



NYERI COUNTY WETLANDS AND RIPARIAN POLICY



2024

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FOREWORD

It is with great pride and a deep sense of responsibility that I present to you the Nyeri County Wetlands and Riparian Areas Policy. This policy is a significant step forward in our commitment to safeguarding our environment while enhancing the well-being of our residents.

The Constitution of Kenya 2010 has ushered in a transformative era of devolution, placing vital functions and responsibilities in the hands of County governments. Among these are critical areas such as agriculture, health, transport, trade, and county planning. Devolution has empowered us to address local needs more effectively and has enabled us to focus on the sustainable development of our natural resources.

Our wetlands and riparian areas are invaluable assets that play a central role in maintaining the ecological balance of our county. They provide essential services such as water purification, flood control, and habitat for diverse wildlife, while also supporting the livelihoods of many of our residents. However, these areas are increasingly under threat from urban migration, encroachment, climate change, and pollution.

In alignment with the National Environmental Policy 2013, which advocates for an integrated approach to environmental management, this policy aims to address the pressing challenges we face. It provides a comprehensive framework for managing our wetlands and riparian areas sustainably, ensuring that our natural resources are preserved and utilized in a manner that benefits both current and future generations.

This policy is not merely a set of guidelines; it is a commitment to action. It represents our collective resolve to balance environmental conservation with economic development, to protect our natural heritage while fostering growth and prosperity. By implementing these strategies, we will not only safeguard our ecosystems but also enhance the quality of life for our residents.

I urge the citizens of Nyeri County as well as our partners and stakeholders, to engage actively in this endeavor.

H.E MWALIMU MUTAHI KAHIGA, EGH

GOVERNOR, COUNTY GOVERNMENT OF NYERI

PREFACE

The natural environment and its resources in Nyeri County are invaluable assets, both nationally and locally. They provide essential benefits and opportunities that fuel our local economic development, enhance livelihoods, and offer crucial environmental goods and services. As we stand on the threshold of continued growth and development, it is imperative that we manage these resources sustainably, ensuring their preservation for both present and future generations.

However, the road to sustainability is fraught with challenges. Our county faces significant environmental degradation driven by high population growth, inappropriate technology, unsustainable consumption and production patterns, and the impacts of climate change. Urban environmental issues, including inadequate waste management and sanitation, as well as pollution from agriculture and chemicals, are also contributing to the decline in air, water, and soil quality. These problems undermine the very foundation upon which our sustainable development efforts are built.

In response to these pressing challenges, we present the Nyeri County Climate, Wetlands, and Riparian Policy. This policy outlines a broad set of measures and actions designed to address key environmental issues affecting our wetlands and riparian areas. It provides a framework for integrated planning and sustainable management of our natural resources, recognizing the vulnerability of these critical ecosystems.

Our approach is twofold: first, to embed sound environmental management practices within the policy framework, and second, to implement robust institutional and governance measures to support these objectives. This initiative, developed with the support of the Upper Tana Nairobi Water Fund and the Resource oriented Development Initiative (RODI) Kenya, represents a significant milestone. It aligns with the spirit of devolution by adapting national policies to meet local needs and conditions more effectively.

This policy is not just a document but a call to action. It reflects our commitment to creating a resilient and sustainable environment that supports the well-being of our communities. Let us embrace this opportunity to lead with vision and responsibility, ensuring that Nyeri County remains a model of effective environmental stewardship and sustainable development.

HON. FREDERICK KINYUA
COUNTY EXECUTIVE COMMITTEE MEMBER
WATER, ENVIRONMENT & CLIMATE CHANGE

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ACKNOWLEDGEMENT

The development of the Nyeri County Wetlands and Riparian Policy has been a collaborative endeavor, underscoring the importance of public participation as enshrined in the Constitution of Kenya 2010. Articles 61, 69(1)(d), and the Fourth Schedule Part 2(14) highlight the fundamental right of citizens to be involved in land management and environmental conservation, and the County Government's responsibility to facilitate this participation.

This policy has been crafted with a deep appreciation for the role of community involvement in shaping and implementing effective governance. Numerous forums and consultations have been held, thanks to the dedication of various stakeholders.

Special thanks are due to Kenya Wildlife Service's Mt. Kenya Regional Office, the Regional Conservator of Forests at the Kenya Forest Service's regional office, the National Environmental Management Authority (NEMA) Regional Office, and the Regional Water Resources Authority (WRA) for their expert guidance and support. My profound appreciation goes to Esther Bett and her team at the Resource Oriented Development Initiative Kenya (RODI) for their unwavering commitment. RODI's support in logistics, finances, and organizing meetings has been crucial. Their assistance facilitated numerous field visits and was instrumental in the overall process of policy development.

I also want to acknowledge the services of the Nyeri County Environment and Legal team. Their expertise in policy matters and their efforts in ensuring effective public participation at the County level were invaluable. To the forthcoming contributors, including the County Executive Committees and the County Assemblies, especially those involved in environmental and agricultural matters, your continued dedication to refining this policy document and incorporating public feedback is greatly appreciated. Your ongoing efforts to solicit additional views will enhance the policy's relevance and effectiveness.

I look forward to the final approval and adoption of this policy document, which will mark the beginning of its implementation phase. My sincere thanks to all who have contributed to this vital initiative. May your efforts be blessed, and may we continue to work together for the betterment of Nyeri County.

HON. FREDERICK KINYUA

CECM- WATER, ENVIRONMENT & CLIMATE CHANGE

County Wetlands and Riparian Policy

EXECUTIVE SUMMARY

Nyeri County, blessed with diverse wetlands and riparian zones, faces growing threats from urban expansion, agricultural activities, and climate change. These ecosystems are crucial for maintaining local biodiversity, water quality, and flood control. To address these challenges, the Nyeri County Wetlands and Riparian Policy has been developed to ensure their sustainable management and protection.

The primary aim of this policy is to harmonize ecological conservation with socio-economic development. By implementing clear guidelines, the policy seeks to preserve the benefits of wetlands and riparian areas for future generations.

Central to the policy is the conservation and protection of these vital areas. This involves identifying and classifying wetlands and riparian zones based on their ecological value and vulnerability. Strengthening legal frameworks will help prevent encroachment and pollution, while zoning regulations will guide land use in these sensitive regions. Restoration efforts will be promoted to rehabilitate degraded areas and enhance their ecological functions.

Sustainable management is another key focus. The policy advocates for Integrated Water Resource Management (IWRM) to ensure water use does not negatively impact these ecosystems. Engaging local communities through awareness campaigns and training is essential, as is offering economic incentives for sustainable practices such as eco-friendly farming and conservation-oriented tourism.

Monitoring and enforcement are critical components of the policy. A robust system will track the health of wetlands and riparian zones, with indicators like water quality and biodiversity. Effective enforcement mechanisms will address violations and promote transparency.

Supporting research and capacity building is also crucial. The policy encourages research to better understand and address the needs of wetlands and riparian ecosystems. Enhancing the skills of local authorities and stakeholders will strengthen management efforts.

Implementation of this policy will require a coordinated approach involving county agencies, local communities, and other stakeholders. Regular reviews will ensure that the policy adapts to new challenges and remains effective.

In conclusion, the Nyeri County Wetlands and Riparian Policy is a vital initiative for preserving the ecological and socio-economic benefits of these essential ecosystems. By adhering to this policy, Nyeri County can safeguard its natural resources, promote sustainable development, and improve the well-being of its residents.

ABBREVIATION AND ACRONYMS

AFFA	Agriculture, Food and Fisheries Authority
CECM	County Executive Committee Member
CGN	County Government of Nyeri
EMCA	Environmental Management and Coordination Act
EIA	Environmental Impact Assessment
KFS	Kenya Forest Services
KWS	Kenya Wildlife Services
NEMA	National Environmental Management Authority
RODI	Resource Oriented Development Initiative
SWOT	Strength, Weaknesses, Opportunities and Threats
Spp.	Species
UTNWF	Upper Tana Nairobi Water Fund
WRA	Water Resources Authority

DEFINITION OF TERMS

Agro ecosystem is the basic unit of study in agro ecology and is somewhat arbitrarily defined as a spatially and functionally coherent unit of agricultural activity and includes the living and nonliving components involved in that unit as well as their interactions

Ecosystem are all the plants and animals that live in a particular area together with the complex relationship that exists between them and their environment. The four ecosystem types are classifications known as artificial, terrestrial, lentic and lotic. Ecosystems are parts of biomes, which are climatic systems of life and organisms. In the biome's ecosystems, there are living and non-living environmental factors known as biotic and abiotic.

Ecosystem services are the many and varied benefits to humans provided by the natural environment and from healthy ecosystems. Such ecosystems include agro ecosystem, forest ecosystem, grassland ecosystem and aquatic ecosystem.

Fauna all the animal life present in a particular region or time. The corresponding term for plants is **Flora** which is all the plant life present in a particular region or time, generally the naturally occurring (indigenous) native plants.

A riparian zone or riparian area is the interface between land and a river or stream and lakes while wetlands refer to areas that are permanently, seasonally or occasionally waterlogged with fresh, saline, blackish or marine water including both natural and manmade areas that support characteristic plants and animals.

Wetlands are defined as areas of land that are permanently or occasionally water logged with fresh, saline, brackish, or marine waters, including both natural and man-made areas that support characteristic plants and animals.

CHAPTER ONE: BACKGROUND

1.1 Introduction

Nyeri County is one of Kenya's 47 counties and is located in the central region of the country and it covers a surface area of 3,337.2 km². It borders Laikipia County to the north, Kirinyaga County to the east, Murang'a County to the south, Nyandarua County to the west and Meru County to the northeast. It is situated between longitudes 36° 38" and 37° 20" East and between the equator and latitude 0° 38' South. The county has 8 Sub Counties and 30 wards.

The projected population in Nyeri County is 759,164 people (KNBS, 2019). The annual population growth rate stands at 2.2%. According to the CIDP 2018 – 2022, ages 10-14 represent 11.4%, while ages 75-79 comprise just 1% of the total population. Over 60% of the population is below 30 years. Additionally, the population density for Nyeri County was 280 people per Km² in 2009 and was projected to reach 342 people per Km² in 2018 rising up to 373 people per Km² by the year 2022 (CIDP 2018-2022).

Nyeri county lies between 3,076 meters and 5,199 meters above sea level and registers monthly mean temperature ranging from 12.8°C to 20.8°C. The main physical features of the county are Mount Kenya (5,199m) to the east and the Aberdare ranges (3,999m) to the west. The western part of the county is flat, whereas further southwards, the topography is characterized by steep ridges and valleys, with a few hills such as Karima, Nyeri and Tumutumu. These hills affect the pattern of rainfall, thus influencing the mode of agricultural production in some localized areas.

The county also has other isolated forested hills under the management of the County Government such as Karima and Tumutumu. Apart from being a source of traditional forest products such as timber, fuel, fodder, herbal medicine among others, these forests play vital roles which include; maintenance of water cycle, wildlife habitat and are also repository of a wide range of biodiversity. Since soil conditions in the county are almost similar, agricultural productivity is influenced by rainfall intensity and temperature conditions.

The county experiences equatorial rainfall due to its location within the highland zone of Kenya. The long rains occur from March to May while the short rains come in October to December, but

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occasionally this pattern is disrupted by abrupt and adverse changes in climatic conditions. The annual rainfall ranges between 1,200mm-1,600mm during the long rains and 500mm-1,500mm during the short rains. In terms of altitude, the county lies between 3,076 meters and 5,199 meters above sea level and registers monthly mean temperature ranging from 12.8°C to 20.8°C.

The county has a total area of 987.5 Km² and 758.5 Km² of arable and non-arable land respectively. The larger part of the land is used for food crop while the rest is used for cash crop farming, livestock rearing and farm forestry. The gazetted forest cover 26% of the county land surface while the county and national governments own a few tracks of land where offices and social facilities and infrastructure are located.

There are 49 permanent rivers in the county. Surface water consists of permanent rivers such as Nanyuki, Burguret, Naromoru, Thegu, EwasoNyiro, Karemeno, Rwarai, Gikira, Thuti, Kururu, Muthira, Sagana, Nairobi, Chania, Gura, Honi and Ragati among others. The major challenge is the high seasonal fluctuations between low and high river flows due to inadequate conservation and protection of water catchment areas especially in Mt. Kenya and the Aberdare ranges. The main catchment areas for these rivers are the two water towers i.e. Aberdare Ranges and Mount Kenya. The county has two forest ecosystems, namely Aberdare and Mt. Kenya.

The County is also endowed with several wetlands. Recognizing that riparian areas and wetlands play a critical role in providing vital ecosystem services for humans in terms of the provision of water, regulation of biogeochemical cycles and mitigation of climate change, there is need for special attention to be paid in conservation efforts.

Wetlands include swamps, springs, dams, rivers, lakes, deltas, estuaries, mangroves among others. There is currently little awareness on the role of various sectors in the County and communities on sustainable use of wetlands and riparian areas and specifically for socio economic development within the context of devolution dispensation. There are a number of activities that interfere with sustainable use of these riparian and wetlands areas. These have been observed to include encroachment, siltation, overgrazing, cultivation, wild fires, planting of non-friendly trees/vegetation, quarrying and sand harvesting, pollution/dumping from farm chemicals, wildlife-human conflicts, poaching and uncontrolled utilization among others. There

is a lot that still remains unknown that hinders concern of the users towards conservation involvement that includes ownership status, presence or lack of hidden treasures within the ecosystems and suitability of the natural or introduced vegetation species on ecosystems. The value of ecosystem services and extent of the underlying geological features also remain unknown.

1.2 Justification and Rationale

An analysis of the wetlands and riparian areas sub-sector in the County indicated not only environmental governance/ management challenges but also rehabilitation and restoration of environmental degradation related issues, waste management and pollution and need for mitigation against economic disaster and the urgent need for public awareness, information and data concerns.

To address these challenges, Nyeri County has developed a policy that:

- i. Establishes guidelines and regulations for land use and development in and around these areas to minimize negative impacts.
- ii. Fosters collaboration among stakeholders, including government agencies, NGOs, local communities, and private landowners, to achieve common conservation goals.
- iii. Promotes the sustainable use of natural resources like fisheries and timber, while ensuring long-term ecosystem health.
- iv. Promotes the rehabilitation of degraded wetlands and riparian areas to restore their ecological functions and services.
- v. Recognizes the cultural significance of wetlands and riparian zones for indigenous communities and provides educational opportunities about their importance.

1.3 The scope of the policy

This policy shall cover the mandate of the County government on the core subject of wetlands and riparian zones and their sustainable management. The aim shall be to return the wetlands

and riparian ecosystem close to its original natural state as much as possible for purposes of bequeathing them for future generations.

CHAPTER TWO: SITUATION ANALYSIS

2.0: Introduction

Nyeri County is characterized by diverse ecological zones, including significant wetlands and riparian areas. These ecosystems play a crucial role in maintaining biodiversity, regulating water cycles, and supporting local communities through various socio-economic activities including irrigation, fishing, and local tourism.

The wetlands are unevenly distributed within Nyeri County with the majority of wetlands found in Mathira and Mukurweini. Some of the Wetlands in Nyeri County includes; Githwariga swamp in Nyeri Central, Kiamwangi Swamp in Mathira East, Hohwe Swamp in Mathira West, Wandumbi Dam in Tetu, Gitwe Swamp in Kieni East, Kabuta Swamp in Mukurweini, Chinga swamp in Othaya and Joshua swamp in Kieni West.

SUB COUNTY	WARD	NAME OF WETLAND	TYPE OF WETLAND
Nyeri Central	Ruring'u	Kwa Nderi I	Water pan
	Ruring'u	Kwa Nderi II	Water pan
	Ruring'u	Kwa Nderi III	Water pan
	Ruring'u	Kiunyu Dam	Small Dam
	Ruring'u	Ithenguri Dam	Small Dam
	Rware	Afunjuki-Githwariga swamp	Swamp
	Kiganjo Mathari	Njengu Dam	Small Dam
Mathira East	Iriaini ward	Kiamwangi swamp	Swamp
	Karatina Ward	Muthua swamp	Swamp
	Karatina Ward	Tegu	Swamp
	Iriaini ward	Itoga	Swamp
	Magutu ward	Nyanyaga	Swamp
	Magutu ward	Karura	Swamp
	Iriaini Ward	Gichiche	Swamp
	Karatina ward	Gachiura	Swamp
	Konyu ward	Gathima	Swamp
	Konyu ward	Mutui-Matumaini	Swamp
	Karatina ward	Rwatheini	Swamp
	Magutu ward	Mungi	Swamp
	Magutu Ward	Kiang'era	Swamp
	Kirimukuyu ward	Tegu Wetland	Swamp
Mathira West	Kirimukuyu ward	Hohwe Wetland	Swamp
	Kirimukuyu ward	Karie Wetland	Swamp
	Kirimukuyu ward	Kanjata Spring	Spring

	Ruguru ward	Hiriga Wetland	Dam
	Ruguru ward	Hombe Wetland	Dam
	Kirimukuyu	Ruthagati Wetland	Dam
	Ruguru	Iruri Wetland	Dam
Tetu	Wamagana	Wadumbi Dam	Small Dam
	Wamagana	Karangia	Small Dam
	Dedan Kimathi	Gathathiini dam	Small Dam
	Aguthi-Gaaki	Riithoi-ni Spring	Spring
	Wamagana	Gachie Spring	Spring
	Wamagana	Hathia Spring	Spring
	Wamagana	Kariomba Spring	Spring
Kieni East	Thegu	Mirera swamp	Swamp
	Kabaru	Kamuyu	Swamp
	Gakawa	Gitwe	Swamp
	Thegu	Kandune	Swamp
	Kabaru	Gwa Kiruki	Swamp
	Thegu	Gakurwa	Spring
	Kabaru	Gathagana	Spring
	Kabaru	Warazo Kamunyu Dam	Dam
	Thegu	Warazo swamp	Swamp
	Kabaru	Githigu Spring	Spring
	Kabaru	Maina Mweri	Spring
	Thegu	Miandaini	Swamp
	Kabaru	Little Mere Spring	Spring
	Thegu	Ngukura	Spring
	Naromoru/Kiamathaga	Inasia	Swamp
	Thegu	Lusoi	Swamp
	Naromoru Kiamathaga	Msafiri Dam	Small Dam
	Gakawa	Acacia	Swamp
	Kabaru	Kimahuri Spring	Spring
	Naromoru Kiamathaga	Kinoria Spring	Spring
	Naromoru Kiamathaga	Kiguongo Spring	Spring
Mukurweini	Rugi ward, Gathuitu location	Karura wetland	Swamp
	Rugi Ward, Gathuitu location	Gathera wetland	Swamp
	Rugi ward, Giathugu location	Kamuma wetland	Swamp
	Gikondi Ward, Gikondi location	Ithethuoigi wetland	Swamp

	Rugi Ward, Giathugu location	Gacai Ceremia	Swamp
	Rugi Ward, Vutune location	Kabuta Wetland	Swamp
	Rugi ward, Thanu location	Karenywa wetland	Swamp
	Rugi ward, Thanu location	Kaingore wetland	Swamp
	Rugi Ward, Thanu location	Gatumiro wetland	Swamp
	Rugi Ward, Thanu location	Kainangone wetland	Swamp
	Rugi Ward, Thanu location	Kagutu wetland	Swamp
	Rugi Ward, Thanu location	Mbuiiri wetland	Swamp
	Rugi Ward, Thanu location	Kagutu wetland	Swamp
	Rugi Ward, Thanu location	Mbuiiri wetland	Swamp
	Rugi ward, Giathugu location	Kianyambamba wetland	Swamp
	Rugi ward, Giathugu location	Kamindi wetland	Swamp
	Gikondi ward, Gikondi location	Kabucho wetland	Swamp
	Gikondi ward, Gikondi location	Ithemugi water pan	Water pan
	Rugi ward, Rugi location	Kabute Water Pan	Water Pan
	Mukurweini Central	Ichamara dam	Small Dam
	Mukurweini west	Kaheho Water Pan	Water pan
Othaya	Chinga ward	Chinga Dam	Large Dam
	Karima ward	Kamoini wetland	Swamp
	Iriaini ward	Mugumuoini wetland	Swamp
	Chinga ward	Chinga Dam	Large Dam
	Karima ward	Kamoini wetland	Swamp
	Iriaini ward	Mugumuoini wetland	Swamp
	Chinga ward	Chinga Wetland	Swamp
Kieni West	Endarasha/Mwiyogo	Satima Dam	Small Dam

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	Endarasha/Mwiyogo	Ex Willies Dam	Small Dam
	Endarasha/Mwiyogo	Laburra Twin Dam	Small Dam
	Endarasha/Mwiyogo	Mweiga General Dam	Small Dam
	Endarasha/Mwiyogo	Mahiga (Kimita) Dam	Small Dam
	Endarasha/Mwiyogo	Mahiga B (Mutongu) Dam	Small Dam
	Endarasha/Mwiyogo	Muturanguru Dam	Small Dam
	Endarasha/Mwiyogo	Kinyaiti Dam	Small Dam
	Endarasha/Mwiyogo	Mairo Dam	Small Dam
	Endarasha/Mwiyogo	Muthuini Dam	Small Dam
	Endarasha/Mwiyogo	Kiburuti Dam	Small Dam
	Endarasha/Mwiyogo	Munanda Dam	Small Dam
	Gatarakwa	Joshua Dam	Small Dam
	Gatarakwa	Kiria Dam	Small Dam
	Gatarakwa	Birisha 1 Dam	Small Dam
	Mugunda	Githura Dam	Small Dam
	Mugunda	Kienjero Dam	Small Dam
	Mugunda	Karuthingitu	Small Dam
	Mugunda	Kabati Dam	Small Dam
	Mugunda	Tanyai Dam	Small Dam
	Mweiga	Samaki Dam	Small Dam
	Mweiga	Njengu Dam	Small Dam
	Mweiga	Kiguru Dam	Small Dam
	Mweiga	Ruhotie (Muturi) Pan	Water Pan

Table 1: Wetlands in Nyeri County (Directorate of Water, CGN 2020)

Nyeri County wetlands and riparian zones hosts a variety of animals and plants notably flora including napier, bamboos, reeds and various aquatic plants while numerous fauna includes; fish, amphibians, numerous bird species. Over time, local communities depend on wetlands and riparian zones for water, food, and materials. Majority of activities undertaken in the wetlands and riparian zones contribute to the economy and highlight the importance of sustainable management practices. Land use practices including agriculture, urbanization, and industrial development, impact these ecosystems. Sustainable land use planning is critical to balance development and conservation.

Threats and Challenges

The County faces a number of challenges with regard to wetlands and riparian zones conservation and management. The main challenges include:

Lack of a policy framework: There are no legal regulatory frameworks at the County that compel rehabilitation of degraded wetlands and riparian areas in some instances which have huge riparian areas that are encroached other than what is under the national Environmental Management and Coordination Act 1999. The public does not feel obliged to initiate conservation efforts while the county lacks adequate resources for this work.

Mapping, Survey and Boundary Establishment: In Nyeri County, majority of wetlands remain unmapped with boundaries that are not well defined, which can be attributed to inadequate financial, human, and infrastructural resources. This leads to a hindrance in their protection and challenges such as degradation, encroachment, pollution, conflicts over land use among others.

Encroachment: Wetlands and riparian zones encroachment in Nyeri County amounts to conversion and eventual degradation, due to human activities such as agriculture, conversion of wetlands for commercial or residential developments, and illegal activities such as logging.

Overexploitation: Wetlands and riparian areas in Nyeri County are subject to overexploitation including unregulated agricultural activities, over abstraction of water and logging/ clearance of vegetation around wetlands. There is absence of abstraction permits for some water projects/ resources in the county, especially those implemented before devolution. Unsustainable drilling of boreholes has also resulted to a growing number of impervious surfaces.

Land use changes: Land use changes in Nyeri County involve conversion of natural habitats including wetlands and riparian zones for residential or commercial developments and agricultural purposes.

Pollution: Pollution of wetlands and riparian areas is a critical issue that threatens both ecosystem health and human well-being. The major sources of pollution in wetlands and on riparian zones in Nyeri County include effluent discharge from factories, car washes and other pollution points, waste water from domestic uses, solid waste disposal and agricultural runoff.

Climate Change: Adverse climate impacts such as droughts, soil erosion, extreme temperatures, landslides, and floods disrupt the ecological balance and increase their vulnerability.

Enforcement and Compliance: Challenges in policy implementation include insufficient funding, inadequate awareness, and weak enforcement mechanisms. Strengthening these areas is essential for effective conservation.

Inadequate resource allocation: Effective conservation of riparian zones and wetlands requires adequate financial, human, and infrastructural resources. In Nyeri County, the allocation of these resources has been insufficient due competing priorities, impacting the ability to protect and manage these critical ecosystems

Lack of coordination: Various lead agencies and departments are mandated with different components in conservation and management of wetlands such as National Environment Management Authority (NEMA), Water Resource Authority (WRA), Water Resources Users Associations (WRUAS) and Agriculture. However, inadequate coordination among these entities

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has been a significant barrier to the successful conservation and sustainable management of these critical ecosystems. Further this poses challenges such as weak enforcement mechanisms and inadequate resource allocation especially in conservation efforts and awareness creation.

Inadequate awareness: Inadequate awareness poses a significant challenge wetlands and riparian lands management on different aspects. Communities lack sufficient knowledge on the ecological, and economic benefits of these ecosystems. This poses a major threat in the efforts to conservation. Moreover, it results to adverse consequences such as encroachment and unsustainable land use practices in these wetlands as there lacks a sense of ownership.

Nyeri County has local regulations and initiatives aimed at conserving wetlands and riparian zones. These include community-based conservation programs, County Greening program and land use planning regulations. Additionally, various government bodies, including the National Environment Management Authority (NEMA) and the Water Resources Authority (WRA), play crucial roles in managing and protecting these ecosystems. Moreover, Non-Governmental Organizations (NGOs) such as Upper Tana Nairobi Water Fund, Flora, Green Development Initiative and Fauna and the Green Belt Movement, RODI Kenya, PELUM, Caritas, among others are actively involved in conservation efforts, focusing on advocacy, education, and community engagement.

Local community organizations participate in conservation activities including Foster Green, Go Green Hub, Ushindi CBO, Forest Edge and Birthday Trees among others through collaborative management approaches and eco-friendly livelihood projects.

These efforts have shown varying degrees of success but require scaling up and sustained support. Businesses, particularly in agriculture and tourism, impact wetlands and riparian zones. Engaging the private sector in sustainable practices is vital for long-term conservation. Adopting best practices from other regions, such as integrated water resources management (IWRM) and community-led conservation models, can enhance local efforts. Strengthening policy frameworks, increasing funding for conservation, and enhancing enforcement mechanisms are crucial. Promoting public awareness and stakeholder engagement is also essential. Empowering local communities through education, capacity building, and involvement in decision-making processes ensures sustainable conservation efforts.

CHAPTER THREE: LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Legal and institutional framework

In order to achieve the objectives of this policy, the County government will be guided by both existing National and County-based legislations already in place. Where no legislation is in existence at the County level effort shall be made to streamline the existing National legislation and/or policy to be applicable at the County level. The County Government shall initiate collaborative efforts with relevant stakeholders and partners and develop modalities for achieving sustainable wetland and riparian management systems. Some among the existing legislations and policies reviewed on wetlands and riparian areas management herein are:

3.1.1 Constitution of Kenya, 2010

The Constitution of Kenya 2010 has elevated the right to a clean and healthy environment for all to a fundamental right in the Bill of Rights. It also bestows the respect to the environment as a national heritage and recommends sustaining it for the benefit of future generations. Matters environment are further interspersed in the Constitution 2010 in Article 10 (2) (d) on sustainable development, Article 42 on the right to a clean and healthy environment and Chapter 5 on Land and Environment. Article 69 specifically provides the obligations of the state and all persons with respect to the environment.

3.1.2 Environmental Management and Coordination Act 1999

The National Environmental Management Authority (NEMA) is established under the Environmental Management and Coordination Act (EMCA), cap 387 to coordinate and supervise environmental matters and is the principal instrument of government in the implementation of all Environmental policies. According to section 58, the Act provides that all projects, programs, plans and policies shall require Environmental Impact Assessment before commencement. NEMA does not issue EIA licenses for developments or activities to be undertaken within the riparian reserve. The riparian reserve is set as a minimum of six (6) Meters to a maximum of 30 meters or 30 Meters from the highest water mark as per the Environmental Management and Coordination (Wetlands, Riverbanks, Lakeshores and Seashores) Management Regulations, 2009).

3.1.3 Water Act, 2016

The water Act, 2016 prescribes activities that are in conflict with sustainable water resource usage. These activities remain the mandate of water Resource Authority (WRA) which regulates the management and use of water resources in section 38 and section 42 of the water Act 2016. This includes unauthorized construction and use of works and payment of water user charges. The Act provides that building of permanent structures shall not be done within a minimum of six meters or equal to the full width of the water course up to a minimum of thirty meters on either side of the banks.

3.1.4 Agriculture Act 1963

The Agriculture Act, cap 318, provided that any person who except with the written permission of an authorized officer, cultivates or destroys the soil or cuts down any vegetation or depastures any livestock, on any land lying within 2 meters of a water courses, or, in the case of a watercourse more than two meters wide, within a distance equal to the width of that water course to a maximum of thirty meters shall be guilty of an offence. Subsequently among the objectives of Farm forestry rules (2009) in the orders to establish 10% tree cover on farm lands and areas prone to environmental degradation is to promote the establishment and sustainable management of farm forestry for protecting riverbanks, shorelines, riparian and wetland areas. The act also empowered the Cabinet Secretary to make orders in relation to preservation of soil and its fertility.

3.1.5 Physical and Land Use Planning Act, 2019

Both the above Acts provide that during the submission or subdivision plans for consideration for approval, reserves provided along any river, stream or watercourse shall not be less than 10 meters wide, on each bank. This applies except in areas where there is established flooding.

3.1.6 Forest Conservation and Management Act, 2016

The Act requires that all indigenous forests and woodland shall be managed on a sustainable basis for purposes of conservation of soil, water and biodiversity, riparian and shoreline protection.

3.1.7 Kenya Wildlife Conservation and Management Act, 2015

The Act classifies protected wetlands under section 33(3) of the Act (1) wetlands declared as such by the Cabinet Secretary under section 33 (1) and provides for restricted activities on said wetlands.

3.1.8 The Climate Change Act, 2016

The Climate change Act, 2016 provides that a County government shall in performance of its functions integrate and mainstream climate change actions, interventions and duties set out in the Act and the National climate change action plan into its various sectors. The Act further mandates a County government to enact legislation that further defines implementation of its obligation under the climate change Act or other climate change functions relevant to the County or such other related purposes.

3.1.9 Environmental management coordination (water quality) Regulations, 2006

The Regulations restrict cultivation or development activities within full width of a river or stream to a minimum of six meters and a maximum of thirty meters on either side on the highest recorded flood level while the EMCA 1999 (Water Quality) Regulations uses the highest ever recorded flood level which may not necessarily be the top edge of a river.

3.1.10 The Environmental Management and Coordination Reg. 2009 (legal notice No. 19)

The Act outlines the following principles on management and conservation of riverbanks and they also provide guidelines on identification and inventory of degraded riverbanks and conservation measures. The Regulations further identifies riverbanks which are at risk from environmental degradation.

3.1.11 The National Wetlands Conservation and Management Policy 2013

The National Wetlands Conservation and Management Policy seeks to secure and ensure the benefits of wetlands for posterity. It also aims at providing a framework for mitigating the diverse challenges that affect wetlands conservation and wise use in Kenya. Adoption of the policy fulfils Kenya's obligations under the Ramsar Convention and other relevant Multilateral Environmental Agreements and provides the framework for tackling wetland threats.

3.1.12 The Physical and Land Use Planning (Development Permission and control) (General) Regulations, 2021

These regulations provide for the utilization, management and measurement of the extent of riparian reserves.

3.1.13 The National Water Policy, 2021

The policy provides for promotion of an inclusive and integrated approach to the management of water resources by ensuring measures are put in place for water management planning, water quality management, catchment protection and conservation, the development and application of appropriate technology, and monitoring and information systems. It also provides for promotion of sustainable utilization of water resources.

3.1.14 The Nyeri County Forest Conservation and Management Act

The Act establishes the legal and regulatory framework for the conservation and management of forests in Nyeri County and further provides for measures towards securing and sustaining progressive realization of the human right to a clean and sustainable environment.

3.1.15 The Nyeri County Environment Management Act

The Act provides for the management of the environment including, control of air pollution, noise pollution and general nuisance in order to promote a clean, safe and healthy environment.

3.1.16 The Nyeri County Climate Change Act and Regulations

The Act and Regulations provide for the framework and mechanisms for mobilization and facilitation of the county government, communities and other stakeholders to respond effectively to climate change through appropriate adaptation and mitigation measures and actions.

CHAPTER FOUR: POLICY OBJECTIVES AND STRATEGIES

4.1 Goal of the Policy

The goal of this County Wetlands and Riparian Areas Conservation Policy is to ensure wise use and sustainable management of wetlands and riparian areas in order to enhance sustenance of their ecological and socio-economic functions for the present and future generations within the County.

4.2 Aim

Ensure participatory conservation of wetlands and riparian lands for the benefit of all.

4.3 Vision

Thriving County Wetlands and Riparian Areas: Sustainable Ecosystems for Future Generations

4.4 Mission

Promoting the Preservation and Sustainable Management of Nyeri County Wetlands and Riparian Areas

4.5 Objectives of the policy

The policy objectives are:

To establish an effective and efficient institutional, strategic, policy and legal framework on wetland and riparian areas management within the County

To promote innovative planning and integrated management approaches in wetlands and riparian management

To enhance monitoring in conservation and management of wetlands

To strengthen research, and scientific information and knowledge base

To promote communication, education and public awareness and

To promote resource mobilization, partnership and cooperation at the County

4.6 Guiding principles

Wise use: Due to the significant contribution of wetlands to the health and well-being of Kenyans, wetlands should be integrated into national economic planning for sustainable development, wealth creation and environmental management

Precautionary principle: Where information is inadequate for decision making, the precautionary principle will apply. Lack of full scientific information should not prevent implementation of measures to minimize/ manage wetland degradation

Collaborative and participatory approach: An integrated approach to wetland conservation and management should involve stakeholders at all levels including; government, local community, civil society and the private sector.

The global dimension: the global dimension of environmental impacts of actions and policies should be recognized and considered

Polluter pays principle: Persons who pollute wetland environments should meet the cost of cleaning them up, and also meet the cost of the pollution to resource users.

Objective 1: To establish an effective and efficient institutional and legal framework on wetland and riparian areas management within the County;

Strategies

- i. Implement the National legal framework on conservation and utilization of wetlands and riparian areas;
- ii. Strengthen institutional capacity within the county;
- iii. Integrate wetland and riparian land conservation measures into land use planning processes.

Objective 2: To promote innovative planning and integrated management approaches,

Strategies

- i. Develop and implement appropriate technologies, innovations and management practices;
- ii. Advocate for joint inter county conservation practices
- iii. Promote benefit sharing of proceeds of resources management with communities.

Objective 3: To enhance monitoring in conservation and management of wetlands.

- i. Promote an integrated and participatory monitoring system
- ii. Support the implementation of monitoring systems

Objective 4: Strengthen research and scientific information and knowledge base.

- i. Enhance knowledge-based systems and information sharing,
- ii. Promote collaboration in research and information sharing.

Objective 5: To promote public awareness and education on wetland and riparian management

- i. Implement the county framework policy of on public participation and civic education.
- ii. Implement the county communication strategy
- iii. Develop and implement education and training framework

Objective 6: To promote resource mobilization, partnership and cooperation at the County.

- i. Enhance collaboration in resource mobilization.
- ii. Lobby for resource allocation for wetland management
- iii. Strengthen resource mobilization capacity

Objective 7: To enhance and maintain social and economic functions and values derived from wetlands and riparian areas

- i. Support enforcement of relevant regulations and laws related to environmental pollution.
- ii. Create awareness through public education on the importance of wetlands and riparian areas and the effects of pollution, for their sustainable use

CHAPTER FIVE: MONITORING, EVALUATION, ACCOUNTABILITY AND LEARNING

5.0: Introduction

The MEAL system adopted for this policy will be designed to provide feedback to stakeholders to ensure accountability and transparency. It will also facilitate appropriate decisions on future implementation and review of the policy to ensure that the input delivery, work schedules and target outputs are progressing according to the plan. The effectiveness of the policy implementation will be tracked through the following:

- a. Regular review and assessment of the objectives and strategic interventions
- b. Analysis of routine and survey data and share with stakeholders

5.1: Monitoring and Evaluation Plan

This policy will be implemented through the five-year strategic plan. The MEAL system adopted for this policy will be designed to provide feedback to stakeholders to ensure accountability, transparency, facilitate appropriate decisions on future implementation and review of the policy to ensure that the input delivery, work schedules and target outputs are progressing according to the plan.

The County Government undertakes to periodically carry out MEAL activities at the various phases. This policy makes provisions for establishment of effective monitoring, evaluation, research, learning and application to all programmes. This policy stresses effective MEAL to ensure sustainable, transparency, accountability and professionalism at all levels. The MEAL will also include:

- a) Regular review and assessment of the goals and strategic interventions.
- b) Dissemination of quarterly reports

CHAPTER SIX: POLICY REVIEW AND IMPLEMENTATION

6.1 Policy Review

This policy will be reviewed every three (3) years or as need arises and its implementation monitored systematically due to the dynamism.

6.2 Policy Implementation

The Department responsible for environment shall oversee the overall implementation of this policy on wetlands and riparian lands management. The department shall ensure requisite resource mobilization, coordinate and involve stakeholders, coordinate monitoring, evaluation and impact assessment. The department shall ensure establishment of an effective institutional framework for collaboration covering all stakeholders in implementation of the strategic environmental engagement activities as enshrined in the policy. The policy shall be implemented through an implementation plan detailing strategy, target area, performance indicators, responsibility holders, time lines and resource requirements both financial and non-financial.

6.2.1 Implementation partners

In implementation of this policy a number of institutions shall be mobilized to play crucial role in regulation and/or conservation efforts. Among them are

- The County Government
- The Kenya Forest Services
- The Water Resources Authority
- The Kenya Rural Roads Authority
- The National Environmental Management Authority
- Agriculture and Foods Authority (AFFA)
- Other civil society organizations and beneficiaries

6.2.2 Resource mobilization and financing

Resources and support required for implementation of this policy shall be mobilized from both the county government and private sector players with the objective of building human and physical capabilities of sector actors and other necessary related sectors of the County's economy. The policy implementation mechanism will be operationalized through annual action plans

detailing: policy priorities, key actions, indicators, timelines, responsibility, and estimated budgets.

IMPLEMENTATION MATRIX

Objectives	Strategies	Activities	Indicators	Actors
To establish an effective and efficient institutional and legal framework on wetland and riparian areas management within the County;	i. To implement the National legal framework on conservation and utilization of wetlands and riparian areas;	Allocate a budget for formulation of the county framework Develop a county framework specific to the County's needs Conduct sensitization fora Mapping of stakeholders Enforce the County framework Establish monitoring programs to assess the effectiveness of the County framework	County framework on wetland conservation developed No of sensitization fora held Report on stakeholder mapping Approved budget M&E tools developed	Department WIECC County Executive Committee County Assembly Office of the County Attorney Members of the public Stakeholders involved on matters environment protection of the environment County Enforcement officers
	To Strengthen institutional capacity	Conduct a needs assessment Develop an action plan Lobby for allocation of funds with the County assembly Lobby with the CPSB for recruitment Conduct trainings to address identified gaps	Needs assessment report Developed action plan Approved budget No of officers recruited No of trainings conducted	Department WECC County Executive Committee County Assembly Stakeholders involved on matters environment protection of the Department Stakeholders M&E unit Office of the County Attorney County Assembly Department of LHPPU & CPSB

County Wetlands and Riparian Policy

To promote innovative planning and integrated management approaches,	Develop and implement appropriate technologies, innovations and management practices	Identify and document technological gaps Develop appropriate innovations/ technologies Develop an accessible robust database	No of technological gaps identified no. of appropriate innovations/ technologies developed Operational database developed	Dept WECC, Dept of Lands, Agriculture, NEMA, WRA, WSPs, KFS,
	Advocate for joint inter county conservation practices	Establish boundaries through demarcations, geological surveys and mapping Enter into MoUs with relevant MDAs Conduct Joint wetlands and riparian conservation Conduct Awareness creation on equitable distribution of resources	Wetlands /Riparians mapped No. of MoUs signed Conservation Reports No. of reports Attendance sheets	Department of Lands, NEMA, WRA, Agriculture, KFS, Directorate of Public Participation & Civic Education (PP&CE)

	Promote benefit sharing of proceeds of resources with communities	Promote nature-based initiatives Awareness creation on the values of Wetlands and Riparian Lands Identify & Support environmental-friendly livelihoods	No. of nature-based initiatives promoted No. of reports Attendance sheets No. of livelihoods supported	Department of WECC KFS, Directorate of Tourism, Directorate of PP&CE, WRUAs, WRA Private partners
	Enhance wetland and riparian land conservation measures into land use planning	Conduct comprehensive mapping and assessment of wetlands within the planning areas Engage stakeholders in wetland management Establish monitoring programs	Report on wetland and riparian lands mapped No of wetlands identified No of stakeholder engagement fora conducted No of M&E programs established	Department WECC WRA NEMA M&E unit Office of the County Attorney County Assembly Department of LHPPU

To enhance monitoring in conservation and management of wetlands.	Promote integrated and participatory monitoring systems	Develop a participatory monitoring plan Develop monitoring tools Procurement of GIS and remote-sensing equipment. Training technical staff on utilization of monitoring systems. Sensitization of community members on monitoring systems	A developed participatory monitoring plan Number of monitoring tools developed Number of GIS and remote sensing equipment procured Number technical staff trained Number of sensitization forums conducted	Department of FEP & ICT, Department of WECC Department of LHPPUD
	Support the implementation of monitoring system	Conduct baseline assessment on wetland and riparian land management. Conduct periodic monitoring exercises Conduct periodical participatory review meetings on implementation of the monitoring plan	Baseline assessment conducted Number of monitoring exercises conducted Number of review meetings conducted	Department of FEP & ICT, Department of WECC Department of LHPPUD

Strengthen scientific research and knowledge management.	Enhance knowledge-based systems and information sharing,	Conduct forums for indigenous knowledge sharing in wetland management. Establish and update resource centers. Conduct symposiums for information sharing.	Number of forums conducted Number of resource centers established. Number of symposiums conducted	Department of FEP & ICT, Department of WECC Department of LHPPUD
To promote resource mobilization, partnership and cooperation	Enhance collaboration in resource mobilization	Conduct a needs analysis Mapping of stakeholders Conduct stakeholder engagement fora Prepare proposals Develop a framework on PPPs on wetland management Implement the PPPs framework	Needs analysis report No of stakeholder engagement fora held No of proposals prepared PPPs framework developed Report on the implementation status of the PPPs framework	Department WECC Stakeholders County Executive Committee County Assembly

	Strengthen resource mobilization capacity	establish a resource mobilization unit Develop a resource mobilization strategy Lobby with the CPSB on recruitment for the unit Lobby with the County Assembly on allocation Conduct trainings on resource mobilization	Resource mobilization unit established . Resource mobilization strategy developed No of officers recruited ·Approved budget No of trainings conducted Mobilized resources	Department WECC County Assembly County Executive Committee Stakeholders
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WAY FORWARD- POLICY FINALIZATION

1. Public participation fora
2. County Executive- cabinet presentation forum; approval
3. Submission to County Assembly
4. Adopting of the Policy, publishing

WAY FORWARD- ACTIVITIES

1. County Assembly sensitization, workshop
2. Workplan and budgets (implementation matrix)
3. Sell environmental initiatives to the assembly
4. Lobby for staff recruitment- resource mobilization unit, extension officers
5. Training of champions at grassroot levels
6. Utilize social media to spread awareness
7. Create and share poster on dam liners