews, and validation workshops.

This report highlights progress achieved across the priority thematic areas of the MCCCAP reflecting alignment with national and global climate goals. It is organized into the following sections: background and objectives; methodology and approach; summary of results by strategic objectives and enablers; challenges and lessons learnt; and recommendations and way forward.

Significant progress was realized in community resilience building, promotion of climate-smart agriculture, renewable energy uptake, environmental restoration and strengthening of institutional frameworks for climate governance. The County continued to operationalize the County Climate Change Fund (CCCF) to finance locally led adaptation (LLA) initiatives by allocating Ksh 111.1 million (3.33%) of its development budget to climate-related activities in FY 2024/25. In addition, the Fund received 152.7 Million from Grants enhancing the County’ allocation to 7.91%.

Challenges experienced during implementation of the MCCCAP included: institutional capacity gaps among implementing partners making it difficult to integrate climate action into routine programs, resulting in fragmented interpretation and difficulties in aggregating data. Poor coordination among County departments, private sector actors, and CSOs leading to duplication of efforts and the risk of double counting, while limited financial resources constrained planning, monitoring, and evaluation of climate actions.

Lessons learned emphasize the importance of stakeholder awareness and sensitization on NDCs and MCCCAP priorities, integrated approaches in implementation of climate actions and active community engagement to ensure sustainability. Capacity building of technical officers and communities, adoption of technology and innovation, inclusive gender and youth participation, effective grievance redress mechanisms, and security measures to protect infrastructure were all critical for successful implementation

Looking ahead, Makueni County will focus on strengthening climate action implementation, monitoring and sustainability. Key priorities include enhancing institutional capacity, fostering coordinated stakeholder engagement, and scaling up financial and technological investments to support climate-smart programs. The County will strengthen community participation, particularly among women and youth, to ensure inclusive and resilient outcomes. Additionally, investments in climate information systems, digital monitoring and innovative technologies will be accelerated to improve data-driven decision-making and accountability. By building on lessons learned and

enhancing ongoing initiatives, Makueni County aims to achieve a low-carbon, climate-resilient and prosperous future for all residents.

1. Introduction

The Makueni County Climate Change Action Plan (MCCCAP) 2023-2027 aims to advance the County's development priorities by providing strategic mechanisms and measures to achieve low-carbon, climate-resilient development, with adaptation as the central pillar. The Action Plan operationalizes the provisions of the Makueni County Climate Change Act, 2022 and provides a structured framework through which the County implements its climate change agenda in alignment with national and global commitments; including the Makueni County Integrated Development Plan (CIDP 2023-2027), National Climate Change Action Plan (NCCAP 2023-2027), the National Adaptation Plan (NAP 2015-2030), and Kenya's Nationally Determined Contributions (NDCs).

The Makueni County Climate Change Action Implementation Status Report captures implementation progress in policy and regulatory development, technology and innovation, capacity building and knowledge management, climate finance, Locally-led climate actions, monitoring, reporting, and verification (MRV). The report also assesses the institutional and coordination mechanisms that enable effective delivery of locally led adaptation and low-carbon initiatives. In addition, it features selected case studies showcasing best practices and transformative community actions that advance climate resilience within the County

1.1 Background to the annual reporting process

The Makueni County Annual Climate Change reporting process is anchored under Kenya's devolved climate governance framework established under the Climate Change Act, 2016 Section 19 (5) mandating County Government at the end of every financial year, through the designated County Executive Committee Member, to submit a report on progress of implementation of climate change actions forwarded to the Climate Change Directorate.

This statutory obligation is further reinforced by the Makueni County Climate Change Act, 2022. Section 48(1)(2)(3) institutionalizes climate governance structures, mandating the County Steering committee to publish publicly and submit a report on the implementation of the County Climate Change Action Plan to the County Assembly for review and adoption. Further, the Act mandates the County Assembly to forward a copy of the report with recommendations the steering committee.

1.2 Objectives and scope of the report

1.2.1 Objective and scope.

The Objective of this report is to assess the progress made in implementing the Makueni County Climate Change Action Plan (MCCCAP) 2023–2027 during the Financial Year 2024/2025, by documenting key achievements, challenges and lessons learned across all priority sectors and

enabling areas taking into considerations the roles played by the National government, private sector, civil society organizations (CSOs), research organizations, institutions of higher learning.

Specifically, the report seeks to:

- Consolidate data on climate change-related activities and investments by all stakeholders at the county level.
- Highlight progress made, challenges faced, opportunities identified, and lessons learnt.
- Enhance stakeholder awareness, collaboration, and participation in climate change actions for improved resilience and adaptation.
- Provide a performance monitoring tool for the County Government, tracking progress toward climate resilience targets.
- Support resource mobilization and budgeting, informing the allocation of climate finance through the CCCF mechanism.
- Facilitate knowledge sharing and learning, highlighting best practices, challenges, and lessons to guide policy and planning.
- Contribute to national climate reporting obligations, feeding into Kenya's national reporting.

This Second Implementation Status Report covers the period July 2024 to June 2025. It is based on submissions from thirty-two (32) institutions including: six (7) County departments, five (5) Semi-Autonomous Government Agencies (SAGAs), three (3) National Government agency, fifteen (15) Civil Society Organizations (CSOs), one (1) private sector entity, and one (1) research institution. Data was collected using a structured reporting tool that was disseminated to climate actors within the county. Additional information gathered through stakeholder consultations, desk reviews, and validation workshops.

The report highlights key challenges, achievements and opportunities experienced during the reporting period. The annual climate reporting was coordinated by the County Climate Change Unit with technical support from sector departments and implementing partners. The Ward Climate Change Planning Committees (WCCPCs) played a foundational role by documenting and submitting ward-level project updates, community priorities and emerging climate risks.

1.3 Overview of climate change impacts in the County up to 2025 June

Makueni County continues to experience significant climate change impacts primarily characterized by frequent droughts resulting in water scarcity and food insecurity. The MCCAP 2023-2027 identifies major climate risks in the County including drought, heat waves and flash floods. The County's economy is predominantly rain-fed and agro-based, with the majority of households depending on smallholder farming and livestock rearing for subsistence.

In the financial year 2024/2025, the October - November - December (OND) 2024 rains were below normal (depressed) while the March - April - May (MAM) 2025 were near normal. The upper zones experienced 310mm to 490mm, middle experienced 250mm- 430mm while the lower zones experienced 190mm- 310mm. The temporal and spatial distribution of the seasonal rains was poor in the entire county.

The cumulative impact of the below-average short rains experienced in 2024, followed by near-normal performance of the subsequent long rains, exacerbated food insecurity especially in the lower zones. This situation was attributed to reduced seasonal harvests resulting from severe early-season dryness.

Pest infestations, including Fall Armyworm (FAW) and African Armyworm (AAW), compounded food insecurity, damaging maize and sorghum crops extensively. Limited access to affordable pest control measures and delayed distribution of subsidized farm inputs aggravated the impact. Consequently, maize losses in the Marginal Mixed Farming zone ranged between 40–60 percent, while sorghum and millet losses were estimated at 50–70 percent in severely affected areas. In contrast, drought-tolerant crops such as green grams and cowpeas performed relatively better, though yields were still below average in dry-spell-affected areas. These crop failures reduced household food stocks, increased dependence on markets, and heightened food insecurity risks among vulnerable populations.

Further, the depressed rainfall led to the drying up of critical water sources and community water projects, diminished livestock feed and consequent livestock and wildlife mortalities. These conditions have significantly intensified human wildlife conflicts, as both communities and wildlife increasingly compete for scarce resources resulting in a rise in human fatalities due to wildlife attacks. During the reporting period, notable shifts in wildlife migratory patterns were observed, including increased elephant activity in Kitise/Kithuki Ward and heightened hyena presence in the Mbooni area.

For the short rains (MAM) the upper zones experienced heavy rains especially in Mbooni, Kithungo/Kitundu and Kilungu Wards. Over the reporting period, flooding severely affected approximately 3000 people, led to 17 deaths (8 children and 9 adults). Cases attributed to lightening accounted to one death and four severe injuries. Additionally, it resulted in loss of life, displacement, damage to crops, loss of livestock and destruction of property.

1.4 Responding to climate change in County

The County has made significant progress in mainstreaming climate action into its development agenda and demonstrates strong coordination and commitment in responding to climate change through the establishment of a comprehensive legal, and institutional framework that prioritizes locally led adaptation and low-carbon development. The enactment of the Makueni County Climate Change Act, 2022, the establishment of the Makueni County Climate Change Unit and

the subsequent development of the Makueni County Climate Change Action Plan (MCCCAP 2023–2027) have provided a structured and statutory foundation for climate governance, financing and coordination.

Implementation is operationalized through the County Climate Change Fund (CCCF) which channels devolved financing to ward-level interventions. Makueni County has financed over KSh.171Million worth of integrated resilient projects across 13 wards under the FLLoCA program. In addition, livelihood restoration and diversification activities among communities were promoted. These investments directly enhance community resilience to water security, drought preparedness, and livelihood diversification while supporting sustainable land management and ecosystem restoration. Complementary community capacity building through participatory approaches ensured that ward-level priorities are informed by local climate risks and adaptive capacities, strengthening ownership and long-term sustainability of interventions.

Climate information and early warning services were delivered through the County Meteorological Department, which issued weekly county-level weather forecasts and agrometeorological advisories to guide climate-sensitive sectors. The National Drought Management Authority (NDMA) complemented these efforts by producing monthly drought early warning bulletins that informed contingency planning and adaptive livelihood support. These information products were increasingly utilized to prioritize climate adaptation investments under the County Climate Change Fund (CCCF) mechanism. Furthermore, the integration of these data streams into ward-level Monitoring and reporting improved data-sharing frameworks between County departments, public and private entities, and local institutions.

Recognizing the interconnectedness of climate and human wellbeing, Makueni addressed climate-induced health risks through partnerships such as the Prudence Foundation-Kenya Red Cross Climate and Health Resilience Fund, which targets women and children vulnerable to drought and heat stress. The establishment of the Civil Society Organizations (CSO) climate forum has enhanced coordination between County Climate Change Unit and Civil society organizations ensuring alignment, knowledge sharing and synergy in climate programming.

Monitoring and evaluation frameworks are progressively being institutionalized to strengthen accountability, data management and evidence-based decision-making. The County Climate Change Unit, leads the integration of Climate data into the county integrated monitoring and evaluation system ensuring consistency with the National monitoring and evaluation guidelines.

2. Methods and approach

The preparation of this report employed a combination of methods and approaches to generate relevant data and information as summarized below:

2.1 Desk review of policy documents and literature on climate change:

Relevant policy documents at both National and County level were reviewed. These included; The National Climate Act, 2016, National Climate Change Action Plan 2023-2027, The Makueni Climate Change Act, 2022; MCCCAP 2023 – 2027 and CIDP 2023-2027. Annual sector reports and current publications on climate change in Kenya were reviewed to identify relevant information to inform this report.

2.2 Stakeholder mapping and engagement workshops

A stakeholder mapping exercise was carried out to identify key stakeholders working on climate change space in Makueni County. Key categories identified included National Government agencies; county government departments and SAGAs, private sector entities; CSOs; and development partners. Subsequently, a stakeholder consultative meeting and sensitization exercise on the indicators and training on the data needs was organized for the target groups. Additionally, sector M&E officers and CSOs were sensitized on Climate action reporting.

2.3 Primary data collection

An excel reporting tool was sent to all SAGAs, county governments departments; private sector entities and NGOs. Respondents were requested to complete the excel and backup support was provided to stakeholders on a continuous basis as they filled information online. An official email for sharing the data was provided to contact persons in the various institutions to ensure integrity of data being collected. The survey used the same tool as in year 1 after reviewing the tool for completeness and relevance based on feedback from stakeholders.

The data was received from thirty-two (32) institutions including: six (7) County departments, five (5) Semi-Autonomous Government Agencies (SAGAs), three (3) National Government agency, fifteen (15) Civil Society Organizations (CSOs), one (1) private sector entity, and one (1) research institution.

3. Results and progress

3.1 Progress by strategic objectives

3.1.1 Disaster Risk Management

The sector implemented Climate Information Service Plan by developing weekly agro-climate advisories and disseminating them to farmers through various communication channels, including bulk SMS, social media platforms, radio talk shows, and community forums to reduce hazards and enhance climate information. To cushion the affected populations, the County provided both food and non-food items to those impacted.

Despite these efforts 1,118 individuals were displaced during the 2024 March–May (MAM) rains due to flooding in Mutyambua, Kilungu and Mbooni West. Additionally, 23 deaths were recorded during the 2024/2025 MAM rains and one (1) death related to lightning was reported in Thange. This reflects modest progress in disaster management compared to the 26 deaths reported during the 2023/2024 OND season. The slight reduction in mortality, despite continued seasonal flooding, suggests improved early warning dissemination, community preparedness and emergency response, including timely evacuations that helped safeguard lives even as displacement remained significant. Additionally, the distinct reporting of lightning-related mortality demonstrates strengthened hazard monitoring and data management systems. Overall, the figures highlight incremental achievement in life-saving interventions, while underscoring the continued need for enhanced structural mitigation measures to reduce displacement and long-term vulnerability.

3.1.2 Food and nutrition security

The County Government of Makueni has enhanced food and nutrition security by promoting climate-smart agriculture through drought-tolerant crops, improved livestock breeds, irrigation schemes and investment in post-harvest infrastructure such as cold storage and aggregation centers. Nutrition-sensitive initiatives; including kitchen gardens and training on dietary diversification have particularly benefited women and children, while partnerships with development agencies and cooperatives have expanded access to extension services, value-chain development and agribusiness financing. Complementing these efforts, the National Agricultural Value Chain Development Project (NAVCDP) has strengthened key value chains such as mango, dairy, poultry, tomatoes, and apiculture through farmer group support, small grants, improved agronomic practices, soil testing, and climate-smart interventions. Together, these integrated actions have increased productivity, improved market access, reduced post-harvest losses, boosted household nutrition, and enhanced community resilience and livelihoods.

Key Achievements

The County made notable progress in sensitization of farmers on Climate Smart Agriculture (CSA), reaching 107,806 farmers, which surpassed the set target of 48,800 farmers. These shows increased efforts by both County and partners in raising the consciousness of communities towards climate resilient practices. Moreover, the conversion rate from sensitization to actual adoption was

high, with 107,362 farmers adopting CSA technologies against a target of 96,800. This reflects significant uptake of new technologies by communities linked to increased knowledge and uptake of climate information.

Soil and water conservation efforts covered 11,575 hectares, achieving 307% of the target, as a result of increased climate financing from NAVCDP, CIVAP and FLLoCA. Similarly, irrigation development reached 123 hectares out of the targeted 72 hectares, showing progressive expansion of irrigated agriculture attributed to incentivized irrigation infrastructure and water availability.

Pasture development achieved 120,975 hectares, while rehabilitation of rangelands recorded only 672 hectares against a target of 3,980 hectares (less than 1%), signaling a significant underperformance associated with resource constraints, drought conditions and limited implementation capacity in rangeland management.

There was an exponential trend in adoption of agricultural insurance services with an achievement of 25,075 farmers enrolled compared to a target of 9,375. This is majorly attributed to the DRIVE campaign thus reflecting high awareness and affordability of insurance services. Access to weather and climate information reached 179,368 farmers directly against a target of 200,000 while 1,200,000 people accessed climate information indirectly through radio talk shows indicating enhanced efforts by KMD, NDMA and County Government in reaching greater population.

Distribution of subsidized farm inputs reached 39,689 farmers against the targeted 100,000 which was way below the target, indicating gaps in community priorities and budget allocation.

Under alternative livelihoods and diversification measures, apiculture recorded a strong performance, reaching 24,286 farmers out of 13,600 indicating that it remains a viable and attractive livelihood option. Aquaculture adoption slightly increased, with 368 farmers taking up against a target of 350 indicating increase in livelihood diversification options and aquaculture potential in the County.

Table 1: Key Achievements in Agriculture, Food and Nutrition security

Sector	Program	Key Interventions	Key output/ Outcome	Indicators	Target 2024/25	Achievement
Agriculture, food and nutrition security	Agricultural production	Development and adoption of climate smart agricultural technologies;	Increased adoption of climate smart agricultural technologies and	Number of farmers sensitized on Climate smart agriculture.	48,400	107,806
				Number of farmers adopting Climate Smart Agriculture technologies.	96,800	107,362
				Area(Ha) of agricultural land under soil and water conservation practices	3,760	11,575
				Area (Hectares)under irrigation.	72	123
				Area (Hectares) under pasture development (Adaptation)		120,975
				Area(Hectares) of rangeland rehabilitated /restored (Mitigation)	3,980	672
				Number of farmers undertaking insurance services	9,375	25,075
				Number of farmers receiving weather/climate information	200,000	179,368
				No of farmers accessing subsidized farm inputs	100,000	39,689
			No of farmers practicing apiculture(bee keeping)	13,600	24,286	
		Improved alternative livelihoods	No of farmers practicing aquaculture	350	368	

Case study: Muliluni – Kiambani water and livelihood enhancement project



Figure 1: Beehives installed at Muliluni hill forest



Figure 2: Left Photo - CSA demo farm established as part of the project scope: Right photo- Reverse osmosis Plant

The Muliluni–Kiambani Water and Livelihood Enhancement Project is located in Mukaange Subward, Masongaleni Ward, Kibwezi East Sub-county, Makueni County. The project was one of 13 flagship interventions under the phase 1 of the FLLoCA program implemented in the 2024/2025 FY. Designed through a community participatory approach (Participatory Climate Risk Assessment- PCRA), the project aimed to address acute water scarcity and promote climate resilient livelihoods against drought and erratic rainfall risks. With a total budget of Ksh 10

million, the project builds on existing water source: Kiambani borehole and Muliluni rock catchment to improve water quality and access through the installation of a solar powered Reverse Osmosis (RO) treatment system. Beyond water interventions, the project integrates livelihood diversification through Climate-Smart Agriculture (CSA), demonstration farms, apiculture (bee-keeping) and pasture establishment aiming to improve food security, income generation, and environmental conservation among local communities.

Project Scope

The project was designed to strengthen community resilience through enhanced water access, diversified livelihoods options and enhance ecosystem resilience. The scope included: Enhancement of Kiambani Borehole and Muliluni rock catchment through construction of a treatment house and installation of a solar-powered RO treatment system; Livelihood improvement through apiculture, including: Supply of 50 Langstroth beehives and related accessories (bee suits, gloves, boots and honey extractors) to two community groups in Muliluni County forest; establishment of a ¼-acre Climate Smart Agriculture (CSA) demonstration farm; soil and water conservation through laying of conservation structures – cut-off drains and terraces; supply of 300 kg of grass seeds for pasture improvement; distribution of 50 vertical sacks and 50 conical gardens to promote household-level food and nutrition security; Community sensitization and capacity building on group dynamics, and climate change adaptation and mitigation.

Social Benefits

The social benefits attributed to this project include: *Improved access to clean water*: - the RO system provides safe drinking water, reducing incidences of waterborne diseases; *Empowerment of local groups*: - two (2) community groups received apiculture equipment (50 beehives & accessories and one (1) honey extractor), enhancing livelihood diversification, collaboration and cooperative enterprise; *Increased food security*: - through the CSA demo farm and distribution of 100 kitchen gardens (50 conical gardens and 50 vertical bags), 100 households have access to diversified and nutritious food sources; *Capacity building*: - 13 community training sessions strengthened knowledge in sustainable agriculture, beekeeping, and climate adaptation; *Gender inclusion*: 40 women and 35 youth actively participated in farming and apiculture training, fostering inclusion and social cohesion.

Environmental Benefits

The ecosystem benefits included: *Renewable energy and sustainable water management* - the project ensures efficient use solar-powered systems for water pumping and treatment; *Pollination and biodiversity*: - bee-keeping activities enhance pollination, improving crop yields and local biodiversity; *Soil and water conservation*: - the introduction of conservation structures minimizes soil erosion and improves water retention; *Rehabilitation of degraded land*: - grass seeding

promotes vegetative cover and restores ecological balance; *Climate change mitigation*: The integration of CSA practices reduces carbon footprint and enhances ecosystem resilience.

Economic Benefits

These include: *Increased income generation*: - apiculture provides honey and wax products for sale, offering an alternative income source; *Reduced water costs*: - solar energy reduces operational expenses associated with water pumping and treatment; *Job creation*; - the project created employment opportunities during construction; *Enhanced productivity*; - improved water access and climate-smart techniques increased farm yields and profitability; *Market linkages*: - the strengthening of producer groups (Apiculture groups) opened opportunities for collective marketing and value addition.

Lessons Learnt

The lessons learnt from the implementation of this project are: *Integrated approaches yield greater resilience*: - combining water, agriculture, and livelihood interventions produces sustainable and far-reaching impacts; *Community ownership is critical*: - active community involvement and participation in planning and implementation ensures sustainability and accountability. *Capacity building enhances project success*: - training and knowledge transfer empower communities to maintain and replicate project gains; *Climate-smart innovations are effective*: RO systems, solar energy, and CSA practices offer practical solutions to water scarcity and land degradation; *Gender and youth inclusion drive sustainability*: Involving all demographic groups strengthens social fabric and continuity of project benefits.

Livestock sub-sector

The County made significant progress toward improving productivity, resilience and market access for the livestock Sub-sector. The Department of Agriculture, Livestock and Fisheries implemented key interventions including vaccination and disease surveillance campaigns to control livestock diseases such as foot and mouth disease and lumpy skin disease. The county also supported the establishment of livestock markets to enhance the market for livestock. To address feed shortages, pasture development programs were rolled out, including grass reseeding, fodder conservation and the construction of water pans with cattle troughs for livestock use. Additionally, capacity building and training on climate-smart livestock management practices were conducted to improve herd health and productivity. Through the livestock sub-sector, the FLLoCA programme has supported the sector by supplying 853kg of grass seeds, 20,000 Bracharia.



Figure 3: Grass establishment plot at Makindu showground

Fisheries sub-sector:

Makueni County has continued to promote fisheries development as part of its broader strategy to enhance food security, diversify livelihoods and boost household incomes. Efforts have focused on strengthening aquaculture through the training of local farmers on modern fish farming techniques. The county has also invested in capacity building, extension services, and environmental conservation measures to ensure sustainable fish production. The County stocked Kinze earthdam with 6000 tilapia fingerlings. These initiatives increased fish availability for local consumption, created employment opportunities, and contributed to improved nutrition among households.



Figure 4: Stocking of Kinze earthdam with Tilapia fingerlings

3.1.3 Water and the blue economy

During the 2024/25 financial year, the water sector recorded strong progress in advancing climate action, particularly in improving water security and enhancing community resilience to drought. The department met or exceeded most infrastructure targets through effective use of county machinery and partnership with National government agencies and development partners.

Ten medium and small dams were constructed as planned, while five sand dams were completed against a target of one, reflecting robust community participation and co-financing. Twenty-one boreholes were drilled and equipped, exceeding the annual target of fifteen while 400 kilometers of water pipelines were laid compared to a target of 350. These interventions expanded access to safe water for 214 markets and 103 public institutions. Water quality also improved remarkably through the installation of nine treatment systems, surpassing the target of one, thereby strengthening public health resilience against climate-induced risks.

Despite these achievements, some challenges persisted. The average distance to the nearest water source was slightly higher than the targeted three to four kilometres, suggesting low water access. Adoption of climate-smart irrigation technologies remained low at six (6%) percent, below the target of eight percent (8%), highlighting the need for stronger integration of efficient water-use systems in agriculture.

Social inclusion outcomes were mixed. Women's participation in water project implementation reached 45 percent, and their representation in water governance rose to 44 percent, both surpassing targets. Youth participation also met expectations, reflecting growing engagement in climate action. However, the involvement of the elderly (33 percent) and persons with disabilities (11 percent) remained below target, while data on PWD participation in governance was not reported, indicating monitoring gaps.

Overall, the sector demonstrated significant progress in strengthening climate resilience through expanded water infrastructure, improved quality, and inclusive governance.

Table 2: Key Achievements in the Water and Blue economy sector

Sector	Program	Key Interventions	Key output/ Outcome	Indicators	Target 2024/25	Achievement
Water and blue economy	Water Access		Increased access to safe water	Percentage of Climate proofing of projects.		--
				Average distance (KM)to nearest water source	2	4
				Proportion of water projects with climate smart irrigation component (This indicator measures water projects with irrigation systems that conserve water such as drip irrigation)	8%	45.50%
				Proportion of Elderly participating water project implementation	50%	21.50%
				Proportion of Women participating water project implementation	30%	31.67%
				Proportion of Youth participating water project implementation	20%	34.00%
				Proportion of PWD participating water project implementation	10%	7.00%
				Proportion of Women participating water governance	30%	41.33%
				Proportion of Youth participating water governance	20	14.00%
				Proportion of PWD participating water governance	10%	10.50%

Case study: Climate Action Theme: Adaptation – Enhancing water access and community resilience

The Athi–Tunguni Water Project is a flagship climate adaptation initiative implemented by the County Government of Makueni through the Department of Water, Sanitation and Irrigation. The project draws its source from River Athi in Kikumbulyu North Ward and supplies water to communities in Kikumbulyu North, Makindu, and Nguumo Wards, making it one of the major cross-ward water supply systems in the County.

The project was designed to respond to increasing water scarcity and drought vulnerability caused by climate variability in the semi-arid parts of the county. It aims to enhance access to safe and reliable water for domestic, institutional and productive use, thereby improving community resilience to climate change.

The system comprises a centralized treatment facility located at the source and a 71.1-kilometre distribution network supplying water to 13 villages across the three wards. In total, the project has established 9 water points, extending benefits to approximately 33,450 people, 9 market centres, and 8 learning institutions. The water treatment component ensures that the distributed water meets quality standards for domestic consumption, reducing the prevalence of waterborne diseases.



Figure 5: Athi Tunguni water treatment facility



Figure 6: Athi-Tunguni water project intake at river Athi

By providing a consistent and safe water supply, the project will significantly reduce the time and distance households, particularly women and children spend fetching water from seasonal sources. Reliable water access will also support small-scale businesses, livestock production and school feeding programmes, contributing to improved livelihoods and social well-being. The cross-ward nature of the initiative has fostered collaboration among communities, promoting shared management and equitable distribution of the resource.

The Athi–Tunguni Water Project demonstrates how climate adaptation can be effectively mainstreamed into county water sector development. By securing a perennial water source, integrating water treatment, and extending distribution to multiple wards, the project provides a model for climate-resilient infrastructure development. While challenges such as maintenance of the treatment facility and management of energy costs for water pumping remain, the project underscores the importance of coordinated governance and community involvement in sustaining climate-responsive water systems.

Overall, the Athi–Tunguni Water Project stands out as a transformative intervention that aligns with Makueni County’s Climate Change Action Plan (2023–2027) priority on enhancing water security and adaptive capacity in vulnerable communities.

3.1.4 Forestry, Wildlife and Tourism

Through a County Forest and Landscape restoration plan 2023-2032, partners in forest landscape restoration space are expected to contribute to achieving a restored area of 200,000 hectares by

2032. The expected area under restoration for the financial year 2024/2025 was 200 Ha while the achieved area under restoration was 3,296 Ha through combined efforts such as Farmer managed natural regeneration, tree planting, Assisted natural regeneration, soil conservation and grass reseeding. Further, five (5) nature based enterprises were promoted among which 39 business enterprises were developed and 139 jobs were created within the enterprises.



Figure 7: Mbui Nzau hill Restoration options-Terracing before and after



Figure 8: Mbuy Nzau hill restoration options- semi-circular bunds- before and after

Table 3: Key Achievements in the Forest, wildlife and tourism thematic area

Sector	Program	Key Interventions	Key output/ Outcome	Indicators	Target 2024/25	Achievement
Forest, wildlife and tourism	Forests and landscape restoration	Forests and landscape restoration	Improved environmental conservation	Number of Nature based enterprises promoted	8	5
				Number of people benefiting directly from nature based enterprises segregated by gender	1150	13,166
				Number of green jobs created	62	139
				Number of business enterprises established by type		39
				No. of apiculture enterprises established		2
				No. of aquaculture enterprises established		1
				No. of pasture enterprises established		11
				No. of basketry enterprises established		-
				No. of Tree nursery enterprises established		25
				No. of Wood carving enterprises established		-
				No. of non-wood product value addition enterprises established		-
				No. of timber product value addition enterprises established		-
No of wildlife enterprises established		1				

Sector	Program	Key Interventions	Key output/ Outcome	Indicators	Target 2024/25	Achievement
				No. of groups engaged in nature-based enterprises. (This indicator measures individuals within vulnerable groups benefiting from nature based enterprises I.E bee keeping, tree nurseries, eco-tourism, basketry and wood curving)	110	316
				No. of <i>Women groups</i> engaged in nature-based enterprises		3
				No. of <i>Youth groups</i> engaged in nature-based enterprises. (This indicator measures individuals within vulnerable groups benefiting from nature based enterprises carried out in groups and by individuals)		19
				No. of <i>PWDs groups</i> engaged in nature-based enterprises		3
				No of sand conservation structures constructed	10	15
				Area (Ha) of landscape under restoration (Segregate by type of restoration)	200	3,396
				Number of tree seedlings planted		1,818,309
				Area (Ha) of landscape restored	100	-
				Number of green spaces developed	1	0
				No of Wildlife deaths from climate risks	0	0

The program demonstrated strong progress in promoting nature-based enterprises and community livelihoods. The County surpassed targets on enterprise support, with 21 nature-based enterprises promoted compared to the target of 8, indicating enhanced diversification of green livelihood options. A total of 13,166 individuals benefited directly from these enterprises against a target of 1,150, showing successful community mobilization and uptake, particularly across vulnerable and rural populations. This translated into 139 green jobs created against the set target of 62 green jobs, indicating tangible socio-economic gains from ecosystem restoration initiatives.

Under enterprise typologies, apiculture (2), aquaculture (1), pasture enterprises (11), one (1) wildlife enterprise, and 25 tree nursery enterprises were established. These reflect a mix of livelihood enhancement and landscape restoration oriented value chains. There was no data reported on basketry, wood carving, timber value addition, and non-wood product processing, suggesting untapped value-chain development opportunities. The number of groups engaged in nature-based enterprises reached 316 groups against a target of 110, demonstrating strong community organization and broad adoption across women (3 groups), youth (19 groups), and PWD groups (3 groups), though women and PWD participation remains relatively low compared to youth-led enterprises.

Environmental restoration outcomes were significant. A total of 3,396 hectares of landscape were reported as under restoration (substantially exceeding the target of 200 ha), signaling intensified restoration activities across degraded ecosystems. Additionally, 15 sand conservation structures were constructed (against a target of 10), contributing to riverbank stabilization, aquifer recharge, and soil retention.

3.1.5 Health, sanitation and human settlements

The sector aimed to improve access to preventive and curative healthcare services, particularly in relation to climate-sensitive health risks. The proportion of the population affected by water-borne diseases was reported at 6%, indicating continued exposure to unsafe water, inadequate sanitation and contamination suggesting the need to strengthen WASH interventions and behavior change programs.

Table 4: Key Achievements in Health, Sanitation and human settlement sector

Sector	Program	Key Interventions	Key output/Outcome	Indicators	Target 2024/25	Achievement
Health, Sanitation and Human settlement	Preventive healthcare	Promotion of preventive healthcare	Improved access to preventive & curative healthcare services	Proportion of population with water borne diseases		6.00%
				No of emerging and re-emerging diseases associated with exposure to climate change		2,797
				Proportion of Malnutrition population		9.00%
				Proportion of children who stunted		20.00%
				Proportion of children who are wasted		4.00%
				Proportion of underweight children		9.00%
		Pollution Control	Improvement solid waste management	Number of waste recovery enterprises established		4
				Number of jobs created through waste recovery		18

A total of 2,797 cases of emerging or re-emerging climate-linked diseases were reported, reflecting the ongoing health impacts of changing climate patterns, such as increased vector-borne diseases and water-related illnesses during flood and drought cycles. This underscores the need for enhanced disease surveillance, early warning systems, and climate-informed public health planning.

The reported nutritional indicators remain concern with: 9% of the population malnourished, 20% of children stunted, 4% wasted and 9% underweight cases. These figures indicate persistent chronic and acute food insecurity, inadequate dietary diversity, and limited access to maternal-child nutrition services. The levels of stunting and underweight point to long-term vulnerabilities linked to poverty, recurrent drought, and limited resilience in household food systems.

Informal waste management mechanisms across the Solid waste value chain supplemented the inadequacy in waste management systems in Wote Municipality. The prices for the main recyclables varied across the value chain including: Cartons (grade one to five) at Kshs.3-5 per kg, Nylons (high density, Blacks and Low Density) at Kshs.10-15 per kg, Plastics (PET, HDPE, PVC, Thermoform, TP and Yellows) at Kshs.10-15 per Kg, Glass (Green, white, brown) at Kshs.1, 4 and 2 respectively, bones at Kshs. 5 per Kg and scrap metal retailing at Kshs.20-30 per Kg. 10 No. Informal waste handlers operate at the Ndue ngu dumpsite comprising 2 women and 8 men six of whom are Youths. The low pricing and fragmented value chain for recyclables reflect limited market organization and weak circular economy incentives, meaning waste recovery is happening, but inefficiently, contributing to continued open dumping and emissions (methane, air pollution). The presence of 10 informal waste pickers at Ndue Nguu dumpsite (majority youth) highlights a potential entry point for youth-led green jobs, but also points to occupational health hazards and lack of structured support.

The County has three Chartered Municipalities which have accelerated rural-urban migration trends. The urbanization rate of Makueni County is 11.8% with an estimated 40,800 persons living in the urban areas of Makueni County. There has been a significant increase in migration to urban areas by 10% due to better economic, health, trade, education, and cultural infrastructure in upcoming urban centers. This is expected to increase municipal waste volumes, increase pressure on water and sanitation systems and amplify climate-related vulnerabilities such as heat stress, disease outbreaks, and solid waste accumulation. However, it also creates strategic nodes for decentralized climate-smart waste infrastructure, such as material recovery facilities, waste sorting hubs, and composting centers.

Makueni County has less than 10% of its total population living in informal settlements. The settlements are: Mjini in Kibwezi town, Misongeni in Makindu town, and Soko-Mjinga in Emali town. The <10% informal settlement population indicates that slum-related climate vulnerabilities are currently manageable, but preventive action is needed to avoid expansion of unplanned settlements, which typically lack drainage, waste collection, and clean water supply factors linked to flooding and climate-sensitive disease outbreaks

3.1.6 Energy and transport

Makueni County has prioritized climate adaptation in the transport and energy sectors to build resilience, enhance economic productivity and safeguard livelihoods against the adverse impacts of climate change. In the transport sector, adaptation efforts focused on climate-proofing infrastructure through the design and maintenance of all-weather roads, strengthening drainage systems, and integrating nature-based solutions and establishing non- motorised transport systems. In the energy sector, Makueni's priority focused on expanding access to clean, affordable and reliable energy enhancing resilience to climate-related risks with the focus on solar energy and energy efficient home cooking systems.

Table 5: Key Achievements in the Energy and Transport sector

Sector	Program	Key Interventions	Key output/ Outcome	Indicators	Target 2024/25	Achievement	
Energy and Transport	Adoption of Clean Energy	promote the use of clean energy	Increased adoption of renewable and efficient energy technologies	Proportion of projects connect with solar energy. (This measured the proportion of projects with solar, out of all the projects with energy requiring.)	35%	50.50%	
				No of Households energy saving Jikos		1,377	
				No of Households using Solar Lighting		97,860	
				No. of floodlights using grid		15	
				No. of floodlights using Solar energy		3	
				No. of Markets with Solar lighting		46	
				Biogas		-	
	Climate resilient infrastructure			Climate resilient infrastructure	Total No. of physical projects implemented within the FY		35
					No. of projects with climate proof infrastructure		-
					% of projects with climate proof infrastructure	100%	100%
					M3 of catch water drains excavated	50,000	33,500
					No. of KM of Non-motorized transport		0.2
					Number of households benefiting from roads for water		2,050

3.1.6 (a) Energy

The County demonstrated strong progress in promoting renewable and efficient energy solutions. The proportion of projects connected to solar energy reached 50.5%, surpassing the 35% target, indicating increasing integration of solar technologies in public infrastructure and service delivery.

At the household level, 97,860 households are using solar lighting, and 1,377 households have adopted energy-saving jikos, reflecting significant uptake of decentralized clean energy solutions which contribute to reduced biomass dependency, lower household energy costs, and improved indoor air quality.

In public lighting, 15 floodlights operate on grid power compared to only 3 powered by solar, suggesting that while household adoption of solar is high, solar penetration in public lighting remains low and requires deliberate scaling. 46 markets have been fitted with solar lighting, supporting extended business operating hours, improved security and reduced carbon emissions. However, no progress was reported in biogas development, indicating missed opportunities for waste-to-energy conversion.

3.1.6 (b) Transport

The County continues to experience erratic rainfall patterns, which have led to recurrent damage of transport infrastructure, thereby disrupting transport services and weakening market linkages. In response, the sector has prioritized climate-proofing of transport infrastructure through the design, construction and maintenance of all-weather roads. During the reporting period, key achievements included;

A total of 35 physical infrastructure projects were implemented and 100% were classified as climate-proofed, demonstrating alignment with climate-resilient construction standards such as improved drainage, durable materials and slope stabilization. 33,500 m³ of catch water drains were excavated against a target of 50,000 m³, representing 67% achievement, which improves storm water management and reduces flood-related damage but still indicates a shortfall that may leave some areas vulnerable during peak rainfall.

The expansion of non-motorized transport (NMT) infrastructure remains minimal (0.2 km), signaling limited progress in promoting walkability, cycling, and low-emission urban mobility. 2,050 households benefited from roads facilitating water access, highlighting the integrated benefit of transport infrastructure in improving access to water, especially in rural areas.

3.1.7 Children and Youth Climate Interventions

Children and youth are key agents in advancing climate resilience and sustainable development. Targeted interventions in the County ranged from climate-smart agriculture training and environmental education to youth leadership and innovation programs. Notably, efforts in forests and landscape restoration created green jobs for 19 youth groups through the establishment of tree

nurseries, apiculture, aquaculture, and pasture enterprises. In the reporting period the County trained 210 youth as agripreneurs to bridge the gap in agriculture extension services and advisory services, enabling farmers to achieve increased productivity, food and nutrition security. Notably, 140 schools benefitted from water connections enhancing water access and improved sanitation and hygiene while 2,800 children participated in tree growing activities within their schools.

4. Enablers

The implementation of climate change interventions in the County focused on development and enforcement of policies and regulatory frameworks, continuous capacity building and knowledge management and strengthened climate finance and resource mobilization mechanisms. These enabling actions that created the institutional, financial, and technical environment necessary for effective delivery of adaptation and mitigation outcomes.

4.1 Enabling policy and Regulatory frameworks

To strengthen climate action and mainstream climate change across sectors, the County prioritized the creation of an enabling policy and regulatory environment. This includes the development, review and implementation of key policies and legislation that guide climate-resilient development. During the reporting period, significant progress was made in formulating sectoral policies such as the Makueni Energy Plan 2023- 2032, Makueni Energy Policy 2025, Makueni County Tourism Policy,2024 draft Nutrition Policy, Wote Municipality Sustainable Solid Waste Policy, 2024, Forest and Landscape restoration plan 2024- 2033, as well as initiating the review of the Climate Change Act,2022 to align it with emerging national and county priorities.

Table 6: Key Achievements in Enabling policy and regulatory framework

Sector	Program	Key Interventions	Key output/ Outcome	Indicators	Target 2024/25	Achievement
Devolution	Financing mechanism	Climate Change Financing	Increased climate change financing	Proportion of County development budget allocated to climate change fund	3	
				Proportion of County development budget allocated to climate change actions	10%	
				Proportion of allocated funds utilized.	3	
	Disaster management			No. of people displaced due to Climate risks	0	1,118
Governance	Policy and legislation	Policy and legal framework Development	Enhanced climate Change governance	No. of Policies developed/reviewed		7
				No of Acts assented		-
Climate service information system	Development and dissemination of climate/ weather data	Climate information dissemination		No. of Participatory scenario advisories developed and disseminated		2
				No. of radio talks held		5
				No. of people reached bulk SMS Disseminated (Direct) No. of people reached (Indirect)		33,000 1,200,000

4.2 Capacity development and knowledge management

During the reporting period, Makueni County Government prioritized capacity building and institutional strengthening as a key enabler of effective climate change governance. A total of 18 structured trainings and workshops were conducted across thematic areas including social accountability and monitoring, grievance redress mechanisms, project management, climate adaptation, communication, and procurement of climate investments. These initiatives targeted members of the County Climate Change Unit (CCU), Ward Climate Change Planning Committees (WCCPCs), Project Management Committees (PMCs), and officers from key departments such as Water, Agriculture, Livestock, Environment and Procurement.

Training sessions were conducted in partnership with the State Departments of Environment, Irrigation, Agriculture, and Water, the Commission on Administrative Justice, the Office of the Ombudsman, Kenya School of Government (KSG), and development partners including and Voluntary Service Overseas (VSO).

In total, more than 800 participants (including women, youth, elderly, and persons with disabilities) benefited from the training, which enhanced skills in climate-smart agriculture, monitoring and evaluation, grievance handling, data management, internal audit, and project supervision. These efforts have significantly improved the County's capacity for evidence-based planning, inclusive participation and transparency in climate action implementation.

In addition, a total of 107,362 farmers were trained on climate-smart agriculture practices through collaborative efforts with partners including Tsavo Trust, EDCA, DNRC, Jumuisha, CGA, Fadhili Trust, Kaiti Greening, Utooni Development Organization, and Chyullu Development. These trainings focused on enhancing knowledge and skills in sustainable farming techniques, soil and water conservation, and climate-resilient crop production, thereby promoting agricultural practices that are both productive and environmentally sustainable.

4.3 Climate Change Financing in Makueni County Government in FY 2024/25

The County Department of Finance, Planning, Budget & Revenue has ensured that the prioritization of climate initiatives remains a central focus within the county's overall development agenda. By integrating climate action into the county budgeting process, the County Treasury promotes a sustainable approach to resource allocation and development planning. This alignment not only strengthens the county's resilience to climate change but also ensures consistency with county, national, and global climate commitments. Such integration enhances accountability, fosters innovation in green financing, and supports the transition toward a low-carbon and climate-resilient economy. The County continued to operationalize the County Climate Change Fund (CCCF) to finance locally led adaptation (LLA) initiatives by allocating Ksh 111.1 million

(3.33%) of its development budget to climate-related activities in FY 2024/25. In addition, the Fund received 152.7 Million from Grants enhancing the County’ allocation to 7.91%.

4.4 Technology and Innovation

The use of smart water meters, digital grievance-handling systems, and other technology tools by the county and development partners including water mission, USAID and Welt Hunger Hilfe (WHH) is increasingly transforming the implementation of locally led climate actions in Makueni County. Smart water meters enhance transparency and efficiency by accurately tracking water production and consumption, minimizing non-revenue water losses which collectively reduce operational costs and improve service reliability. Digital grievance-handling platforms enable communities to report issues quickly, strengthen accountability and ensure concerns are addressed promptly, thereby reducing project delays and enhancing community trust. In addition, technology such as sensors for water pumping, mobile-based data collection, GIS mapping, climate-information services, and digital extension tools supports evidence-based decision-making, strengthens early-warning systems, and improves project monitoring and reporting. Together, these innovations promote inclusive participation, ensure responsive implementation and enhance sustainability of locally led climate interventions.



Figure 9: The Governor Makueni County (Right) together with USAID STAWI inspects the use of smart metres

The use of distant-monitored CCTV cameras and floodlights is increasingly strengthening the security of community water projects in the County. These technologies reduce the loss of critical infrastructure and improve operational reliability and lower maintenance costs.



Figure 10: High Rise solar panels combined with the use of flood lights and CCTV Camera

The County accelerated the adoption of concrete electric posts for solar installations as an emerging innovation aimed at enhancing the security and climate proofing of community water project infrastructure. This elevated positioning not only safeguards the investment but also improves panel exposure to sunlight, maximizing energy generation efficiency. Additionally, concrete poles are more durable and tamper-resistant compared to traditional metal structures, which are often targeted for scrap.



Figure 11: Elevated positioning of solar panels in projects

5. Challenges and lessons learnt

This section presents a structured analysis of implementation constraints, performance gaps, and adaptive learning from the reporting period. It details the challenges encountered, the lessons derived and the corresponding recommendations required to strengthen delivery systems. The insights generated are intended to inform evidence-based improvements in planning, resource allocation, capacity development, policy alignment and institutional coordination thereby enhancing the efficiency and effectiveness of subsequent MCCCAP implementation and annual climate change reporting.

5.1 Challenges

- **Capacity gap among institutions in aligning institutional mandates and climate change response/mainstreaming:** A significant number of implementing partners are still unable to clearly identify and articulate how their routine programs and sectoral interventions contribute to climate change adaptation or mitigation. This has led to fragmented interpretation of climate action, and challenges in aggregating climate-related data across sectors.
- **Duplication of efforts and risk of double counting:** County government departments, the private sector and CSOs did not clearly indicate whether the results being reported were as a result of their own efforts or a joint effort with other actors.
- **Inadequate financial resources to support implementation and reporting:** Many institutions did not allocate or mobilise adequate resources for climate change activities resulting in low financial capacity to plan, document, monitor, and evaluate climate actions in a systematic and consistent manner.
- **Low level of response from private sector entities:** Private sector actors did not consistently submit climate-related data or participate in reporting processes, primarily due to limited awareness of reporting requirements; this resulted in data gaps that reduced the completeness, comparability, and accuracy of the annual climate change report.
- **The implementation and reporting process of MCCCAP is not fully streamlined:** There was inadequate knowledge among stakeholders about MCCCAP and their institutional roles, responsibilities in monitoring and reporting of climate actions.
- **The CIDP targets are focused on County contributions excluding efforts by partners**

5.2 Lessons learnt

The lessons learnt during the year include

- Strengthening awareness and in-depth sensitization on the NDCs and MCCCAP priority actions is necessary to improve stakeholder buy-in, role clarity, and ownership. Increasing understanding among private sector entities and CSOs will enhance their participation in the planning, implementation, and reporting of climate change actions.

- Institutions with limited capacity and minimal climate action implementation were less willing to report due to perceived performance gaps. This demonstrated the need to strengthen institutional capacity in resource mobilization, program execution, and results documentation to ensure comprehensive and accurate reporting across all actors.
- Institutions (County Departments, NGOs, CSOs, and private sector actors) with designated climate change focal points or defined coordination mechanisms exhibited higher reporting consistency and data quality. This enabled structured information management, clearer accountability lines, and integration of climate action tracking into routine operational processes.
- Manual and non-standardized data management practices constrained efficiency, accuracy, and traceability in climate action reporting. Adoption of standardized and integrated digital monitoring and information management systems strengthens data quality, streamlines workflows, and enhances transparency across reporting institutions.
- Inclusive, community-driven planning under the CCCF framework strengthened local ownership, relevance, and long-term sustainability of adaptation interventions. Embedding participatory processes in project identification, design, and implementation ensured alignment with localized climate risks and livelihood priorities, reinforcing the effectiveness and durability of resilience outcomes.
- Access to localized climate information and early warnings directly influenced adaptive decision-making. This demonstrated the need to strengthen climate information service delivery systems by improving data generation, analysis and interpretation capacities, and enhancing dissemination channels and user-interface mechanisms. Ensuring climate information is context-specific, timely, and user-friendly is essential for its effective integration into planning, risk management, and livelihood decision-making processes.
- Integrated approaches yield greater resilience - Combining water, agriculture, and livelihood interventions in a single produces sustainable and far-reaching impacts
- Community ownership is critical: Active participation in planning and implementation ensures sustainability and accountability hence the need to continuously engage local communities in development planning and implementation
- Capacity building enhances project success - Training and knowledge transfer empower communities to maintain and replicate project gains. Continuous capacity building of communities and relevant technical officers is paramount in project implementation and sustainability.
- Technology use and innovations are effective in project sustainability: use of sensors in water pumping, smart meters and solar powered interventions reduces project operational costs, promotes accountability and sustainability of projects.
- Gender and youth inclusion drive sustainability: Involving all demographic groups strengthens social fabric and continuity of project benefits.
- Establishment of Grievance Redress Committees is key in projects success: the establishment of GRM committees from the local levels helps in ensuring smooth project

implementation and operation and it ensures each concern is taken into account in decision making

6. Recommendations

- Strengthen capacity development and awareness for all stakeholder on MERL in climate action.
- Enhance coordination among stakeholders to avoid duplication and improve data accuracy.
- Increase investment in data management and digital monitoring tools for efficiency.
- Scale up climate finance by leveraging partnerships and exploring emerging climate financing instruments.
- Strengthen community-level resilience programs through the CCCF to ensure inclusive and sustained adaptation outcomes
- Strengthen community water governance committees for projects operation and maintenance.
- Invest in climate information system including early warning.
- Strengthen M&E systems to track implementation and sustainability
- incorporate both social security and technology security in project sustainability

Annexes

Annex 1: List of respondents

Government Departments and Agencies
County Department of Water, Sanitation & Irrigation
County Department of Agriculture, Livestock, Fisheries & Cooperative Development
Kenya Forest Service (KFS)
County Department of Environment, Natural Resources, Mining & Climate Change
County Department of Roads, Infrastructure and Energy
County Department of Tourism
County Department of Treasury and Planning
County Department of Health Services
Makueni County Sand Conservation and Utilization Authority
Wote Municipality
Wote Water and Sewerage Company
Mbooni Water and Sewerage Company
Kibwezi Makindu Water and Sewerage Company
Kenya Wildlife Services (KWS)
National Drought Management Authority (NDMA)
Non State Actors
1. Emali Dedicated Children's Agency (EDCA)
2. Dryland Natural Resource Centre (DNRC)
3. Tsavo Trust
4. Kaiti Greening Champions
5. Jumuisha Initiative Organization
6. Lukenya University
7. Chyullu Development Foundation
8. SunKing solar
9. Kenya Red Cross Society (KRC)
10. Cereal Growers Association (CGA)
11. Africa Sand Dam Foundation
12. World Vision - Kenya
13. Fadhili Trust
14. Utooni Development Organization (UDO)
15. Anglican Development Services Eastern (ADSE)
16. Youth WASH Parliament
17. Youth for Sustainable Development (YSD)
18. Zoological Society of London (ZSL)

19. Voluntary Services Overseas (VSO)