



DEPARTMENT OF LANDS, URBAN DEVELOPMENT, ENVIRONMENT AND
CLIMATE CHANGE
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ENVIRONMENT AND CLIMATE CHANGE POLICY

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MAKUENI COUNTY ASSEMBLY

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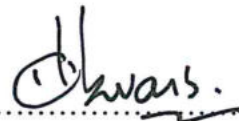
Submitted to the County Executive Committee by: -

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Signature  Date 23/09/2020

APPROVAL

This Makueni County Environment and Climate Change Policy is hereby approved by the County Executive Committee during the... 130th ... meeting held on... 23rd September, 2020

Signed:  Name..... 23/9/2020

Governor/Deputy Governor

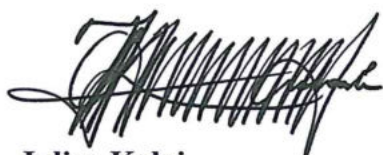
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FOREWORD

The UNEP Global Environment Outlook 6 regional assessment recognizes Africa's rich natural capital - the diversity of flora, soil, geology, biodiversity, wildlife, water, landscapes and habitats- which if wisely managed, hold the promise to lead the region to a future where ecosystem integrity, as well as human health and well-being are continuously enhanced. It also observes that the economic growth of Africa hinges on the sustainable management of its natural capital that involves reconciling wise stewardship with human development for today's population and future generations. This requires both the protection and valuation of these natural assets, as well as effectively communicating their importance. This would be effectively done if an appropriate policy document is put in place to provide an overview of the status of our ecosystems, its importance, the legal framework for supporting the policy and focus on including all departments to collaborate with the local communities adjacent to natural resource areas. It also establishes threats and challenges, proposed interventions in each thematic area, as well as implementation measures and partnership options. Our coordinated efforts will protect and improve our way of life, while bolstering the economy and leaving a sustainable legacy for our posterity. Already we have taken strong action by mainstreaming climate change in the CIDP and Vision 2025, establishing an Environment and Climate Change directorate, that will be strengthened with the required human and institutional capacities and introducing an action program that will further drive down emissions and setting aggressive greenhouse gas reduction targets. We are establishing ourselves as global leaders in the fight against climate change. By showing the important role that Counties and regions play in building a low-carbon economy, we are influencing action around the world.



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ACKNOWLEDGEMENT

This policy was accomplished with the support of many institutions and individuals. We appreciate our Executive leadership through the Governor, H.E Prof. Kivutha Kibwana and H.E Deputy Governor – Adelina Mwau and all the Makueni County Executive Committee Members (CECMs).

We are indebted to the entire staff of Department of Lands, Urban Development, Environment and Climate Change, for conceptualizing the policy work and its importance to all stakeholders in the county. We wish to recognize the contributions of the national government agencies, ADA consortium through the team leaders, Victor Orindi, Nicholas Obuya and to ADSE for our continued partnerships in climate change management. We sincerely thank the many institutions and organizations referred to in the report and the key informants, mainly the citizenry of Makueni Sub Counties of Mbooni, Kilome, Makueni, Kaiti, Kibwezi East and West, chiefs, administrators and the MCAs, who provided invaluable information during the development of this policy. To all and many other special people and friends of Makueni County that we did not mention, we say bravo, thank you very much and may God bless you all.



Mbenge Mary

Chief Officer; Natural Resources, Environment and Climate change.

Makueni County.

EXECUTIVE SUMMARY

Makueni has undergone unprecedented social, economic, political and technological changes. These interlinked components provide the backdrop against which to view changes in the state of the county's environment because they serve a dual purpose as some of the most forceful drivers of environmental change. The main human activities contributing to environmental degradation in Makueni County include unsustainable land use, poor soil and water management practices, deforestation, overgrazing and pollution among others.

The Makueni County Environment and Climate Change Policy aims to provide a holistic framework to guide the coordination and management of environment and natural resources in the County. The policy provides a framework guide for the County's efforts to deal with the considerable and ever-growing environmental issues and challenges. These include the need for harmonization of sectoral policy instruments with environmental management and coordination Act (EMCA 1999) and the Constitution of Kenya; implementation of devolved forest function at the county level; exploitation of environmental and natural resources; rehabilitation of degraded areas; loss of biodiversity; pollution; urbanization and waste management, among others.

The policy has four chapters. Chapter one has the background information which provides the rationale of the policy, guiding principles and scope of the policy. Chapter two is on situational analysis which highlights the challenges and emerging issues while chapter three covers the policy objectives and strategies for addressing the challenges identified. Chapter four is on the implementation framework of the policy and outlines the responsible department, policy monitoring and evaluation, funding mechanisms and policy review.

The Policy recognizes the various vulnerable ecosystems and proposes various policy interventions to not only mainstream sound environmental management practices in all sectors of society throughout the county, but also recommends strong institutional and governance framework to support the achievement of the desired objectives and goals.

The policy recognizes emerging issues that require environmental stewardship such as; trade and environment, tourism, consumption and production patterns, industrialization, infrastructural development, human settlements, energy use, climate change, environmental disaster management, gender and youth. The policy addresses wide range of issues relating to

environmental health and quality, waste management, toxic and hazardous substances, noise and water quality. Finally, the policy provides a framework for environment and climate change information access.

ABBREVIATIONS AND ACRONYMS

| | |
|--------|--|
| ASALs | Arid and Semi-Arid Lands |
| CEAP | County Environment Action Plan |
| DRR | Disaster Risk Reduction |
| EMCA | Environmental Management and Coordination Act (1999) (Amendment 2015) |
| GHG | Greenhouse Gas |
| NCCAP | National Climate Change Action Plan |
| NCCSR | National Climate Change Response Strategy |
| NRM | Natural Resources Management |
| MEA | Multilateral Environmental Agreement |
| MCIDP | Makueni County Integrated Development Plan |
| MOU | Memorandum of Understanding |
| NEAP | National Environmental Action Plan |
| NGOs | Non-Governmental Organizations |
| PES | Payment for Environmental Services |
| PFMP | Participatory Forest Management Plan |
| RET | Renewable Energy Transfers |
| SEA | Strategic Environmental Assessment |
| SDGs | Sustainable Development Goals |
| SDM | Sustainable Development Mechanisms |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |

GLOSSARY

In this policy, unless the context otherwise requires –

” **Adaptation**” refers to the process of adjustment to actual or expected climate and its effects.

” **Biodiversity**” means the variability among living organisms from all sources including ecosystems and the ecological complexes of which they are a part. It encompasses the ecosystem, species and genetic diversity;

” **Biopiracy**” refers to the expropriation of biological resources without fair compensation or sharing of benefits;

” **Bioprospecting**” refers to the exploration of biodiversity for commercially valuable genetic and biochemical resources and research;

” **Climate Change**” refers to change in climate over time whether due to natural variability or as a result of human activities;

” **Community**” refers to a clearly defined group of users, which may, but need not be, a clan or ethnic community. These groups of users hold a set of clearly defined rights and obligations;

” **Conservation**” means the protection, maintenance, rehabilitation, restoration and enhancement of the environment;

” **County Executive Committee Member**” means the County Executive Committee Member responsible for Environmental issues in the County;

” **Ecosystem**” means a dynamic complex of plant, animal, micro-organism communities and their non-living environment interacting as a functional unit;

” **Environmental Impact Assessment**” means a systematic examination conducted to determine whether or not an activity or a project will have any adverse impacts on the environment;

” **Ex-situ conservation**” means conservation outside the natural ecosystem and habitat of the biological organism;

” **Genetic resources**” means genetic material of actual or potential value;

” **Greenhouse gas**” refers to a gas that absorbs and emits radiant energy within the thermal infra-red range.

” **Greenhouse effect**” refers to the natural warming of the earth that results when gases in the atmosphere trap heat from the sun that would otherwise escape into space;

“Land use” means activities carried out on a given piece of land;

“Lead agency” means any government ministry, department, parastatal, state corporation or local authority, in which any law vests functions of control or management of any element of environment resources;

” Mitigation” refers to efforts to reduce or prevent emission of greenhouse gases;

“In-situ conservation” means conservation within the natural ecosystem and habitat of the biological organism;

“Intergenerational equity” means that the present generation should ensure that in exercising its right to beneficial use of the environment the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;

“Intra-generational equity” means that all people within the present generation have the right to benefit equally from the exploitation of the environment, and that they have an equal entitlement to a clean and healthy environment;

“Invasive and alien species” means species whose introduction and spread outside their natural past or present distribution threatens biological diversity;

“Multilateral Environmental Agreement” means international legal instruments for the regulation of activities affecting the environment and natural resources to which Kenya is a Party;

“Payment for Environmental Services (PES)” means market-based approach to conservation based on the twin principles that those who benefit from environmental services (such as users of clean water) should pay for them, and those who generate these services should be compensated for providing them. In a PES mechanism, service providers receive payments conditional on their providing the desired environmental services (or adopting a practice thought to generate those services);

“Stakeholder” refers to an individual or group having a vested interest in environment and natural resources;

“Strategic Environmental Assessment” refers to a range of analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programmes and evaluate the inter linkages with economic and social considerations;

“Sustainable Use” means present use of natural resources, which does not compromise the ability to use the same by future generations or degrade the carrying capacity of ecosystems and habitats;

“Wetlands” means areas of marsh or water, whether natural or artificial, permanent or temporary, static or flowing, fresh, brackish, salt, including areas of marine water the depth of which at low tide does not exceed 6 meters. It also incorporates riparian and coastal zones adjacent to the wetlands;

CHAPTER 1: BACKGROUND

1.1 Introduction

Environment has a very broad meaning. It includes the physical factors of the surroundings of human beings including land, water, atmosphere, sound, odour, taste, social factors of aesthetics and the biological factors of animals and plants. It includes both the natural and the built environment.

Kenya has a wide variety of ecosystems ranging from mountains, forests, arid and semi-arid areas, freshwater, wetlands, coastal and marine, offering myriad opportunities for human, social and economic development. These ecosystems are natural capital which provide important regulatory services (such as forests and mountains serving to regulate water flow, sustain biodiversity), provisional services (such as forests providing timber and fuelwood), cultural services (such as aesthetic, recreational or spiritual values and uses), and supporting services (such as soil formation, nutrient cycling and primary production)

The survival and socio-economic wellbeing of the Makueni County residents, just as is the case with other Kenyans, is ultimately joined with the environment. Most Makueni residents depend directly or indirectly on environmental goods and services. In addition, the County's environmental resources contribute directly and indirectly to the County economy through revenue generation and wealth creation in such productive sectors as agriculture, livestock, water, energy, forestry, tourism, trade and industry.

This makes environment an essential feature of Makueni County's development plans. Environmental imperatives were initially captured through the periodic development planning cycles. Whole sections or chapters of the successive County Annual Development Plans have dealt with the environment. But modern environment management and planning in Kenya can be traced to the Rio Earth Summit of 1992, which helped a great deal in raising understanding of the link between environment and development. Following the Summit, Kenya initiated the National Environmental Action Plan (NEAP, 1994) process. It recommended the need for a national policy and law on the environment. With the current constitutional dispensation, there is the development of County Environment Action Plans (CEAP) which contributes to the NEAP.

The National Climate Change Response Strategy (2010), National Climate Change Action Plan (2013-2017) and the National Climate Change Act of 2016, the Sessional Paper No. 3 of 2016 on Climate Change Framework Policy 2018, Nationally Determined Contribution, National Adaptation Plan (2015-2030), Green Economy Strategy and Implementation Plan (2016-2030). All the above plans, acts, policies recognize Climate Change as a global and emerging issue which needs to be addressed and they have been used as building blocks for preparation of this policy. Furthermore, extensive consultations with stakeholders including sectoral heads at the County, communities and civil society provided valuable inputs to this policy document.

The National policy process culminated into the Sessional Paper No. 6 of 1999 entitled "*Environment and Development*." The legislative process gave forth to the Environment Management and Coordination Act (EMCA) (Act No. 8 of 1999) as Kenya's first framework environmental law. Both the Policy and Act added to a large number of existing sectoral laws and policies dealing with various facets of the environment, such as water, forests, minerals and many others. This has created a diffuse system of environmental laws and policies, some of which are not in harmony – making them ill-suited to aid the pursuit of sustainable development objectives as set out in the Vision 2030 and Makueni County Vision 2025.

The promulgation of the 2010 Constitution marked an important chapter in Kenya environmental policy development. Hailed as a green Constitution; it embodies elaborate provisions with considerable implications for sustainable development. These range from environmental principles and implications of multilateral environmental agreements (MEAs) to the right to clean and healthy environment enshrined in the Bill of Rights. Chapter V is entirely dedicated to land and environment. It also embodies a host of social and economic rights of an environmental character, such as the right to water, food and shelter.

This Makueni County Environmental and Climate Change Policy aims to provide a holistic framework to guide the management of the environment, natural resources and address the issues that Makueni County faces due to changing climate. It further ensures that the linkage between the environment and poverty reduction is integrated in all County government processes and institutions in order to facilitate and realize sustainable development at all levels. Furthermore, in

view of Makueni's high vulnerability to adverse impacts of climate change, extreme events, adaptation and mitigation efforts are part of this policy document. The vulnerabilities of various sectors to climate change have been highlighted and appropriate adaptation and mitigation measures spelled out. This policy actions addresses challenges in sectors such as water, agriculture, health, forestry and biodiversity, energy, tourism, education, trade and various fragile ecosystems.

1.2 Rationale for the Policy

Sound management of the environment and climate change are vital elements that underpins each aspects of sustainable social economic development in Makueni County. These should be integrated not only by investments in natural capital in the realm of agriculture, fisheries, forest and water, but also in the investment in energy and resource efficiency, manufacturing, waste management building and urban design, and the transportation sector in the County. Mainstreaming the management of the environment and climate change into the County's sectoral plans and priorities will contribute immensely to the long-term sustainable and inclusive growth and development of the County and enables poverty reduction in communities.

This policy therefore recognises the social and economic importance of protecting the environment and responding appropriately to climate change and the need to make this subject part of the strategic decision-making processes within Makueni County. It provides a framework for proper management while also providing inter-linkages between the County Government and other key players in this critical area and earmarks the following priority areas: forest, fresh water and wetlands ecosystems, hills, arid and semiarid ecosystems, grassland ecosystems, land, soils and biodiversity for urgent attention. In the overall, the Makueni County Environmental and Climate Change policy aims to translate the broad social and economic development by addressing the identified challenges through appropriate frameworks and sustainable solutions.

1.3 Guiding Principles

Makueni County Environmental and Climate Change Policy shall be implemented in accordance with the following guiding principles:

- i. **A Right to a Clean and Healthy Environment:** Every person in Kenya has a right to a clean and healthy environment and a duty to safeguard and enhance the environment.
- ii. **A Right to Development:** The right to development will be exercised taking into consideration the economic, social and environmental needs.
- iii. **Ecosystem Approach:** An integrated ecosystem approach to conserving and utilizing environmental resources will be adopted and enhanced to ensure that all ecosystems are managed in an integrated manner while also providing a range of benefits to people.
- iv. **Total Economic Value:** The benefits that ecosystems generate will be integrated into the county accounting system, programmes and projects.
- v. **The Principle of Sustainable Use:** Environmental resources will be utilized in a manner that does not compromise the quality and value of the resource, or decrease the carrying capacity of supporting ecosystems.
- vi. **Inter- and Intra-Generational Equity and Equality:** The management of the environment and natural resources will be based on long term views where present generations make choices that benefit them without compromising the ability of future generations to meet their own needs.
- vii. **Public Participation and Inclusivity Principle:** A coordinated and participatory approach to environmental protection and management will be enhanced to ensure that the relevant government agencies, county government, private sector, civil society and communities are involved in planning, implementation and decision-making processes.
- viii. **The Principle of Subsidiarity:** The management of the environment and natural resources will be through decentralization and devolution of authority and responsibilities at the lowest level possible.

- ix. **The Precautionary Principle:** Where there are credible threats of serious or irreversible damage to key environmental resources, lack of full scientific certainty will not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
- x. **The Polluter Pays Principle:** The polluters of environmental and natural resources shall bear the full environmental and social costs of their activities.
- xi. **User pay principle:** whoever uses, pays full cost of services they consume.
- xii. **Inter County Relations and Cooperation:** Cross border environmental agreements and regional instruments will be domesticated and implemented for better environmental management of intra-county shared resources.
- xiii. **Good Governance:** rule of law, effective institutions, transparency and accountability, respect for human rights and the meaningful participation of citizens will be integrated in environmental management.
- xiv. **Eco- innovation:** New production processes that are likely to prevent risks to the environment

1.4 Policy Statement

This policy provides a framework for mainstreaming the management and coordination of environmental and climate change efforts across all sectors by promoting investments in natural capital in agriculture, fisheries, forest and water, energy and resource efficiency, manufacturing, waste management, building and urban design, and the transportation sector in the County. It speaks to the broad needs of this area of focus and engenders a holistic sector-wide approach in responding to challenges identified herein. It is postulated that full implementation of this policy shall result into inclusive economic growth and sustainable development within Makueni County.

1.5 Scope of the Policy

This Policy is a framework guide for the management and coordination of environment and climate change in Makueni County and it does this in accordance with the provisions of the Constitution of Kenya, international laws, relevant national legislations, Vision 2030, Makueni County Vision 2025 and Makueni CIDP 2018-2022, among other key principles. The policy provides a vision for

the County in so far as environment and climate change is concerned and anchors on sections 2 and 3 of Part 2 of the Fourth Schedule of the Constitution on environmental conservation, pollution and waste management.

1.6 Policy Development Process

This policy was developed through a consultative process involving all departments of Makueni County Government, stakeholders, investors as well as the public. The Policy has been subjected to extensive stakeholder consultation and confirmed to reflect their views in the various validation meetings.

CHAPTER 2: SITUATIONAL ANALYSIS

2.1 Introduction

Makueni County occupies a geographical area of 8,008.9 Km². It borders several counties which include Kajiado to the West, Taita Taveta to the South, Kitui to the East and Machakos to the North. It lies between Latitude 10 35' and 30 00' South and Longitude 37 01' and 38 30' East MCIDP (2018 - 2022). There are six sub-counties in Makueni County namely; Makueni, Kibwezi west, Kibwezi East, Kilome, Kaiti and Mbooni. The County has three ecological zones; the Upper Makueni consisting of Kaiti, Kilome and Mbooni sub-counties; mid land Makueni that consists of Makueni sub-county; lower Makueni consisting of Kibwezi West and Kibwezi East Sub-Counties. The County enjoys a wide variety of ecosystems ranging from hills, forests, arid and semi-arid areas, fresh water, and wetlands.

Makueni has undergone unprecedented social, economic, environmental, political and technological changes since independence. These interlinked components provide the backdrop against which to view changes in the state of the County's environment because they serve a dual purpose as some of the most forceful drivers of that environmental change. The main human activities contributing to environmental degradation in Makueni County include: unsustainable agricultural land use, poor soil and water management practices, deforestation, unsustainable livestock farming practices and pollution.

These activities contribute a great deal to degradation of the County's natural resources such as land, fresh waters, forests and biodiversity thus threatening the livelihoods of many people. They undermine the carbon sink function of the environment which operates through such processes as nutrient recycling, decomposition and the natural purification and filtering of air and water. In addition, change in climatic conditions has been associated with intense, frequent and extremely unpredictable climate events which have led to reduced forest cover, depletion of water sources, loss of biodiversity, prevalence of diseases and pests, reversed gender roles and unpredictable rain patterns.

Environmental degradation in Makueni is partly responsible for rising costs of water treatment, food imports and medical treatment. These are not only increasing human also draining the County's economic resources. The expansion of agriculture into marginal areas and clearance of

natural habitats such as forests and wetlands have been major driving forces behind land degradation throughout the County and the Country at large. The loss of biological resources translates into loss of economic potential and options for commercial development in the future

Governance and Administration

There are several sectoral policies and laws relating to the environment which are not harmonized with both the EMCA, 1999 as revised in 2015 and the Constitution of Kenya. These policies have significant implications for the environment. It is imperative that policy instrument in these sectors are harmonized with the EMCA and the Constitution and requirements made that they be subjected to strategic environmental assessment in order to promote sustainable development. This is specifically to devolve roles and functions to be handled by counties.

The national government institutions like the Kenya Forest Service (KFS) seem to operate in a space that is not dictated upon by the Constitution and the law. Their operations have not been appreciative of the devolved functions through shared nature of the Environment function. However, KFS has largely been overbearing instead of offering institutional support to the County Government institutions. Also, at the County level, there has not been adequate establishment and operationalization of the entities that would have been vital in making the performance of the county responsibilities and functions in the context of the environment a success.

Several policies particularly in the agricultural, trade and industrial sectors provide concessions and incentives without the requisite safeguards, causing negative environmental impacts. There are a number of agreements on land reclamation and concessions on management of forests like Kibwezi and Kiima Kiu forests.

Weak enforcement of laws and policies remains a major issue due to inadequate capacity. The problem is further compounded by the fact that the regulatory framework underpinning the county activities in this regard has inherent weaknesses that undermine county enforcement of the responsibilities in that regard. Kenya has for a long time adopted sectoral rather than integrated and ecosystem approaches to the management of natural resources. The county needs to change this because the key economic sectors are interlinked while environment matters are cross cutting.

Climate Change

Climate change poses significant environmental implications for Makueni County. Some of its adverse impacts are already being observed, as evidenced by reduced supply of water from many springs in the county. People and the environment are increasingly suffering from the effects of frequent and intensified natural disasters such as floods, landslides and prolonged droughts. Makueni County is vulnerable to climate change. Increased frequency and intensity of extreme climate events continue to undermine the county's sustainable development.

The notable climate change threats to Makueni County indicate that:

- i. Climate change has badly affected the Arid and Semi-arid Lands (ASALs). The deteriorating water quality and quantity, loss of biodiversity and declining agricultural productivity due to climate change, are no longer potential threats but rather threats that have already struck and caused the region repeated misery;
- ii. These extreme climate change impacts are already visible and are associated with climate events such as flooding and droughts all of which are projected to be more intense, frequent and unpredictable;
- iii. Increased siltation of water sources caused by frequent flash floods;
- iv. Increased temperature resulting in water-stressed conditions, particularly in drier areas, leading to reduced agricultural productivity;
- v. Decrease in the already scanty forest cover due to climatic conditions adversely affecting species diversity and consequent ecosystem services;
- vi. Threat to fresh water ecosystems due to pollution;
- vii. Increased conflicts between upper riparian and lower riparian regions on sharing of the water resources;
- viii. Increased health risks due to climate change related diseases
- ix. Climate change induced migration leading to adverse effects on the population such as reversed gender roles et cetera;

These threats are a cause for survival concerns for Makueni County; particularly in terms of the county's water, food and energy security considerations.

Natural Resources

The value of environmental resources is hardly reflected in pricing of marketed goods and services. Environmental and natural resources are largely considered “public goods”. This is symptomatic of market failure. Integrating environmental considerations into the behaviour of enterprises and consumers would reflect a change in consumption and production patterns. Prioritization of environment and natural resources remains low among policy makers partly due to inadequate appreciation of the total economic value of the sector. Thus, there is less public investment in the sector.

The following issues ought to be carefully considered in the context of exploitation of environmental and natural resources, and they are: extraction, protection/conservation, investments, pricing, benefits to Makueni and value addition, and guidelines on how to manage the foregoing.

Conflicts over control and management of shared/trans-boundary resources are common. For example, River Athi experiences perennial conflicts concerning access to its water resources. For this reason, natural resources under conflict call for a framework of a harmonized and common approach to the conservation and management of such shared/trans-boundary resources.

Biodiversity plays a fundamental role in underpinning ecosystems and the services they provide. The most important causes of loss of biodiversity include habitat destruction, overgrazing, deforestation, pollution, unsustainable harvesting of natural resources, biopiracy and introduction of invasive and alien species. Available data suggests that despite a variety of initiatives, the county’s biodiversity continues to decline. We are witnessing decline in flora and fauna.

Invasive and alien species are a major threat to the environment. They threaten indigenous species through the effects of predation, alteration of habitat or disruption of ecosystem processes.

Land Use and Management

There are several degraded areas in Makueni County that require rehabilitation. Examples of such areas include abandoned quarries and mines, wetlands, riverbanks, deforested areas, borrow pits

and hilltops. With respect to private land, it is the desire of the county to devise ways of compelling land owners to manage their lands in a manner that appreciates proper environmental management.

Waste Management

Increasing levels of urbanization are caused by natural growth of the urban population and migration of the rural population towards urban centres. Urbanization often leads to destruction of sensitive ecosystems. In addition, inadequate waste collection and waste management cause urban pollution and poor health. Thus, many urban environmental problems are the result of poor management, planning and absence of coherent urban policies rather than of urbanization itself.

Pollution continues to have a negative impact on the county's environment. The introduction of pollutants into air, water and land, intentionally or accidentally, negatively affects people's health and wellbeing as well as the environment.

- i. Air: Quality of air is undermined by activities like construction, quarries (mines), vehicular emissions,
- ii. Noise: Commercial and Social activities, Matatu noise, excessive vibrations from mines and quarries.
- iii. Water: Discharge of effluent – discharge of industrial waste from upstream sources – cross county issues, Oil spillage, solid waste, agrochemicals, poor agricultural practices that occasion consequences like siltation.
- iv. Land: asbestos dumping in Makueni

Environmental Data and Information

Inadequate, inconsistent and unreliable data is a challenge for integrated planning and management of the environment and undertaking comprehensive economic valuation. The challenge also undermines public participation in decision making processes because citizens cannot access timely and accurate information on the environment and climate change. Sound environmental management must be based on openness and participation at all levels. Therefore, it is imperative that sustainable environmental education and public awareness is promoted.

Poverty

The rising poverty levels have impacted negatively on the environment. Poverty is a major cause and consequence of environmental degradation and resources depletion because of lack of alternatives. The poor who represent most of the county's total population rely heavily on environment and natural resources for their livelihoods

Energy

The energy consumption in the county is on the increase. However, the utilization of renewable energy sources apart from hydro-electricity is still relatively low. In addition, majority of the residents rely on charcoal and firewood as the main source of energy, which in turn undermines the county environmental conservation efforts.

2.2 Legal and Institutional Framework

This policy derives its legal and governance context from the provisions of the Constitution of Kenya, the national statutes on environment, climate change and land. It also based on Vision 2030 and the various international conventions, treaties and protocols to which Kenya is a state party. In addition, the Makueni County Vision 2025, Makueni County Spatial Plan and Makueni CIDP 2018-2022 are emphatic on the important role played by sound management and coordination of the environment and climate change in fostering social economic development and ensuring inclusive growth of the County.

2.3 Challenges

The environment and climatic situation in Makueni County are affected by several challenges; namely:

- 1) Inadequate policy, legal, regulatory and institutional framework
- 2) Inadequate resources (funding, human resource and equipment)
- 3) Poor coordination of actors in environment and climate change management
- 4) Encroachment on fragile ecosystems and county forests
- 5) Weak disaster preparedness and management.
- 6) Environmental pollution.
- 7) Over-exploitation of environmental and natural resources:
- 8) Poor land use and management

- 9) Loss of biodiversity
- 10) Weak implementation framework on concessions and incentives
- 11) Inadequate waste management system
- 12) Costly alternative sources of renewable energy
- 13) Weak climate change resilience mechanisms
- 14) Inadequate framework for equitable sharing of natural sources
- 15) Limited knowledge and information on sustainable environmental management.

CHAPTER 3: POLICY OBJECTIVES AND STRATEGIES

3.1 Introduction

This chapter outlines the policy objectives, directions and strategies for responding to environmental and climate change concerns identified in the preceding sections of this policy document. It places primacy on the betterment of quality life through sustainable development and mainstreaming climate change in the economically and socially vulnerable sectors in Makueni County towards climate change resilience and green development pathways. These objectives, directions and strategies provide more specific guidance on how the overall goals and statements of this policy will be attained.

3.2 Policy Objectives and Strategies

This policy framework addresses challenges such as inadequate policy, legal, regulatory and institutional framework, inadequate resources (funding, human resource and equipment), over-exploitation of environmental and natural resources, poor land use and management, loss of biodiversity, inadequate leverage on technology, inadequate disaster preparedness and management, urban environmental pollution and such like challenges. The framework will also guide the establishment of proper governance systems for sound coordination and management of environment and climate change within Makueni County.

3.2.1 Policy Objective 1: To strengthen the policy, legal and regulatory framework on Environment and Climate Change.

This policy recognises that the establishment of a sound policy, legal and regulatory framework to guide the environment and climate change sector is foundational in enhancing its development.

Policy Direction

The County Government of Makueni shall establish a policy, legal and regulatory framework to fast track the development of the Makueni County environment and climate change sector.

Strategies:

- (i) Adopt the policy;

- (ii) Enact appropriate laws and regulations; and
- (iii) Establish institutions and structures.

3.2.2 Policy Objective 2: To foster collaboration and strategic partnerships

Policy Direction

The County Government of Makueni shall promote collaboration and partnerships in order to foster comprehensive multi-sectoral approach to realising this objective and address crosscutting issues.

Strategies:

- (i) Stakeholder mapping and engagement
- (ii) Effective communication
- (iii) Awareness and sensitization
- (iv) Partnership creation/MoUs

3.2.3 Policy Objective 3: To enhance resource mobilization

Policy Direction

The County Government of Makueni shall establish adequate measures to ensure adequate resource capitation of the sector.

Strategies:

- (i) Lobby for adequate budgetary allocation;
- (ii) Mobilise resources from development partners;
- (iii) Recruit and capacity build staff; and
- (iv) Purchase equipment.

3.2.4 Policy Objective 4: To establish mechanisms for sustainable natural resource management

Policy Direction

The County Government of Makueni shall establish mechanisms for sustainable natural resource management.

Strategies:

- (i) Identify, map, survey and zone fragile ecosystems and county forests
- (ii) Establish guidelines on natural resource conservation and utilization
- (iii) Enforce framework for payment of ecosystem services
- (iv) Establish incentives for alternative sources of livelihoods for citizenry
- (v) Preserve genetic diversity
- (vi) Develop a strategy to contain, control and mitigate alien and invasive species
- (vii) County forest participatory plans.
- (viii) Establish a County tree planting day

3.2.5 Policy Objective 5: To strengthen disaster preparedness and management

Policy Direction

The County Government shall strengthen disaster preparedness and management in Makueni.

Strategies:

- (i) Adopt the Makueni County Disaster Management and Special Programmes Policy and the appropriate guidelines.
- (ii) Partner with disaster risk management section

3.2.6 Policy Objective 6: To reduce environmental pollution

Policy Direction

The County Government shall establish mechanisms for reducing environmental pollution.

Strategies:

- (i) Enforce the law
- (ii) Create awareness on environment and climate change

- (iii) Adopt appropriate technology on waste management
- (iv) Promote reuse, reduce and recycling (3Rs strategy)
- (v) Promote adaptive planning
- (vi) Adoption of renewable sources of energy
- (vii) Identify mechanisms for subsidizing alternative sources of energy
- (viii) Capacity build actors in waste management value chain
- (ix) Promote waste commercialization

3.2.7 Policy Objective 7: To enhance climate change resilience

Policy Direction

The County Government shall establish mechanisms for enhancing climate change resilience in the county.

Strategies:

- (i) Mainstream climate change in county sectors
- (ii) Establish county climate change fund mechanism
- (iii) Capacity build institutions to take up climate change actions
- (iv) Create partnership linkages

3.2.8 Policy Objective 8: To establish a framework for equitable sharing of trans-boundary natural resources

Policy Direction

The County Government shall establish a framework for equitable sharing of trans-boundary natural resources with other counties.

Strategies:

- (i) Establish commitment framework among member counties and other relevant agencies

3.2.9 Policy Objective 9: To enhance environmental and climate change knowledge access and transfer

Policy Direction

The County Government shall facilitate environmental and climate change knowledge access and transfer.

Strategies:

- (i) Enhance research and development
- (ii) Integrate indigenous and modern knowledge
- (iii) Effective communication of environmental information
- (iv) Support innovation and inventions
- (v) Partner with research institutions.

CHAPTER FOUR: IMPLEMENTATION FRAMEWORK

This chapter layout the roadmap for realising the policy objectives and strategies identified herein.

Institution Arrangements

The implementation of this policy will be coordinated by the Department in charge of environment and climate change. The department will ensure collaboration with relevant national government and county government agencies and private sector players. The issues that require legislation will be legislated by the County assembly.

Monitoring and Evaluation

The monitoring and evaluation framework is intended to measure the progress in the implementation of this Policy. The framework reflects the Policy's overarching objectives as well as objectively verifiable indicators, actors and timelines within which each strategy is to be achieved. This will be done in conformity with the Makueni County Government Monitoring and Evaluation framework.

Progress Reports

The Department in charge of environment and climate change shall prepare biannual and annual M&E reports on implementation of the Policy. The Department shall also commission a mid-term evaluation, to be conducted by an independent agency to measure outcomes and impacts of the Policy and inform its review. M&E reviews to be undertaken jointly with relevant stakeholders.

Feedback Mechanisms and Stakeholder Consultation

The Department in charge of environment and climate change shall hold a County Environment and Climate Change conference annually in order to monitor progress in implementation of the Policy and receive feedback from County Governments and other stakeholders.

Policy Funding Mechanism

The County Government will prioritize and set aside a specific annual budgetary allocation for policy implementation. Collaboration with stakeholders and development partners will also be sought to fund and help in the implementation and strengthening capacity

Policy Review

This policy will provide direction in all matters pertaining to Environment and Climate Change in the county for the next three years. Should there be areas that contradict any legislation enacted after the approval of this policy or found inadequate to fulfil the mandate of the directorate, then it should be reviewed and aligned to address any emerging challenges touching on environment and climate change.

Implementation Matrix

| Objectives | Strategies | Indicators | Actors | Timelines |
|---|--|--|---|--|
| Objective 1: To strengthen the policy, legal and regulatory framework on Environment and Climate Change. | <ul style="list-style-type: none"> - Adopt the policy - Enact appropriate laws and regulations; and - Establish institutions and structures. | <ul style="list-style-type: none"> - <i>Policy adopted.</i> - <i>Makueni County Environmental Act and Makueni County Climate Change Act</i> - <i>Sector specific laws, regulations and guidelines</i> | ECM in charge of Environment & Climate Change. Director in charge of legal services Makueni county Assembly Director in charge of HR | To be developed within 1 year of the adoption of the policy. |
| Objective 2: To foster collaboration and strategic partnerships. | <ul style="list-style-type: none"> - Stakeholder mapping and engagement. - Effective communication. - Awareness and sensitization. - Partnership creation. | <ul style="list-style-type: none"> <i>List of stakeholders</i> <i>MOUs</i> <i>Minutes, reports, attendance lists</i> <i>Report acknowledgements</i> | ECM in charge of Environment & Climate Change. Director Liaison Director communication | Appropriate measures to be instituted within 1 year of the adoption of the policy. |
| Objective 3: To enhance resource mobilization. | <ul style="list-style-type: none"> - Lobby for adequate funding; - Recruitment of staff; and capacity building - Purchase of equipment. | <ul style="list-style-type: none"> Increased allocation budget No of news staff recruited No of staff trained No of equipment purchased | ECM in charge of Environment & Climate Change. Director in charge of Human Resource ECM in charge of Finance | Appropriate measures to be instituted within 2 year of the adoption of the policy. |

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|---|---|---|---|---|
| <p>Objective 4: To establish mechanisms for sustainable natural resource management.</p> | <ul style="list-style-type: none"> - Identify, map, survey and zone fragile ecosystems and county forests. - Establish guidelines on natural resource conservation and utilization. - Enforce framework for payment of ecosystem services. - Establish incentives for alternative sources of livelihoods for citizenry. - Preserve genetic diversity. - Develop a strategy to contain, control and mitigate alien and invasive species. - County forest participatory plans. - Establish County tree planting day | <p>Maps</p> <p>Established guidelines</p> <p>Revenue collected</p> <p>Incentives established</p> <p>Developed strategies</p> <p>Developed plans</p> <p>Designated day</p> | <p>ECM in charge of Environment & Climate Change.</p> <p>ECM in charge of Environment & Climate Change.</p> <p>ECM in charge of Environment & Climate Change</p> <p>ECM in charge of Finance County assembly</p> <p>Director in charge Liaison services</p> | <p>Appropriate measures to be instituted within 1 year of the adoption of the policy.</p> |
| <p>Objective 5: To strengthen disaster preparedness and management.</p> | <ul style="list-style-type: none"> - Adopt the Makueni County Disaster Risk Reduction policy and the appropriate guidelines. | <p>Implementation reports</p> <p>Meetings</p> <p>resolutions/reports/minutes</p> | <p>ECM in charge of environment and climate change.</p> | <p>Appropriate measures taken within 2 years of</p> |

| | - Partner with disaster risk management section. | | Director in charge of Special programmes | the adoption of the policy. |
|--|---|--|--|---|
| Objective 6: To reduce environmental pollution | <ul style="list-style-type: none"> - Enforce the law - Create awareness - Adopt appropriate technology on waste management - Promote reuse, reduce and recycling (3Rs strategy) - Promote adaptive planning - Adoption of renewable sources of energy - Identify mechanisms for subsidizing alternative sources of energy - Capacity build actors in waste management value chain - Promote waste commercialization. | <p>Assessment Reports</p> <p>MOUs with institutions/partners</p> <p>List of actors trained</p> <p>List of participants</p> | <p>ECM in charge of Environment & Climate Change.</p> <p>Director in charge of Environment & Climate Change,</p> <p>Director in charge of Energy</p> | <p>Appropriate measures to be instituted within 2 year of the adoption of the policy.</p> |
| Objective 7: To enhance climate change resilience | <ul style="list-style-type: none"> - Mainstream climate change in county sectors - Establish county climate change fund mechanism | <p>No of sectors mainstreaming climate change</p> <p>Established fund</p> | <p>ECM in charge of Environment & Climate Change.</p> | <p>Appropriate measures to be instituted within 1 year of the</p> |

| | | | | |
|--|---|--|---|--|
| | <ul style="list-style-type: none"> - Capacity build institutions to take up climate change actions - Create partnership linkages | <ul style="list-style-type: none"> No of institutions capacity build MOUs | <ul style="list-style-type: none"> Director in charge of Liaison Director in charge of Public participation Director in charge of Communication | adoption of the policy. |
| Objective 8: To establish a framework for equitable sharing of trans-boundary natural resources | <ul style="list-style-type: none"> - Establish commitment framework among member countries and other relevant agencies | Established frameworks | <ul style="list-style-type: none"> ECM in charge of Environment & Climate Change. Director in charge of Liaison Director in charge of Communication | Appropriate measures to be instituted within 2 year of the adoption of the policy. |
| Objective 9: To enhance environmental and climate change knowledge access and transfer | <ul style="list-style-type: none"> - Enhance research and development - Integrate indigenous and modern knowledge - Effective communication of environmental information - Support innovation and inventions - Partner with research institutions. | <ul style="list-style-type: none"> Research findings No of awareness forums Reports on awareness creation and uptake MOUs New technology uptake | <ul style="list-style-type: none"> ECM in charge of Environment & Climate Change. Director in charge of Public participations Director in charge of Liaison services Director Communication | Appropriate measures to be instituted within 1 year of the adoption of the policy. |