



**BUNGOMA COUNTY ENVIRONMENT POLICY,
2020**

FOREWORD

PREFACE

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EXECUTIVE SUMMARY

Bungoma County is experiencing a wide range of social, economic, political and technological changes that influence the nature of the living environment. The emerging environmental change defines the human activities, which further contribute to environmental degradation. Consequently, many agricultural activities aimed at sustaining decent livelihoods are becoming non-viable. Hence the need to address correction of environmental damages that have led to unsustainable agricultural land use, poor soil and water management practices, deforestation, pollution and waste management challenges.

The Environment policy is guided with by specific objectives such as Providing financial resources for sustainable management of the County environment and natural resources for economic growth and improved livelihood; Providing a framework for an integrated approach to planning and sustainable management of environment and natural resources; Promoting research, capacity development and use of innovative environmental management tools; Promoting and enhancing partnership and public participation in the protection and conservation of the County environment and natural resources and Promoting domestication, coordination and maximization of benefit from Multilateral Environmental Agreements (MEAs).

The policy identifies opportunities and strategic policy interventions in priority sectors in the County such as; forestry, agriculture, health and sanitation, trade and industrialization, tourism, water, livestock, fisheries and gender in the management of environment related issues.

Key stakeholders and requisite institutions such as the national and county actors, regional actors, and non- state actors including formal and informal actors guide the policy implementation process.

The Department responsible for matters environment shall undertake policy operationalization through requisite relevant legislations.

The policy is flexible and open to adjustments. There shall therefore be a window to review and revise/update this policy once in every five years or when the need arises to ensure its relevance.

ABBREVIATIONS AND ACRONYMS

ASAL	- Arid and Semi-arid Lands
CBSAP	- County Biodiversity Strategy and Action Plan
CEAP	- County Environment Action Plan
CEIMS	-County Environmental Information Management System
CIDP	- County Integrated Development Plan
COK	- Constitution of Kenya
COPD	- Chronic Obstructive Pulmonary Disease
CSER	- County State of Environment Reports
CSO	- Civil Society Organizations
EA	- Environmental Audit
EHIA	- Environmental Health Impact Analysis
EIA	- Environmental Impact Assessment
EMCA	- Environmental Management and Coordination Act
ESD	- Education for Sustainable Development
ESIA	- Environmental and Social Impact Assessment
GDP	- Gross Domestic Product
GHG	- Green House Gases
GIS	- Geographical Information System
HDI	- Human Development Index
KFS	- Kenya Forest Service
KPHC	- Kenya Population and Housing Census
KWS	- Kenya Wildlife Service
MDA	- Ministries, Departments and Agencies
MEA	- Multilateral Environmental Agreements
NBI	- Nile Basin Initiative
NEMA	- National Environmental Management Authority
PES	- Payment for Environmental Services
SAICM	-Strategic Approach to International Chemicals Management
SDG	- Sustainable Development Goals
SEA	- Strategic Environmental Assessment
SWM	- Solid Waste Management
WRA	- Water Resources Authority

CHAPTER ONE

The Context and Rationale of the County Environment Policy:

1.0. Introduction

The chapter outlines the context within which the county's Environment policy is developed. It captures the scenarios at both the National and County level. It also presents a summary of the rationale for the policy and the drivers of environment management in Bungoma County. Finally, it provides insights on the process of developing this policy.

1.2. Background

Bungoma County is experiencing a wide range of social, economic, political and technological changes that influence the nature of the living environment. The emerging environmental change defines the human activities, which further contribute to environmental degradation. Consequently, many agricultural activities aimed at sustaining decent livelihoods are becoming non-viable. Hence the need to address correction of environmental damages that have led to unsustainable agricultural land use, poor soil and water management practices, deforestation, pollution and waste management challenges.

The cost rapidly increasing cost of living may be linked to environmental degradation. This is translated into rising costs of water treatment, food imports and medical treatment (such as associated with water borne disease due to water sources contamination, skin conditions due to pollution, among others). On the other hand, the expansion of agriculture into wetlands, forests and sharp slopes propels land degradation throughout the county. The resulting loss of biological resources translates into loss of economic potential and options for commercial development in the future.

1.3. Policy Context

The County is characterized by high population growth rate, increased urbanization, increased land fragmentation, water scarcity, decreased soil fertility and the associated decline in agricultural productivity. Consequently, the environment has been an essential pillar of Kenya's development blueprint (vision 2030) and Bungoma County's

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Integrated Development Plan (CIDP) II (2018 -2022) that identifies environmental degradation and climate change as key development challenges.

The 2010 Constitution which has been hailed as a 'Green' Constitution and other new developments such as climate change signified a change in direction for Kenya`s environment policy development and subsequently County Policy development. The COK 2010 contains elaborate provisions with considerable implications of attaining Sustainable Development Goals (SDGs). These range from environmental principles and implications of Multilateral Environmental Agreements (MEAs) to the right to a clean and healthy environment as enshrined in the Bill of Rights. Chapter V is entirely dedicated to land and environment. It also captures a host of social and economic rights which are of environmental character such as the right to water, food and shelter, among others.

This County Environment Policy provides for a focused framework to guide the management of Bungoma`s natural and built environment, thereby helping to address the challenges associated with the nexus of environment, poverty and economic development.

1.4. Policy Rationale

The county government seeks to establish an effective, efficient and sustainable system to manage and conserve the environment in order to facilitate realization of its development goals. This environment policy will be instrumental in advancing county social and economic development. This policy is therefore developed in order to –

- a) Provide for a mechanism for implementing county functions related to Environment as assigned under the Constitution of Kenya
- b) facilitate adoption and compliance with relevant international and national standards for environment management and conservation in the county
- c) Facilitate the realization of Kenya Vision 2030 as it relates to environment management.

1.5. Drivers of this policy.

The County and Country as a whole has witnessed unprecedented socio-economic transformation since independence. This backdrop provides the justification for this Environment Policy. It gives the framework to guide the county's efforts in addressing the ever-growing environmental issues and challenges such as:

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Environmental governance: The sectoral laws and policies rather than integrated and ecosystems approach to management of natural resources has proved inadequate in addressing environmental challenges. In addition, weak enforcement of laws and weak implementation of policies remain major issues of concern in the County.

Loss of biodiversity: Bungoma County continues to lose her biodiversity due to environmental degradation. The challenge of dealing with loss of biodiversity becomes even more complicated when one is dealing with shared resources where laws and policies of respective countries and Counties are not harmonized.

Valuation of environmental and natural resources: The value of environmental resources is hardly reflected in pricing of marketed goods and services. 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.

Rehabilitation and restoration of environmentally degraded areas: There are several degraded areas in Bungoma County, which require rehabilitation and restoration. These include wetlands, riverbanks, deforested areas, eroded shoreline, hilltops and disused quarries and mines.

Urbanization, waste management and pollution: The rapid rate of urbanization has been caused by natural growth of the urban population and rural-urban migration. Urbanization often leads to destruction of sensitive ecosystems. Poor waste management causes urban pollution and poor health. Thus, many urban environmental problems are the result of poor management, planning and absence of coherent urban policies.

Climate change, energy, security and disaster management: Climate change poses significant environmental challenges for Bungoma County as evidenced by the frequent droughts, landslides and floods. This at a time when power demand is on the rise and utilization of renewable energy sources exclusive of hydro remains relatively low. Increased frequency and intensity of extreme climatic conditions continue to undermine the county's sustainable development. Managing climate-related disasters remains a significant challenge.

1.6. Policy development process.

This policy was developed through a consultative process. The key policy actors in Environment management in the county were engaged during the preparation process. Specifically, national and county departments involved in Environment management, which included National Environment Management Authority (NEMA), Kenya forest service, Kenya wildlife service, office of the county Attorney, county devolved departments and county assembly. In addition, private actors in Environment management such as civil societies participated in the process.

Chapter Two Policy Framework

2.0. Introduction

This is the core chapter providing the strategic direction of the policy by outlining the goal and objectives. It also spells out the principles that will underpin the implementation of the same.

2.1. Goal

The overall goal of this policy is to achieve sustainable economic and social development which maintains and enhances environmental quality and natural resources productivity for present and future generations.

2.2. Objectives.

The objectives of this Policy are to:

- a) Provide financial resources for sustainable management of the County environment and natural resources for economic growth and improved livelihood.
- b) Provide a framework for an integrated approach to planning and sustainable management of environment and natural resources.
- c) Promote research, capacity development and use of innovative environmental management tools.
- d) Promote and enhance partnership and public participation in the protection and conservation of the County environment and natural resources.
- e) Promote domestication, coordination and maximization of benefit from Multilateral Environmental Agreements (MEAs).

2.3. Guiding Principles

Implementation of this Policy will be guided by the following principles:

Environmental Right: The policy will be implemented with full cognisance of the fact that every person in Kenya has a right to a clean and healthy environment and a duty to safeguard and enhance the environment.

Ecosystems Approach: The implementation of this policy will adopt an integrated ecosystems approach to conserving environmental resources by promoting ecosystems management in an integrated manner while also providing a range of benefits to the citizenry.

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Sustainable Resource Use: the policy implementation will ensure that Environmental resources are utilized in a manner that does not compromise the quality and value of the resource or decrease the carrying capacity of supporting ecosystems.

Precautionary Principle: the policy implementation will ensure that where credible threats of serious or irreversible damage to key environmental resources exist, lack of full scientific certainty will not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Polluter Pays Principle: The polluter and users of environmental and natural resources shall bear the full environmental and social costs of their activities.

Chapter Three: Environment Opportunities and Strategic Policy Interventions

3.0. Introduction

This Chapter highlights the opportunities and strategic policy interventions that should guide Bungoma County to achieve sustainable environmental management. Opportunities in related sectors are also outlined with the specific policy interventions.

3.1. Opportunities and Strategic Policy Interventions

3.1.1. Management of ecosystems and sustainable use of natural resources

Ecosystems provide a wide range of goods and services. However, despite the services they provide, ecosystems are under pressure from human activities. The most critical ecosystems in the County include forests, hills, wetlands, riparian areas, rivers and streams. These ecosystems are key natural and cultural heritage resources which support diverse biodiversity and provide natural capital for economic development and support livelihoods.

Forest Ecosystems

Forest ecosystems are important in conservation of soil, water and biodiversity as well as in moderation of climate. They are the richest terrestrial habitats for biodiversity.

Mt. Elgon forest and other forest resources within the County are being subjected to overwhelming pressure from competing land use especially from agriculture and human settlement. Continued Forest ecosystem destruction could lead to catastrophic and permanent change in the county's ecology with consequent loss of agricultural productivity, industrial potential development, living conditions and aggravated natural disasters such as floods and landslides.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Formulate strategies to increase forest cover to a minimum of 18% by 2030.*
- b) *Develop and implement a County strategy for rehabilitation and restoration of degraded forest ecosystems and water catchment areas with active community involvement/participation.*
- c) *Develop and Implement urban forestry, public parks and open spaces management plans/strategies in partnership with Municipalities.*
- d) *Encourage development and implementation of appropriate forestry-based investment programs and projects such as Nature Based Enterprises.*
- e) *Develop frameworks to protect sensitive forest ecosystems or those of cultural significance or of recreational value.*
- f) *Involve and empower communities in the management of forest ecosystems and farm forestry.*

Freshwater and Wetland Ecosystems

Freshwater resources and wetlands form an important part of the county's natural resources with considerable provisioning, regulatory and supporting services. Their provisioning services include the storage and retention of water for domestic, agricultural and industrial use. Their regulating services include modifying water flows, recharging and discharging groundwater resources and diluting or removing pollutants. Their supporting services are important for soil formation and retention as well as nutrient cycling. These ecosystems also provide habitats for a great number of plant and animal species.

The ecosystems face numerous threats from human population pressure and land use changes.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Develop and implement integrated freshwater and wetland resources management strategies and action plans.*

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- b) Promote and institutionalize payment for environmental services schemes to support catchment protection and conservation.*
- c) Develop and implement a County wetlands regulation.*
- d) Promote livelihood options that are compatible with sustainable use of freshwater and wetland resources*
- e) Ensure rehabilitation and restoration of degraded wetlands and riparian zones within the ecosystem*
- f) Work with and collaborate with the various regulatory agencies charged with the management of freshwater and wetland ecosystems in enforcing regulations on wetland ecosystems.*
- g) Involve and empower communities in the management of freshwater and wetland ecosystems.*

Hill Ecosystems

Hill ecosystems are important for biodiversity conservation since many harbor unique assemblages of plants and animals, including high levels of endemic species. Hills ecosystems have been subjected to a variety of uses and in the process have been exposed to degradation. The main drivers of Hills ecosystems degradation are deforestation, housing developments, mining, uncontrolled grazing, encroachment and the effects of climate change.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) Undertake mapping and identification of degraded hilly ecosystems in the County*
- b) Develop and implement strategies and action plans for sustainable management of hills ecosystems.*
- c) Involve and empower communities in the management of hills ecosystems.*

Land

Land is a key resource in Bungoma County, being the basis of livelihoods for a vast majority and a foundation of economic development. Activities contributing to land degradation include unsuitable agricultural land use, poor soil and water management practices,

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deforestation and overgrazing. Natural disasters, including droughts, floods and landslides, also contribute to land degradation.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Ensure implementation of the Constitution and the National Land Policy in a way that will take into account sustainable conservation and management of the environment and land resources.*
- b) *Promote sustainable urban and peri-urban land uses.*
- c) *Promote high-rise building as an efficient land utilization practice.*
- d) *Promote research on land use in relation to the built environment.*
- e) *Involve and empower communities in land utilization and management.*

Agriculture

Agriculture has several components such as livestock, fisheries, irrigation and crop production. The County Integrated Development Plan (CIDP) 2018 -2022 identifies agriculture as the single largest sector that is most vulnerable to climate change resulting from environmental degradation. The main crops grown for subsistence include beans, maize, sorghum, finger millet, potatoes, groundnuts and assorted vegetables. The main cash crop grown in the County is sugarcane, tobacco, tea and coffee.

Greenhouse gas (GHG) emissions from agriculture and livestock sectors accounted for about 14% of world's total GHG emissions. These emissions are essentially Methane (CH₄) and Nitrous Oxide (N₂O), 79%, and 21% respectively and originated mainly from three sub-sectors:

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Implementation of the County Soil Management Policy.*
- b) *Diversify land- based food security practices*
- c) *Promote and support eco and organic farming so as to maintain soil fertility*

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- d) *Involve and empower communities in sustainable agricultural practices.*
- e) *Develop and implement an environmentally friendly livestock production policy that takes cognizance of livestock mobility and communal management of natural resources.*
- f) *Develop and implement Policies on poultry and bees.*
- g) *Develop and Enforce regulations on waste management in livestock production industry.*
- h) *Promote sustainable management and utilization of fishery resources.*
- i) *Promote sustainable aquaculture development.*

Minerals; sand, gravel, ballast etc.

The County's mineral potential is yet to be fully exploited due to lack of adequate geological information on deposits occurrence. Increased mining activity, including quarrying and harvesting of sand, ballast and gravel may result in environmental degradation unless measures are taken to guide and control operations in the mining sub-sector.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Undertake geological surveys to document the mineral potential of the county*
- b) *Ensure formulation and implementation of the mineral resources development and exploitation regulations including sand, gravel, and ballast*
- c) *Promote and implement mechanisms/or sustainable harvesting of sand, quarrying and mining activities.*
- d) *Encourage sustainable exploitation, equitable sharing and sound management of mineral resources while ensuring local participation and involvement of indigenous enterprises or investment in mining sector.*

Biodiversity

Biodiversity contributes to a wide variety of environmental services, such as regulation of the gaseous composition of the atmosphere, regulation of the hydrological cycle and climate, dispersal and breakdown of wastes, pollination of many crops and absorption of pollutants. Human health and well-being are directly dependent on biodiversity.

County biodiversity loss is at an unprecedented rate. The major drivers include land degradation, climate change, pollution, unsustainable harvesting of natural resources, unsustainable patterns of consumption and production and introduction of invasive and alien species.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Develop and implement the County Biodiversity Strategy and Action Plan(CBSAP)*
- b) *Develop and implement a strategy to contain, control and mitigate alien and invasive species.*
- c) *Build the capacity of communities to participate effectively in biodiversity- related matters*

Wildlife Resources

Wildlife resources contribute directly and indirectly to the local and national economy through employment, revenue generation and wealth creation. The increasing population, human-wildlife conflicts, widespread pollution, climate change and the transformation of vast wildlife areas into other land-uses threaten the continued existence of wildlife in the county.

Strategic Policy interventions

The County Government in Collaboration with relevant stakeholders (KWS) shall:

- a) *With partners' support Protect, conserve and improve the habitats, corridors and dispersal areas of wildlife.*
- b) *Provide incentives for investment in sustainable tourism and wildlife conservation initiatives such as eco-tourism, wildlife conservancies.*
- c) *Promote the establishment of trans-boundary wildlife conservation areas as a basis for enhancing the conservation of shared wildlife resources and their ecosystems through relevant regional instruments.*
- d) *Strengthen and support wildlife research and monitoring to generate adequate information for decision making.*

- e) *Protect endangered wildlife species.*
- f) *Involve community participation in wildlife conservation activities.*

3.1.2. Environmental Stewardship

Stewardship of the environment refers to a precautionary approach to environmental challenges, promoting greater environmental responsibility and development and diffusion of environmentally friendly technologies. It means taking responsibility for our choices.

Trade and Environment

Trade is an important driver of economic growth. The County being on the border with Uganda is committed to local, national, regional and international trade. Unfortunately, it has also brought new environmental challenges to Bungoma County such as dumping of obsolete technologies, e-waste, contraband pesticides and smuggling of plastic bags into the County.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Mainstream environmental considerations into the County Trade Policy.*
- b) *Promote and support capacity building in the field of trade and environment.*
- c) *Promote and encourage the adaption, uptake and implementation of national, international environmental law and natural resources stewardship standards.*
- d) *Promote reduction of negative environmental footprints in production and trade practices*
- e) *Promote public private partnerships in trade and environment sectors*
- f) *Adopt circular economy principles in trade activities*

Tourism

Environmental degradation which leads to deterioration in the quality of tourism products is one of the leading causes of the decline in revenues. There is need to have a clear policy direction for mitigating the adverse and enhancing the positive environmental impacts of tourism.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Promote eco-tourism industry initiatives*
- b) *Development and Enforcement of environmental legislation and regulatory framework within the County tourism industry.*
- c) *Set up framework for information exchange and for environmental awareness creation of all stakeholders in the tourism industry within the county.*
- d) *Encourage the promotion of investment in sustainable tourism*
- e) *Encourage community participation in tourism industry.*

Consumption and Production Patterns

Changing patterns of consumption and production through integration of environmental considerations in all sectors is a pre-requisite for sustainable development. Environment-friendly technologies can yield enormous environmental benefits and lay the foundation for a green economy. To achieve a clean and healthy environment, unsustainable patterns of production and consumption should be discouraged and intensified awareness instituted.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Provide economic incentives for investment in more efficient, clean and environment friendly production technologies across all sectors.*
- b) *Promote sound environmental management tools.*
- c) *Promote corporate social responsibility and accountability.*
- d) *Promote public procurement policies that encourage development and diffusion of environmentally sound goods and services.)*
- e) *Promote, strengthen, support consumer organizations and create awareness.*
- f) *Create awareness on environmental impact of using non-biodegradable materials such as plastics.*
- g) *Promote 3Rs (reduce, reuse, recycling) concept of integrated solid waste management.*

Industrialization and the Environment

The structural changes implicit in attaining the growth rates demanded by the economic recovery strategy, Sustainable Development Goals (SDGs), Vision 2030, Big 4 Agenda and CIPD II 2018-2022 means that ways must be found to achieve sustainable industrial development.

Industrial development is identified as a key driving force that puts pressure on the environment. Industrialization involves transformation of raw materials into value-added products using technology. These development activities are accompanied by generation of various forms of pollutants and waste into the environment.

Besides contributing to economic growth and job opportunities, SMEs and industries also contribute significantly to environmental degradation and pollution.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Implementation of the County industrialization policy.*
- b) *Promote the uptake of strategic environmental assessments and audits in relevant county policies and plans)*
- c) *Promote Resource Efficient and Cleaner Production (RECP) technologies, including best available techniques and applications.*

Infrastructural Development and the Environment

Infrastructural development includes, among others, buildings, roads, ports, railways, ICT, pipelines, irrigation systems, airports and electricity transmission. The environmental aspects of such infrastructural developments are distinct and unique such as effects on flora and fauna, social and psychological disruption, vegetation clearance, excavation works and spillages during construction.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Ensure environmental screening of all infrastructure projects*

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- b) *Ensure Strategic Environmental Assessment (SEA), Environmental Impact Assessment, Social Impact Assessment and Public participation in the planning and approval of infrastructural projects.*
- c) *Develop and implement County environment and Social management framework to ensure environmentally-friendly county infrastructural development strategy and action plan that comply with all the environmental and social safeguards.*
- d) *Ensure that periodic Environmental, Social and Control Audits are carried out for all existing infrastructural projects in collaboration with NEMA.*

Human Settlements

The pattern of human settlements in the country is influenced by natural resource endowments, which include availability, accessibility and control. Bungoma County is still largely rural with a high population growth rate experienced in urban areas that constrains the county's resource base. However, rapid urbanization caused by population growth and rural-urban migration have hindered the capacity of urban centers to provide housing, infrastructure, services and job opportunities.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Integrate demographic issues into environmental management and natural resources conservation.*
- b) *Develop and implement an Integrated Housing Policy and Housing Master Plan that takes into account environmental considerations.*
- c) *Develop and enforce integrated land use and spatial planning at all levels.*
- d) *Mainstream environmental considerations in the temporary holding sites for displaced people.*

Energy Use, Efficiency and Conservation

Energy is essential for socio-economic development. Bungoma County has potential for hydropower given the many rivers and waterfalls within the County. Over 85% of Bungoma County residents rely on wood fuel for cooking which accelerates deforestation and hinders

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achievement of the County forest cover targets. Kerosene is also a common source of energy to some residents despite the environmental pollution and health risks.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Develop and promote an integrated county strategy for generation and sustainable utilization of renewable energy.*
- b) *Promote adaptation of the cleaner production concept in all energy production and consumption activities.*
- c) *Promote investments in clean energy*
- d) *Create public awareness with respect to clean energy and energy efficient technologies*
- e) *Facilitate public access to clean and affordable energy sources*

Climate Change

Bungoma County is susceptible to climate-related events such as floods, landslides and drought. The County's vulnerability to climate impacts results from a wide range of factors including ecosystems degradation, agricultural activities and industrial undertakings. Climate change is caused by human activities which release Green House Gases (GHG) into the atmosphere.

The effects of climate change have the potential to disrupt Bungoma's strides in agricultural production, forestry, water supply, health systems and overall human development. By pursuing a green economy path and minimizing her carbon footprint, the county will be better placed to deliver on the constitutional right to a clean and healthy environment while minimizing the country's contribution to global climate change initiatives in line with the Paris Agreement and Kenya's intended Nationally Determined Contributions.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Implementation of the County Climate Change Policy.*

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- b) *Strengthen capacity for county level institutions to integrate and mainstream climate change into implementation strategies and monitoring.*
- c) *Develop and implement awareness creation strategies and capacity development on the opportunities for adaptation and mitigation measures as per the national climate change action plan and response strategy.*
- d) *Strengthen and enhance early warning and response systems for climate and disaster risk reduction.*
- e) *Enhance the adaptive capacities of marginalized groups*
- f) *Put in place a climate financing mechanism that will help the county take advantage of new and emerging climate change funds and also include innovative ways to fund climate change actions domestically through committing a percentage of the annual county development budget to climate related interventions.*
- g) *Upscale the role of private sector in combating climate change*
- h) *Involve and empower communities in mitigating and adapting to climate change.*

Emergency Preparedness and Disaster Management

Bungoma County has continued to face a rising degree of vulnerability to disaster. Communities are predisposed to disasters by a combination of factors such as poverty, settlement in areas prone to disasters or areas with poor infrastructure and services such as the informal urban settlements or even living in poorly constructed buildings.

Bungoma's capacity to respond to emergencies and incidents is inadequate. This is despite recurrent occurrences of incidents such as markets fires and accidents in households, trading centers and informal settlements. The public is increasingly concerned about inadequacies in county capacities for disaster management for emergencies and resultant risks and hazards. There is therefore need to build capacity for emergency preparedness, response and mitigation of impacts to human health and the environment.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

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- a) *Enhance implementation of policies and legal framework to effectively manage disaster risk and disasters in general.*
- b) *Ensure strategies for early warning and awareness on disasters are in place.*
- c) *Collaborate with local, national and international institutions on emergency and disaster response in controlling, responding and mitigation of emergencies occurring in the county.*
- d) *Involve and empower communities in disaster risk management and reduction.*
- e) *Develop a county risk- mapping framework for disaster preparedness and management*

Gender, Vulnerability and Environment

Gender plays an important role in the management of the environment. Different social groups and demographics are impacted differently by environmental challenges. They also play unique roles in managing the environment given their unique capabilities, experiences and knowledge relating to the environment. Access to and ownership of natural resources should be enhanced for all gender, people living with disabilities, marginalized and minority groups.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) Provide incentives to attract the under-represented gender and other vulnerable groups into environmental management careers, occupations and programs.
- b) Mainstream gender and equity in all sustainable development policies
- c) Empower the youths, women and people with disability in environment management.

3.1.3. Environmental Quality and Health

Environmental Health, Water and Sanitation

The Kenyan Constitution under article 42 makes access to a clean and healthy environment as a basic right. It further outlines duties with respect to the environment including amongst others sustainable use of natural resources, the desired tree cover amongst others. Environmental degradation through pollution of ecosystems results in a variety of air, water and vector-borne diseases that affect the quality of life in the County

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Incorporate Environmental Health Impact Analysis (EHIA) as a component of E.I.A for all development projects.*
- b) *Enhance the provision of occupational health and safety services.*
- c) *Ensure compliance with all environmental quality standards*
- d) *Ensure compliance with air quality standards by all sectors and strengthen monitoring and enforcement capacities.*
- e) *Improve the management and conservation of water supply sources.*
- f) *Promote technologies for efficient and safe water use, especially in respect to wastewater use and recycling.*
- g) *Enhance access to potable water*

Solid Waste Management

High population growth rate, increasing urbanization and changing patterns of production and consumption are responsible for the increasing daily waste generation.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Implementation of the County Solid Waste Management Policy*
- b) *Develop an integrated solid waste management strategy for the county.*
- c) *Develop laws, regulations and guidelines to regulate the solid waste sector*
- d) *Promote public private partnership and Public-Public Partnerships in the sector*
- e) *Undertake public awareness programs in the area of solid waste management*

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- f) *Identify, acquire and license waste transfer stations, and disposal facilities (engineered sanitary landfills).*
- g) *Promote waste reduction, segregation, reuse, recycling and recovery initiatives on a commercial scale*

Noise and Vibrations

Exposure to high levels of noise can result in significant adverse health impacts. Noise can result in hearing impairment and quite loud noise significantly interfere with communication. Commercial transportation and social activities within or close to residential areas also form an important category that include both noise from the activities themselves such as discos and that of associated machinery.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Undertake noise mapping within the urban areas*
- b) *Develop a County strategy and regulations on noise pollution.*
- c) *Strengthen capacity and infrastructure to monitor, enforce and regulate noise pollution in collaboration with NEMA and Security Agencies.*

Environmental Diseases

Illnesses and conditions caused by factors in the environment are collectively referred to as environmental diseases. Pesticides, chemicals, radiation, air pollution and water pollution are some of the manmade hazards that contribute to human illnesses. The likelihood of an individual developing a specific disease depends on the hazards present in their particular environment and their genetic susceptibility to a specific hazard. For example, X-ray technicians are at risk of radiation-induced illnesses whereas stone and coal miners are prone to lung diseases caused by inhalation of dust. Proper use of safeguards can prevent these and other environmental diseases. Providing public health services to deal with environmental hazards require a broad and fully integrated approach using tools ranging from regulation to health promotion, including strong public awareness and educational activities.

Strategic policy intervention

The County Government in collaboration with other relevant stakeholders will:

- a) Enact measures to protect the public against hazards from the natural environment, including climate-related health impacts and controlling vectors and organisms that can carry or transmit diseases to humans.
- b) Promote safe water for all through prevention and minimization of health risks related to water source, drinking water, recreational water, wastewater and water reuse.
- c) Maintain and build crucial environmental public health infrastructure and capacity to prepare for and respond to, and mitigate the effects of national, accidental and natural events.
- d) Promote continued research into evolving scientific methods such as bio-monitoring and their interplay with the environment and human health.
- e) Undertake public awareness so that citizens are better equipped to protect themselves from

3.1.4. Environmental Education and Research

Sustainable Environmental Management has scientific research, technology and innovation as of its key pillars. Environmental Research and monitoring helps to generate up to date high quality data which informs decision making. Whereas, Environmental education, both formal and informal, is vital to changing people's attitudes to/and care for the environment. This education is important to increase awareness, improve extension services, sensitize people on environmental issues and build institutional capacities.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) *Enhance integration of traditional knowledge in environmental planning and management in line with the County Environmental Information Management System (CEIMS)*

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- b) Support research and development programs and projects that transfer knowledge and technologies on environmental management and sustainable development.*
- c) Publish county environmental targets, county state of environment reports and County Environmental Action Plans (CEAPs)*
- d) Develop a Strategy on Environmental Education and Public Awareness*
- e) Encourage observance of environmental days and other engagement platforms including clean ups; green schools; and awards/recognition schemes for environmental champions*

3.1.5. Environmental Governance

Sustainable Environmental Management can only be achieved when all governance structures, legal and policy instruments as well as institutional capacity for enforcement are fully operational.

Strategic Policy Interventions

The County Government in Collaboration with relevant stakeholders shall:

- a) Develop a county bill and regulations to domesticate EMCA Act.*
- b) Provide adequate resources for environmental protection and management.*
- c) Establish mechanisms to work with state and non- state actors in matters environment including MDAs operating in the environment space including the National Environmental Management Authority (NEMA), Water Resources Authority (WRA), Water Towers Agency (WTA), Kenya Wildlife Service (KWS), Kenya Forest Service (KFS) and others. Local communities and private sector enterprises also have a contribution to make in environmental management*
- d) Undertake Human Resources Development and Capacity Building*
- e) Develop a collaborative framework for county, regional and national environmental institutions*

Chapter Four: Policy Implementation Framework

4.0. Introduction.

This chapter outlines the approach to policy implementation. It also outlines the key stakeholders and requisite institution framework for effective implementation of this policy through effective coordination of the three.

4.1. Institutional Framework

The multi-faceted nature of the environment and the need to integrate environmental considerations in all development planning and activities calls for cooperation and consultation among responsible government agencies and stakeholders at all levels. It is particularly important to recognize the existing institutional mechanisms and consider ways and means by which coordination and cooperation can be enhanced between the many institutions whose mandates relate to the environment.

Key County and National Level Actors:

- a) County Department responsible for Environment, Natural Resources, Water and Tourism.
A key mandate for this department is environmental management: conservation and protection of natural resources in the Bungoma County.
- b) County Department responsible for Agriculture
Climate Smart agricultural practices will enable sustainable use of land and conserve the environment
- c) County Department responsible for Energy
The departments' key mandate is promotion of sustainable green/ renewable energy within County residents
- d) *County Department responsible for matters of Public Service Management and Administration*
- e) *Municipalities*
- f) *County Environment Committee*

Key mandate is planning and oversight of all county environment matters

Regional Actors

g) Lake Region Economic Bloc

Constitutes 14 member counties: The Bloc seeks to promote trade development and investments among member counties, this will be a critical stakeholder the Bloc seeks to put up a waste recycling plant in one-member County.

It also promotes ecosystem management which is shared resources among member counties.

h) Lake Basin Development Authority

The authority is mandated to spur socio-economic development through sustainable utilization and conservation of natural resources in a coordinated approach within the region.

i) Lake Victoria North Water Works Development Agency

LVNWSB a key player in water and sewerage service provision through infrastructure development and protection of water resource.

Key National Level Actors

As Bungoma county develops economically and socially it will seek to collaborate with National Level Agencies with a mandate bearing on environmental management as follows:

j) National Environment Management Authority (NEMA) is the national regulatory agency coordinating with the decentralized entities. There are various committees on standards enforcement and action plans to support NEMA's performance in matters of environment quality standards and planning.

k) Kenya Forestry Research Institute

KEFRI is mandated to carry out research on forestry aspects and disseminate the same to the country and counties on best practices in forest management

l) Kenya Forest Services

Key mandate is conservation of the countries forest cover

m) Kenya Wildlife Services

KWS has a key mandate to conserve and protect the wildlife in national reserves and national parks.

n) Ministry of Environment and Forestry

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The Ministry's key mandate is policy formulation and coordination of all agencies in the Environment sector

o) Ministry of Water and Irrigation

The Ministry is mandated to coordinate all water sector agencies and formulate national policies

p) *Kenya Vision 2030*

The Social Pillar: that enables equitable social development in a clean environment

q) *Universities and Research Institutions*

None State Actors

r) CBOs, NGOs in the environment and natural resources and forestry space.

Key informal sector player

s) *Youth groups and Women groups*

None State Actors

t) *E- Waste Management*

With increased uptake of electronic devices and technology in the Country, we are facing a bigger challenge on the disposal of obsolete and broken devices.

Key informal sector player

u) *Youth groups and Women groups*

CHAPTER FIVE

Policy Monitoring and Evaluation, Reporting and Review

5.0. Introduction:

This chapter wraps up the policy with highlights on how to monitor, report and review the policy. It anchors the monitoring, reporting and review processes in the institutional frameworks outlined in chapter three.

5.1. Monitoring and Evaluation:

The Department responsible for matters of Environment will have the overall responsibility for the implementation of this policy. The County Executive Committee Member jointly with relevant sector representation will be responsible for ensuring the implementation is followed through. The implementation of the policy will comply with the national laws and regulations governing monitoring and evaluation at all times. To effectively ensure this happens, there shall be an integrated monitoring and evaluation system on Environment management in the county. A baseline will provide the foundation upon which progress of Environment Management shall be measured.

Environment Policy is an instrument for Environmental Management. It is among county government intervention policies responsible to correct Environmental mismanagement. Performance evaluation by the lead department and other relevant sectors will be carried out through Key Performance Indicators (KPI). The monitoring will also be both formative (taking place during the policy implementation period with the aim of improving the outcomes) and summative [drawing and implementing lessons from policy objectives already achieved (or not achieved)].

5.2. Reporting:

With regard to reporting, the Department of Environment and Tourism in Bungoma County shall develop a mechanism for recording and reporting Environmental Management activities in the county. Such a mechanism will focus on both domestic and foreign direct investors in the county. To ascertain how it is doing with regard to Environmental management, the county government shall institute a framework of standards in keeping with national and international standards.

5.3. Operationalization and Review of Policy:

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The Environment policy shall only be submitted to the County Assembly of Bungoma upon being approved by the County Executive Committee. It shall become operational as soon as it is passed by the County Assembly, published and publicized by the County Government of Bungoma. Such policy operationalization shall be undertaken through requisite relevant legislations.

Upon approval of the policy, the Department responsible for environment shall operationalize the policy

This policy is flexible and open to adjustments going forward. There shall therefore be a window to review and revise/update this policy once in every five years or when the need arises to ensure its relevance.

TERMINOLOGIES

"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.

"Bio-piracy" refers to the expropriation of biological resources without fair compensation or sharing of benefits.

"Bio-prospecting" refers to the exploration of biodiversity for commercially valuable genetic and biochemical resources and research.

"Catchment area" refers to the area drained by a river or body of water.

"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 for sustainable use.

"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 a program, activity or project will have any adverse impacts on the environment.

"Genetic resources" means genetic material of actual or potential value. "Land use" means activities carried out on a given piece of land.

"Invasive and alien species" means a species that is not an indigenous species, or an indigenous species translocated to a place outside its natural distribution range in nature.

"Multilateral Environmental Agreements (MEAs)" means international Legal instruments for the regulation of activities affecting the environment particularly wildlife resources to which Kenya is a Party.

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"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.

"Protected area" means an area declared to be a protected area under the applicable law.

"Risk" means the probability of a hazard turning into a disaster with households or communities being affected in such a manner that their lives and livelihoods are seriously disrupted beyond their capacity to cope or withstand using their own resources, with the result that the affected populations suffer serious widespread human, material, economic or environmental losses

"Species" means a population of individual organisms capable of mating with one another and producing fertile offspring in a natural setting and that share common and specialized characteristics from others.

"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 programs 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, fen, peat land, 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 six meters. It also incorporates riparian and coastal zones adjacent to the wetlands.

"Wildlife" means any wild and indigenous animal, plant, micro-organism, or parts thereof within their constituent habitat or ecosystem on land or in water as well as species that have been introduced into or established in Kenya.