



GOVERNMENT OF MAKUENI COUNTY

MAKUENI AGROECOLOGY POLICY

MARCH 20, 2025 (DRAFT ONE)

FOREWORD

The County Government of Makueni is committed to building a resilient economy for sustainable development, as outlined in the County Integrated Development Plan (CIDP) 2023-2027. One of the key aspirations is to achieve food and nutrition security, ensuring a healthy and prosperous community with inclusive and sustainable livelihoods for long-term socio-economic development.

Despite these commitments, the rising population and growing vulnerability to the impacts of climate change have worsened food provisioning challenges. Additionally, economic shocks and disruptions have further eroded the capacity of food systems to sustainably nourish people, as many of them are still facing hunger. The current food systems in Makueni County are unsustainable, contributing to significant environmental degradation. Key challenges include declining soil health, unsustainable land use practices, loss of biodiversity, degradation of critical ecosystems, and a heavy reliance on rainfed agri-food production systems. In addition, the high cost of inputs, low technology adoption, and food loss exacerbate food insecurity and climate change impacts. Food systems have also come under scrutiny for prioritizing calorie intake over balanced nutrition, leading to negative health outcomes. The shift in consumption patterns toward unhealthy diets have increased the prevalence of non-communicable diseases, such as cardiovascular disease, cancer, and diabetes, creating a growing public health burden. Furthermore, inefficiencies in food supply chains, such as high transaction costs and weak linkages, further hinder effective food provisioning.

The transformation to sustainable, resilient, and equitable food systems is crucial for addressing societal challenges and achieving the Sustainable Development Goals. This transformation requires a robust policy framework to accelerate actions that enhance resilience and adaptive capacity across key sectors. The County Government of Makueni recognizes the critical role of agroecology in this transformation. Agroecology offers a holistic solution to food and agricultural challenges by fostering mutually supportive interactions between livelihoods, farm ecosystems, and broader food systems. It emphasizes practices that protect and regenerate natural assets, ensuring long-term productivity, food security, and well-being.

The Makueni County Agroecology Policy has been developed by the Government of Makueni County through the Agriculture, Livestock, and Fisheries Department to create a framework for promoting and scaling up agroecology. The policy recognizes that multiple pathways can lead to agri-food system sustainability, and no single configuration of technologies, inputs, and ecological management is universally applicable. It emphasizes the need for the future food system to embrace ecological principles, ensuring regenerative use of natural resources and ecosystem services. The Policy outlines clear goals and objectives for transforming the food system in the County and fosters inter-sectoral collaboration across county departments, non-state agencies, the private sector, and other public bodies to promote agroecological practices.

The key pillars that support this transition are:

1. To transition to an agri-food system that embrace ecological practices for sustainable production and healthy ecosystems
2. To restore agrobiodiversity and enhance ecosystem function for increased resilience to shocks including climate change

3. To promote agroecological enterprise development for improved livelihoods and inclusive socio-economic development in Makueni County and beyond
4. To promote healthy, diverse, nutritious and culturally appropriate diets for all
5. To enhance knowledge, training, and capacity-building for farmers, extension officers, and other stakeholders in Makueni County to facilitate agroecological transition.
6. To create an enabling environment for scaling up agroecological practices in Makueni County
7. To attain equitable and inclusive access to resources, and foster participatory governance in the agri-food system for all Makueni residents regardless of gender, age or social class.

The implementation of the policy will support the attainment of the county aspiration to achieve a resilient economy. I wish to reaffirm the commitment of my government in creating an enabling environment for the realization of food system transformation objectives envisaged in this new Policy.

H.E Mutula Kilonzo Jnr, CBS
Governor,
County Government of Makueni

PREFACE

Makueni County is committed to ensuring a high quality of life for its citizens as espoused in Kenya's Constitution (2010) and the County Government's Policies and Frameworks. The County recognises that existing food systems are not able to adequately provide healthy, safe, and sustainable diets for all. The food systems are faced with challenges such as the triple burden of malnutrition, food insecurity and, changing climatic patterns, resulting in increased frequency and intensity of droughts and flooding. In addition, increased expansion of agricultural activity into natural habitats, poses a significant threat to biodiversity.

Agroecology has gained significant recognition as one of pathways for food systems transformation. In line with the global and national aspirations and priorities, the Makueni Agroecology Policy presents an opportunity to address biodiversity loss, while simultaneously providing benefits of climate adaptation, food and nutrition security, water conservation, ecosystem resilience, sustainable livelihoods and human rights. The Policy offers a framework for upon which agroecology scale up efforts can be anchored.

The policy has seven policy options including (i) Transition to sustainable agri-food systems; (ii) Agroecosystem restoration and resilience to climate change; (iii) Agroecology Enterprise and Markets; (iv) Food and nutritional security for all; (v) Knowledge, training and capacity for agroecology transition; (vi) Enabling environment for agroecology; (vii) Social equity, inclusion and governance. As part of effective implementation of the transformation, the Policy provides mechanisms for consultation and cooperation among county government departments, non-state agencies, private sector, value chain actors, farmers associations and groups, to ensure the agroecological transformation of food systems.

The development of this Policy is an outcome of co-creation and collective effort by various stakeholders. The County Government established a Technical Working Group (TWG), which brought together various stakeholders from County Departments, Private Sector, Development Partners, Farmer Groups and Researchers. The TWG conducted a baseline assessment and visioning of the key policy issues. The first draft policy issues were co-created and technically validated by various stakeholders. Following this, the revised draft Policy was further reviewed by the County Executive Committee and County Assembly. The Policy also benefitted from consultations in public through consultative workshops, focus group discussions and key informant interviews. The final Policy was ratified by a County Validation Workshop where various insights, suggestions and comments were incorporated.

To all the stakeholders involved in the process, we appreciate the value, contribution and support. We call on you to support the implementation of the Policy for the prosperity of our County.

Joyce Mutua

County Executive Committee Member (CECM)

Department of Agriculture, Livestock Fisheries and Cooperative Development (DALFCD)

ACKNOWLEDGEMENT

The process of development of the Makueni Agroecology Policy began in 2024 with the support and generous contributions of many institutions and individuals including, but not limited to Action Aid, Biodiversity and Biosafety Association (BIBA-Kenya), Biovision Africa Trust (BVAT), Cereal Growers Association (CGA), Dryland Natural Resources (DNRC), Makueni Development Trust (MADET), Participatory Ecological Land Use management (PELUM-Kenya), and Solidaridad amongst others. Your individual and collective roles in supporting this process is greatly appreciated.

At County Level, we appreciate our Executive leadership through the Governor, Deputy Governor and all the County Executive Committee Members (CECMs) for the recognition that synergy that comes through the multi-stakeholder approach towards sustainable social, economic and political development. In particular, we are thankful to the staff of Department of Agriculture, Livestock Fisheries and Cooperative Development DALFCD for their key role as the Secretariat of the Technical Working Group (TWG) as well as for policy direction and strengthening of partnerships, collaborations and network. Recognition of agriculture related MDAs including Health; Environment, Water, Land, Natural Resources and Climate Change.

To the people and friends of Makueni who contributed in the public participation forums we say thank you very much. It is our anticipation that the existence of this Agroecology Policy will accelerate actions to strengthen resilience and enhance adaptive capacity of the agri-food related sectors thus contributing to the realization of the County vision sloganized as '*Waoni wa Kwika nesa na Ulungalu*' interpreted as 'The desire to do good righteously' the clarion call being our people, our priority.

Special appreciation goes to the team of consultants; Dr. Josiah Ateka (Jomo Kenyatta University of Agriculture and Technology (JKUAT)); Prof. Daniel Sila (JKUAT); Wanjiru Kamau (Agroecology Expert); Dr. Forah Obebo (Kenyatta University); Dr. Martin Oulu (Agroecology Expert) and; Mercyline Njeri (JKUAT). Their technical support, research and synthesis of issues was central to the development of this policy.

Dr. Victoria Kyalo
Chief Officer – Agriculture and Irrigation
County Government of Makueni

Japheth Mutuku Kiminza
Chief Officer – Livestock and Fisheries
County Government of Makueni

ACRONYMS AND ABBREVIATIONS

ASALs	Arid and Semi – Arid Lands
CIDP	County Integrated Development Plan
CASSCOM	County Agriculture Sector Steering Committee
CECMs	County Executive Committee Members
CGs	County Governments
GDP	Gross Domestic Product
GHGs	Greenhouse Gas Emissions
FAO	Food and Agriculture Organization
FLW	Food Loss and Waste
IPCC	Intergovernmental Panel on Climate Change
ISFAA	Inter – Sectoral Forum on Agroecology and Agrobiodiversity
JASSCOM	Joint Agricultural Sector Steering Committee
KNBS	Kenya National Bureau of Statistics
NAS – FST	National Agroecology Strategy for Food System Transformation
NCDs	non-communicable diseases
NDC	Nationally Determined Contribution
NSAs	Non-State Actors
PES	Payment for Ecosystem Services
PWDs	People with Disabilities
SDGs	Sustainable Development Goals
SMEs	Small and Medium-sized Enterprises
TWG	Thematic Working Group
UNFCCC	United Nations Framework Convention on Climate Change

Contents

FOREWORD	ii
PREFACE	iv
ACKNOWLEDGEMENT	v
ACRONYMS AND ABBREVIATIONS	vi
CHAPTER ONE INTRODUCTION	1
1.1 Background.....	1
1.2 Rationale for agroecology policy for Makueni County.....	2
1.3 Policy goals and objectives	5
1.4 Scope of the Makueni Agroecology policy.....	6
1.5 Structure of the agroecology policy.....	6
CHAPTER TWO SITUATIONAL ANALYSIS	7
2.1 Assessment of key issues	7
2.1.1 Fragile agri-food systems	7
2.1.2 Degradation of agrobiodiversity and loss of ecosystem function in agricultural and other production landscapes	7
2.1.3 Inefficient food supply chains and limited access to market opportunities for the sustainable growth and development of agroecological enterprises	8
2.1.4 Limited access and utilization of diverse, nutritious and healthy diets leading to endemic Food and nutritional insecurity	9
2.1.5 Inadequate knowledge and capacity to implement agroecology practices.....	9
2.1.6 Gender and social inequalities in the food system	10
2.1.7 Weak policy and institutional frameworks to support agroecology	10
2.2 Policy, legal and institutional Framework	10
2.2.1 International and Regional frameworks	10
2.2.2 National frameworks	11
2.2.3 County level framework.....	12
CHAPTER THREE: POLICY STATEMENTS	14
3.1 Transition to sustainable agri-food systems.....	14
3.1.1 Policy Issue: Fragile agri-food systems	14
3.1.2 Policy Objective	14
3.1.3 Policy Strategies	14
3.2 Agroecosystem restoration and resilience to climate change	15
3.2.1 Policy issue: Degradation of agrobiodiversity and the loss of ecosystem function in agri-food production landscapes	15
3.2.2 Policy Objective	15
3.2.3 Policy Strategies	15

3.3 Agroecology Enterprises and Markets	16
3.3.1 Policy Issue: Inefficient food supply chains and limited access to market opportunities for the development of agroecological enterprises.....	16
3.3.2 Policy Objective	16
3.3.3 Policy Strategies	16
3.4 Food and nutritional security for all	17
3.4.1 Policy issue: Limited access and utilization of diverse, nutritious and healthy diets impacting negatively on food and nutritional security	17
3.4.2 Policy Objective	17
3.4.3 Policy Strategies	17
3.5 Knowledge, training and capacity for agroecology transition	18
3.5.1 Policy Issue: Inadequate knowledge and capacity to implement agroecology	18
3.5.2 Policy objective.....	18
3.5.3 Policy Strategies	18
3.6 Enabling environment for agroecology.....	19
3.6.1 Policy Issue: Weak policy and institutional frameworks to support agroecology	19
3.6.2 Policy Objective	19
3.6.3 Policy Strategies	19
3.7 Social equity, inclusion and governance	20
3.7.1 Policy Issue: Inequitable access to resources and decision-making processes within the agri-food system	20
3.7.2 Policy Objective	20
3.7.3 Policy Strategies	20
CHAPTER FOUR IMPLEMENTATION FRAMEWORK	21
4.1 Coordination Framework and Administrative Mechanisms	21
4.2 Legal and Regulatory Framework	22
CHAPTER FIVE: MONITORING AND EVALUATION	24
5.1 Monitoring	24
5.2 Evaluation.....	24
5.3 Reporting	25
5.4 Learning.....	25
CHAPTER SIX: REVIEW OF POLICY	26
CHAPTER SEVEN: ANNEXES	27
7.1 Definition of Terms.....	27
7.2 References.....	28

CHAPTER ONE INTRODUCTION

1.1 Background

Globally, existing food systems are not able to sustainably provide sufficient and nutritious food to all. In the face of the confluence of environmental degradation, climate change and the triple burden of malnutrition, there is increasing recognition that food systems are not meeting the needs of people, and their environmental costs are contributing to global climate change and biodiversity loss. The food security challenges are exacerbated by low productivity – associated with poor soil health, poor agricultural practices, deteriorating ecological status of the environment and climate change, among others.

Food systems are made up of all the activities that feed people, from production and processing, to packaging and marketing. They include diets, cultural practices, prices and other factors that shape the demand for and consumption of food. They include any activity that produces, aggregates, processes, distributes, consumes or disposes of food.

To combat these challenges, there is an urgent need to transform food systems to make them more sustainable, resilient, equitable and healthy. The recognition of food system transformation as a lever of change in achieving the Sustainable Development Goals (SDGs) has recently gained increased attention. In Kenya, the Government has developed the country's Food System Transformation Pathway Plan which aims to make food systems; healthy and nutritious; inclusive and enabling sustainable livelihoods for all stakeholders; environmentally sustainable and; resilient (UNFSS, 2021). The National Government has also developed the National Agroecology Strategy for Food System Transformation 2024-2033 (NAS-FST). The NAS-FST identifies the need for individual counties to formulate agroecology policies, laying out how to translate global and national goals into local actions. The recommendation acknowledges that while the national and local food systems are substantially interconnected, actions to achieve transformation will vary across regions. This is due to differences in nutritional needs, agricultural practices, ecologies, food culture, structure of market and local environments.

Makueni County is one of the 47 counties in Kenya and it is situated in the South Eastern part of the country. The County is situated within an arid and semi-arid land (ASAL) area - making it highly vulnerable to food insecurity and other adverse impacts of climate change. The food production systems in the county are characterized by declining productivity due to seasonal erratic rainfall, water scarcity, declining soil health, unsustainable farming practices, among others. Makueni County has a poverty rate of 44.7 percent, which is higher than the national average of 39.8 percent (KNBS 2022). The high poverty level is attributed to several factors, including low agricultural productivity (mainly due to water scarcity, poor soils) and high unemployment rates.

To improve livelihoods and transform the food systems in Makueni, a robust policy framework is required. The County Government through the Department of Agriculture, Livestock, Fisheries and Cooperatives development has developed the Makueni Agroecology Policy to accelerate and scale-up actions to strengthen resilience and enhance adaptive capacity of the agri-food related sectors. The policy will, govern, influence and harmonize the much-interlinked roles that are

interplayed by the various actors in realizing the County Vision sloganized as **“Waoni wa Kwika nesa na Ulungalu”** interpreted as **“the desire to do good righteously”** the clarion call being our people, our priority. The policy has adopted agroecology as a pathway for achieving the much-needed transformation.

Agroecology is one of the internationally recognized approaches for addressing many of the challenges facing food systems in a manner that is eco-friendly, resilient, and just. Agroecological approaches favor the use of natural processes, improving the use of inputs available at the farm level, promoting closed cycles with minimal negative externalities and addresses social inequalities. The approach puts emphasis on participatory processes, combining local and scientific knowledge and focusses on the interactions between plants, animals, humans and the environment. By enhancing autonomy and adaptive capacity, agroecology empowers producers and communities as key agents of change. Rather than tweaking the practices of unsustainable agricultural systems, agroecology seeks to transform food and agricultural systems, addressing the root causes of problems in an integrated way and providing holistic and long-term solutions. This includes an explicit focus on the social and economic dimensions of food systems. Agroecology also places a strong focus on the rights of women, youth and indigenous peoples (HLPE, 2019). Agroecology is inspired, by 13 agroecological principles which are organized around the three interrelated organizational pillars of a sustainable food systems (Figure 1).



Figure 1: Agroecological principles

Source: HPLE 2019; https://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-14_EN.pdf

1.2 Rationale for agroecology policy for Makueni County

Makueni County faces the triple burden of malnutrition and food insecurity reflected in coexistence of undernutrition (stunting, wasting and underweight), micronutrient deficiencies, and over-nutrition (overweight and obesity). In 2022, the stunting level for under five children stood at 19.8 percent (Figure 2) which is above the national average of 17.6 percent (KNBS and ICF, 2023). In addition, only 26.9 percent of women age 15–49 met the minimum diversity level compared to the national average of 48.5 percent. At the same time, there been increased cases of non-communicable and other chronic diseases, some of which have been associated with unhealthy diets, including cardiovascular diseases, cancer, and diabetes. Unfortunately, the traditional crops which are drought tolerant and nutrient dense have largely been abandoned. In addition, the overuse/abuse of agrochemical inputs has also presented food safety challenges.

The food security challenges in the county are exacerbated by low productivity – associated with poor soil health, poor agricultural practices, deteriorating ecological status of the environment and climate change. In Makueni, the challenge is more severe, being an ASAL region, which is often characterized by water scarcity, low and erratic rainfall, high temperatures, and fragile ecosystems. The county, through the Participatory Climate Risk Assessment (PCRA), has mapped and ranked various risks and hazards including, drought, livestock and crop pests and diseases, environmental degradation, human diseases, pollution, and human-wildlife conflict. The assessment also identified vulnerable groups who are most at risk, including the elderly, women, children, persons with disabilities, youth, single parents, orphans, widows and widowers, and child-headed families.

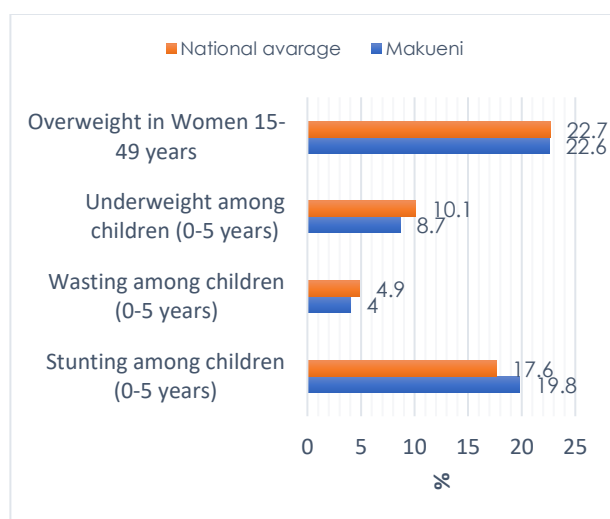


Figure 2: Nutritional indicators for Makueni County (KNBS and ICF, 2023).

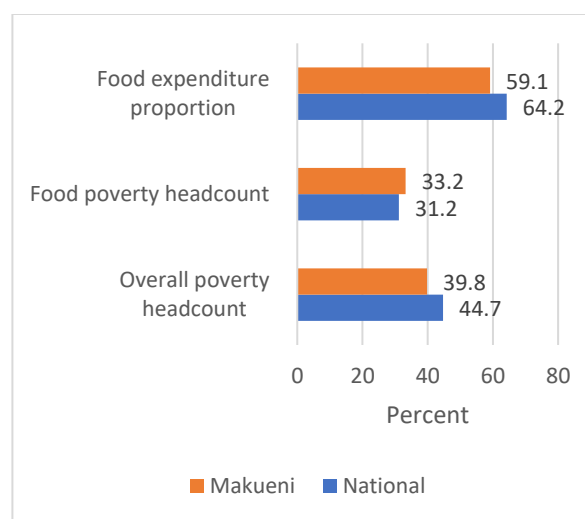


Figure 3: Distribution of poverty rates in Makueni County (KNBS, 2022)

The County has an overall poverty rate of 44.2 percent, affecting 469,000 persons (Figure 3), which is higher than the national average of 39.8 percent (KNBS 2022). Food poverty is also prevalent in the county, with 31.3 percent of households affected, largely due to low agricultural productivity caused by unfavorable climatic conditions. This has led to an over-reliance on aid, with many households experiencing food insecurity and members often skipping meals, contributing to high rates of malnutrition.

In view of this, tackling malnutrition and food insecurity through the promotion of diverse, nutritious foods is essential for the well-being of the population. Acting will not only address immediate challenges but also set Makueni County on a path toward sustainable development, ensuring a prosperous and resilient future for its communities. Delaying action risks worsening current conditions, making immediate intervention essential for the County's future growth and stability.

Agroecology has gained significant recognition as one of pathways for food systems transformation. The UN Food Systems Summit (2021) and the United Nation Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP 28 &29) are among the global frameworks which recognize agroecology as an approach to facilitate a transition towards more productive, sustainable and inclusive food systems. This is aligned to the UN Sustainable

Development Goals: specifically, SDG 3 (Good health and wellbeing), SDG 10 (reduced inequalities), SDG 12 (Responsible consumption and production), SDG 13 (climate change), SDG 15 (life on land) and SDG 17 (Partnership for the Goals).

The transformation of food systems towards sustainability requires a robust policy framework to accelerate and scale-up actions to strengthen resilience and enhance adaptive capacity in the agri-food related sectors. In Kenya, the existing policy framework including Kenya Vision 2030 and the Agricultural Policy 2021 acknowledge the potential of agroecology in supporting the food system transformation. The Constitution of Kenya (2010) recognizes sustainable development as an important value and principle of governance and grants the right to adequate food and a clean and healthy environment to all citizens (Article 42 and 43). The formulation of this policy is in line with the National Agroecology Strategy for Food System Transformation (2024 – 2033). This policy is also aligned to the Agricultural Sector Transformation and Growth Strategy (2019-2029), a ten-year nationwide sectoral document that aims at developing and transforming the agricultural sector in order to achieve what is established by Article 43 of the Constitution that states that “Every person has the right to be free from hunger, and to have adequate food of acceptable quality”. To reach the overall goal, it establishes 3 anchors for the first 5 years as follows (i) increase small-scale farmer, pastoralist and fisher-folk incomes; (ii) increase agricultural output and value addition; and (iii) increase household food resilience. All these aspects resonate well with the agroecology strategy.

Makueni County has a number of frameworks supporting the agri-food sector including: Makueni County Agriculture and Livestock Policy 2021, Makueni County Co-operative Act 2017 and Makueni County Environment and Climate Change Policy 2021. However, the county does not have a specific strategy on agroecology. In addition, agroecological initiatives are fragmented and not properly anchored in the policies stated above. There is need to strengthen mechanisms for consultation and cooperation among county government departments, non-state agencies, private sector, value chain actors, farmers associations and groups to ensure the agroecological transformation of food systems.

The Makueni Agroecology Policy presents an opportunity to address biodiversity loss, while simultaneously providing benefits of climate adaptation, food and nutrition security, water conservation, ecosystem resilience, sustainable livelihoods and human rights. Makueni County is extremely vulnerable to food insecurity, malnutrition, and climate change. The county is predominantly arid and semi-arid, characterized by frequent droughts, declining agricultural productivity and degradation of key ecosystems. These challenges have made it increasingly difficult to sustain food production and improve the well-being of local communities. The policy is framed in the context of the food system transformation pathway plan and constitutional aspiration of putting the country on a trajectory towards sustainable development path.

The implementation of the Agroecology Policy will contribute to agri-food systems transformation across many domains including food and nutrition, health, environment and climate change adaptation and mitigation, economic and social cultural outcomes (Figure 3).



Figure 4: Possible outcomes for agri-food systems transformation

1.3 Policy goals and objectives

This Policy aims to guide the agroecological transition in Makueni County, facilitating the sustainable transformation of the food system to ensure food security, improved nutrition, climate-resilient livelihoods, and social inclusion for all. It aligns with the Government of Kenya's priority of food and nutrition security as a key pillar in the national development agenda and constitutional aspirations for sustainable development and the aspiration to achieve a resilient economy in Makueni county.

- i) To transition to an agri-food system that embrace ecological practices for sustainable production and healthy ecosystems
- ii) To restore agrobiodiversity and enhance ecosystem function for increased resilience and sustainability
- iii) To promote agroecological enterprise development for improved livelihoods and inclusive socio-economic development in Makueni County and beyond

- iv) To promote healthy, diverse, nutritious and culturally appropriate diets for all
- v) To enhance the capacity and knowledge of the relevant stakeholders for sustainable agroecological transition
- vi) To create an enabling environment for scaling up agroecological practices in Makueni County
- vii) To promote gender inclusivity and equitable access to resources for improved governance of the agri-food system

1.4 Scope of the Makueni Agroecology policy

The Policy outlines clear goals and objectives and strategies for an agroecological transformation of the food system in Makueni County. It fosters inter-sectoral collaboration across county departments, non-state agencies, the private sector, and other public bodies to promote the transition to an eco-friendly, resilient, and just food system. It emphasizes the need to embrace ecological principles, ensuring the regenerative use of natural resources, minimizing the use of external inputs, promoting closed cycles with minimal negative externalities, and addressing social inequalities. The policy is applicable to all the food system related sectors including;

- Agriculture, cooperatives, livestock and fisheries
- Health services
- Land, Environment, forestry and natural resources
- Water, irrigation and sanitation
- Trade and industry
- Finance and planning
- Culture, Gender and social services

1.5 Structure of the agroecology policy

The policy is organized into six sections, each designed to ensure a structured and clear approach to the policy's development and execution. The document begins with an Introduction to set the context, outlines the underlying causes of the problem and the rationale for the policy. This is followed by a situational analysis that examines the current state and challenges in the food systems in Makueni. It then presents the policy statements, which articulate the expressing what the Government has committed to do achieve the agroecological transition. The implementation framework outlines the coordination and administration mechanisms for policy implementation. While the monitoring and evaluation section details how progress will be tracked and assessed. The review of policy section describes the process for periodic updates and revisions, and finally, the Annexes provide additional supporting information and resources.

CHAPTER TWO SITUATIONAL ANALYSIS

This chapter summarizes the key issues affecting Makueni County's agri-food system and how addressing these would support agroecology transition. The chapter also presents the policy, legal and institutional framework that supports agri-food systems.

2.1 Assessment of key issues

Makueni County agroecology policy is framed based on seven (7) issues that were identified during a participatory multi-stakeholder meeting led by the County Government Department of Agriculture in collaboration with other relevant departments. The status and trend of each of the issues is discussed.

2.1.1 Fragile agri-food systems

Makueni county is a fragile ecosystem, most being ASAL and prone to frequent droughts due to unreliable and erratic rainfall. The delayed onset of rains and early cessation as well as prolonged dry spells have had a negative impact on the production systems, which are largely rain-fed (GoM 2023)¹. The agri-food systems are characterized by declining productivity in crops, livestock and fisheries - associated with factors such as high costs of inputs, inadequate extension services, increased pests and disease incidence and, declining soil health (GoM 2023). Samples analyzed from some sites in the county indicate that nearly 60 percent of farms have a soil pH below 5.5 and with most farms having low organic carbon (TOC) and inadequate nitrogen.

Access to affordable inputs remains a key driver of declining productivity. For instance, in the green grams value chain, certified seed requirement for the county stands at 903,352 kg against a supply of 361,341 kg². Across the value chains, most farmers use poor quality seeds, which results in low yield, even with the application of high levels of chemical fertilizers. The overdependence on external inputs limits the use of local indigenous knowledge and innovation, and its associated with the loss of biodiversity and GHG emissions.

Ecosystem degradation has also led to increased cases of human-wildlife conflicts. In 2023, stray elephants destroyed about 1,000 hectares of farmland. Rangeland ecosystem restoration is key for maintaining human-wildlife balance. In view of this, adoption of agroecology will simultaneously promote sustainable agricultural production and environmental protection, thereby increasing resilience of our food systems.

2.1.2 Degradation of agrobiodiversity and loss of ecosystem function in agricultural and other production landscapes

Makueni County has a forest cover of 5.1 percent and tree cover of 12.47 percent. The County's gazetted forest covers 150.2 square kilometers, and the non-gazetted forest covers 76 square kilometers (Makueni County Climate Risk Assessment Report 2023). From 2000 to 2020, Makueni experienced a net change of -811 ha (-9.0%) in tree cover. The decline is associated with deforestation, illegal grazing and logging and, forest degradation. Other activities such as riparian

¹ <https://makueni.go.ke/sandbox/site/files/2024/10/CIDP-III-2023-2027-1.pdf>

² <https://makueni.go.ke/sandbox/site/files/2024/01/AGRICULTURE-NEWSLETTER-2023-2024.pdf>

encroachment, sand harvesting, and riverine vegetation destruction are contributing to forest and land degradation.

The county is water scarce area, characterised by poor access among the households. The water availability in the county is estimated at 14,489 m³ per day against water demand of 40,794 m³ per day (Makueni County Vision 2025)³. This situation calls for protection, management and restoration of the existing surface and ground water resources. A Restoration Opportunities Assessment Methodology study (ROAM) undertaken in 2018 identified seven restoration options, namely afforestation and reforestation of natural forests; agroforestry; riparian land restoration; road buffer zone restoration; rangeland rehabilitation; plantation forests and rehabilitation of natural forests. Based on this data, the largest opportunity for landscape restoration is in agroforestry (44%), silvi-pastoral and rangeland rehabilitation (32%) and plantation forests (19%)⁴.

In view of this, agroecology promotes restoration, conservation, protection and management for household and community resilience. Agroecology emphasizes application of nature-based solutions which are effective, long-term, cost-efficient approach in tackling sustainable land and water resources management and climate change.

2.1.3 Inefficient food supply chains and limited access to market opportunities for the sustainable growth and development of agroecological enterprises

Food markets in Makueni are generally inefficient, characterized by weak coordination, fragmented supply chains, and high transaction costs, which limit market access, reduce profitability for producers, and hinder the overall development of the agri-food sector in the County.

The county produces a range of agroecologically produced food products with high potential for both domestic and export markets. These include, cereals (millet, sorghum), pulses (green grams, pigeon peas, beans), fruits (mango, watermelon, banana, and pixies), vegetables (cow peas) and animal products. However, most (82%) households practice subsistence farming, with only 22 percent of produce being marketed (GoM, 2023). Low productivity combines with low quality products (low compliance with sanitary and phytosanitary standards), lack of product differentiation, low agribusiness skills, and limited market information limit market access. Moreover, a weak cooperative movement reduces access to credit, farm inputs, as well as establishment of agri-food enterprises.

Investing in local food markets will promote equitable access to nutritious and diverse foods for consumers, while keeping incomes within the local economy and empowering communities to maintain control over their food systems. Additionally, strengthening regional markets can help Makueni establish a stable demand for agroecologically produced food, benefiting both producers and consumers alike.

To improve access to markets, the County government has made strides in supporting food markets. By 2023, the County constructed and rehabilitated 43 market sheds connected 16 market sheds to solar lighting and 12 to electricity to increase trading hours (CIDP 2023-2027). The market hygiene has been improved through installing 60 water tanks to 30 market sheds and

³ <https://makueni.go.ke/sandbox/site/files/2023/11/Makueni-County-Vision-2025.pdf>

⁴ <https://makueni.go.ke/sandbox/site/files/2023/11/Makueni-County-FOLAREP-latest-1-1.pdf>

public toilets in 24 markets. To support the agroecological transition, there is need to promote development of markets that emphasize supply of agroecological products.

2.1.4 Limited access and utilization of diverse, nutritious and healthy diets leading to endemic food and nutritional insecurity

Makueni County faces a triple burden of malnutrition and food insecurity, associated with undernutrition (stunting, wasting and underweight), micronutrient deficiencies, and over-nutrition (overweight and obesity). According to the Kenya Demographic Health Survey 2014, the prevalence of stunting, wasting and underweight in Makueni County was 25.1%, 2.1% and 10.2% respectively for children under five years. In 2022, stunting, wasting, underweight and overweight, in the same cohort, was reported to be 20%, 4%, 9% and 3% respectively, indicating marginal gains in nutrition indicators (KDHS and ICF, 2023). Among women aged 15- 49 years, only 26.9 percent met the minimum dietary diversity (MDD) level, compared to the national average of 48.5 percent. The MDD indicates the proportion of women of reproductive age (15-49 years) who consume a variety of food groups that are critical for their health and well-being, particularly during pregnancy and lactation. In addition, only 39.9 percent children aged 6-23 months in county attained the MDD level with only 22.7 percent of these children consuming zero vegetables or fruits (Makueni County Government, 2023).

The Makueni county Nutrition Action Plan (CNAP) targets the reduction of the prevalence of stunting among children under five years by 40%, childhood wasting to less than 5%, childhood underweight to less than 10%, and reduce malnutrition among older children and adolescent by 15%. The 2023 County SMART report revealed that 20% of households in Makueni experienced moderate hunger, with 5.23% facing severe hunger. While more than half (58.9%) of households consumed food from over five food groups in the 24 hours prior to the survey, the majority of consumption was from cereals (92%), pulses (60.9%), and milk products (70.8%). Positively, 62.8% of households consumed vegetables, but only 34.9% consumed fruits, despite the county's diverse fruit production. The county has also seen a dietary shift towards processed foods, leading to a decrease in the consumption of traditional, nutrient-rich foods like fruits and vegetables, which are important for nutrition and ecosystem resilience.

In view of these issues, the county will promote sustainable consumption to ensure that the population has access to adequate and affordable diets while at the same time minimizing environment harm, conserving natural resources and reducing waste. Consistent with agroecology, sustainable consumption will focus on dietary diversification, localizing food sources and improving food security within the food system.

2.1.5 Inadequate knowledge and capacity to implement agroecology practices

The County Government has been implementing the Enhanced Extension Programme to accelerate agricultural production, productivity and profitability through coordinated extension services, enhanced linkages for input supply and structured agro-marketing. Through this programme, the proportion of farming households receiving extension services improved from 30 percent in 2018 to 60 percent. The Staff to Farmer Ratio improved from 1:1,416 in 2018 to 1: 1,357 by the end of 2021. This improvement is in part attributed to recruitment of 32 Agricultural Field Extension Officers and 240 Community Extension Volunteers (CEVs) who were involved in promoting the adoption of e-extension services through farmer profiling and training among other operational support services (CIDP 2023-2027).

Despite some improvements, the current extension system has not fully integrated agroecological practices, limiting widespread adoption. Furthermore, the lack of adequate data on agroecology adoption in Makueni makes it difficult to track progress and guide policy decisions. Therefore, there is an urgent need for a coordinated extension system that incorporates public, private, and community-led services

2.1.6 Gender and social inequalities in the food system

Inequitable access to resources, decision-making, and disparities based on gender, age, and social class hinder marginalized groups' full participation in food systems in Makueni. The CIDP emphasizes the County Government's commitment to equitable stakeholder engagement and the need for inclusion by addressing equity gaps across all sectors. The Public Participation Policy ensures that all citizens, particularly marginalized groups, are actively involved in the design and implementation of sustainable agricultural programs.

The underlying barriers to an equitable food system include disproportionate access to productive assets, high poverty rates among certain groups, and various forms of marginalization based on gender, age, race, and other factors. These disparities prevent full participation and benefit from the food system, hindering inclusive and sustainable development.

2.1.7 Weak policy and institutional frameworks to support agroecology

Makueni County has made a significant progress in developing an enabling environment for growth in most sectors. However, the interconnectedness and coordination between various departments (Agriculture, Environment, Trade, Health, Industry, and Culture, among others) that can contribute to effective implementation of agroecological principles is weak. There is need to strengthen interdepartmental interactions with clear roles and responsibilities of each of the respective departments. Despite the county having developed a number of relevant policies, there is limited demonstration that agroecology activities are part of annual work plans and budget as well as integrating them in the monitoring and evaluation frameworks. This calls for strong coordination and enhanced interdepartmental connectedness for effective implementation and sustainability of the agroecology transition.

2.2 Policy, legal and institutional Framework

2.2.1 International and Regional frameworks

Globally, agroecology is increasingly recognized as a transformative pathway for sustainable food system change. International frameworks like the United Nations' Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action), align with agroecology's principles of sustainability, resilience, and equity. Agroecology can help reduce poverty (SDG 1) and inequality (SDG 10), by contributing to decent work (SDG 8) and increasing access to food (SDG 2). In addition, SDG 12 on sustainable production and consumption is a major vehicle for ensuring that we have sustainable agri-food systems. Regulating and reducing emissions and promoting renewable energy (SDG 13), conservation, promoting marine diversity and regulating fishing practices (SDG 14) and reversing man-made deforestation and desertification to sustain all life on earth (SDG 15) are also key goals for driving the agroecology agenda. Adopting agroecology as an agricultural approach will help Makueni County shift to a sustainable and resilient path that provides enough, safe and nutritious food while respecting human rights.

The UN Biodiversity Conference (COP 15) recognizes biodiversity (ecosystems, species, and genetic resources) as essential for the sustainable production of food and livelihoods. Kenya is signatory to the Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization. The UN Climate Conference (COP 27) held in 2022 recognized the priority of safeguarding food security and ending hunger, and vulnerabilities of food production systems to the adverse impacts (UNFCCC, 2022). Several actions are flagged out including sustainable soil and integrated water management, transitioning to sustainable lifestyles and patterns of consumption and production in efforts to address climate change and transitions to low emission and climate-resilient development in line with the Convention, the Kyoto Protocol and the Paris Agreement. To achieve this, IPCC recognizes agroecological principles and practices as key for supporting food security, nutrition, health and well-being, livelihoods and biodiversity, sustainability (IPCC, 2023). Agroecology offers a holistic path towards synergistically achieving targets set by UNFCCC, U.N. Convention on Biological Diversity, the 2030 Agenda and the SDGs.

At the regional level, the Malabo Declaration (2014), under the African Union (AU), highlights the importance of sustainable agricultural practices, with agroecology playing a key role in achieving food security, improving rural livelihoods, and promoting climate resilience. Additionally, the Comprehensive Africa Agriculture Development Programme (CAADP) encourages the adoption of agroecological principles to enhance food sovereignty, while regional movements such as the African Food Sovereignty Network (AFSN) advocate for agroecology as a means to foster equitable, climate-resilient, and biodiversity-friendly agricultural systems. These frameworks collectively underscore agroecology as essential for transforming our food systems to meet current and future challenges.

2.2.2 National frameworks

The right to food is enshrined in the 2010 Constitution. Every person has the right to be free from hunger, and to have adequate food of acceptable quality (Article 43(1)c), while every child has the right to basic nutrition, shelter and health care (Article 53(1)c). Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO 2002). Every Kenyan has the right to a clean and healthy environment and to have the environment protected for the benefit of present and future generations (Article 42a), but also have obligations to protect and conserve the environment (Article 69(2)). The constitution recognizes that the national and county Governments are distinct and interdependent, conducting their mutual relations based on consultation and cooperation (Article 6(2)). Agriculture and aspects of the environment are devolved functions. The national government is responsible for agricultural policy development, while County Governments are responsible for agriculture, including crop and animal husbandry, livestock sale yards, county abattoirs, plant and animal disease control, and fisheries (Fourth Schedule). Protection of the environment and natural resources is a national function, while implementation of specific national government policies on natural resources and environmental conservation, including soil and water conservation, and forestry are devolved to the Counties. Trade development and regulation, including markets, trade licenses, fair trading practices, local tourism, and cooperative societies are devolved functions.

The Agricultural Policy 2021⁵ recognizes agroecology as one of the approaches to dealing with climate change and seeks to promote agroecology farming practices for crops, livestock and fisheries. The policy explicitly recommends the promotion of agroecology among other nature-based solutions as way of achieving sustainability and resilience of food systems. This justifies the development of an agroecology strategy as way of realizing these aspirations. To operationalize the Agriculture Policy, the National Agroecology Strategy for Food System Transformation (2024-2033)⁶ was developed and officially launched in November 2024. The Strategy notes that there is limited integration of agroecological approaches in the design of food system interventions. The strategy also encourages counties to develop county level policies tailored to their specific contexts. Developing county specific agroecology policies will ensure that each county adapts the agroecological transition to local needs, priorities, and challenges.

To support implementation of the Agroecology Strategy, several institutional mechanisms have been established. These include the Agroecology Summit to provide overall policy guidance on agroecology implementation in collaboration with the Council of Governors (COG). It's made up of Principal Secretaries (PSs) of relevant line Ministries, National Treasury, representatives of development partners, National Farmers' Association, and the Intersectoral Forum on Agrobiodiversity and Agroecology (ISFAA) which is the secretariat of the Summit. The National Technical Committee on Agroecology has the responsibility of coordinating the mainstreaming and implementation of agroecology policies and practices across all sectors and counties.

2.2.3 County level framework

Makueni County has a number of frameworks supporting the agri-food related sectors (Agriculture, Livestock, Environment, water, Forestry, Trade). These main legal frameworks that are linked to agroecology are listed in **Table 2**.

Table 2: County policy framework linked to agroecology

Framework	Description
Makueni County Integrated Development Plan (CIDP) 2023-2027	The County Integrated Development Plan (CIDP) aligns with agroecology by enhancing extension services through private sector and NGO involvement, promoting sustainable agricultural practices to improve food security and reduce poverty. Its focus on water management, including the construction of dams for irrigation, supports climate-resilient farming. Furthermore, the CIDP's commitment to decentralization and inclusive planning ensures that agroecological principles are integrated at the community level, empowering farmers with locally adapted, sustainable solutions.
Makueni County Agriculture and Livestock Policy 2021	The strategy recognizes the declining biodiversity and need to balance the protection of biodiversity as agricultural systems modernize. The strategy puts emphasis on commercial, large scale, and modern agriculture with a view to securing sustainable food security and mitigating against climate change impacts. The development of an agroecology policy would provide specific actions to achieving sustainability in agriculture and food systems.

⁵ <https://nipfn.knbs.or.ke/download/agricultural-policy-2021/>

⁶ <https://kilimo.go.ke/wp-content/uploads/2024/11/National-Agroecology-Strategy-for-Food-System-Transformation-2024-2033.pdf>

Makueni Environment and Climate Change Policy (ECCP), 2021	Provides a holistic framework to guide the management of the environment, natural resources and address issues faced by Makueni County due to a changing climate. It further ensures that the linkage between the environment and poverty reduction is integrated in all County government processes and institutions in order to facilitate and realize sustainable development at all levels.
Food and Nutrition Security Policy.	The policy seeks to strengthen food and nutrition security in the county while promoting social development and overall public health. Additionally, it provides a strategic response to the county's unique food and nutrition challenges by identifying key factors contributing to malnutrition.
Makueni County Co-operative Act 2017	Recognizes the need to strengthen cooperatives The Makueni County Co-operative and provides mechanisms to guide the development and sustainability of the Makueni County cooperative sector to optimally contribute towards social and economic development. The Act provides for establishment of a Co-operative Development Fund at 2% of the total county development budget.
Makueni County Climate Change Act 2022	The Makueni County Climate Change Act provides a comprehensive framework and mechanisms for mobilizing and facilitating collaboration among the county government, communities, and various stakeholders to effectively respond to climate change. It focuses on implementing appropriate adaptation and mitigation measures, ensuring that local communities are equipped to address the challenges posed by climate change.
Makueni County Climate Change Action Plan 2023 – 2027	The MCCAP is a 5-year Action Plan that provides mechanisms for mainstreaming climate change into all sectors and the County Integrated Development Plan (CIDP). The action plan is developed in line with the National County Climate Change Action Plan.
Makueni County Disaster Management and Special Programmes Policy (2021)	Policy aims at the establishment and strengthening of disaster management institutions, creating and also recognizing the partnerships that subsist in this endeavor, networking and mainstreaming disaster risk reduction in the development process of the county in order to strengthen the resilience of vulnerable groups to cope with potential disasters

To strengthen the institutional framework for promoting agroecology in Makueni County, a Technical Working Group has been established within County Agricultural Sector Steering Committees (CASSCOM) to domesticate and mainstream the National Agroecology Strategy in CIDPs. The County Technical Committee on Agroecology comprise but no limited to the departments for Agriculture, Livestock Fisheries, Health, Education and Environment, relevant national government officers such as AFA, KEPHIS, NEMA, NDMA, etc., representatives of farmer organizations, private sector, civil society, development partners, research and academic institutions, and other stakeholders in the county food system.

CHAPTER THREE: POLICY STATEMENTS

This chapter presents the policy options for facilitating agroecological transition in Makueni County. The policy direction arises from the challenges highlighted and the opportunities for addressing them.

3.1 Transition to sustainable agri-food systems

Makueni County faces a range of challenges including erratic rainfall, soil degradation, and overreliance on synthetic agrochemicals due to pests and diseases. The excessive use of fertilizers has also been associated with eutrophication of scarce water bodies. Studies on soil fertility have shown low soil organic carbon leading to fragile soils with reduced water holding capacity and increased vulnerability to erosion. In addition, access to affordable inputs remains a key driver of declining productivity. Overdependence on external inputs also limits use of local indigenous knowledge and innovation. Thus, adoption of agroecology can simultaneously promote sustainable agricultural production and environmental protection, thereby increasing resilience of our food systems.

3.1.1 Policy Issue: Fragile agri-food systems

The Makueni County agri-food system is fragile owing to a number of factors that include poor agricultural practices, water scarcity, human-animal conflict, and poor exploitation of natural resources.

3.1.2 Policy Objective

To transition to an agri-food system that embraces ecological practices for sustainable production and healthy ecosystems.

3.1.3 Policy Strategies

The County Government will;

1. Promote integrated soil health and fertility management to reduce dependency on synthetic fertilizers in the County.
2. Support practices that enhance on-farm diversification through crop, livestock, trees and fisheries combination for healthy food, income, and ecosystem restoration.
3. Promote conservation of indigenous crop and animal genetic resources for resilience
4. Promote seed exchange mechanisms (sharing and sale) among stakeholders and National and County Agricultural Research Systems including establishment of community seed banks
5. Promote awareness and use of biopesticides and biofertilizers and reward practices that produce with them.
6. Strengthen mechanisms for production, distribution and use of locally produced agroecological/organic inputs to reduce dependency on agro-chemicals.

7. Enhance monitoring systems, embrace use of early warning signals, and rapid response strategies for pests and disease management including invasive and alien species.
8. Promote natural and community-based conflict management strategies to protect farms from wildlife encroachment.

3.2 Agroecosystem restoration and resilience to climate change

Makueni County is largely an Arid and Semi-Arid area, facing low forest and tree cover. In the period, 2000 to 2020, the county experienced a net change of -811 ha (-9.0%) in tree cover. This change was associated with deforestation, illegal grazing and logging and, forest degradation. At the same time, the county is affected by a number of hazards namely drought, flash floods and strong winds, which are associated with climate risks. This in turn increases the vulnerability of communities and weakens their capacity to manage such shocks. Water availability remains a challenge as the county has a deficit of 25,000 m³ /day. In addition, average distance to nearest water source is 5Km, indicating poor access to water as well as potential for increased water conflicts. Adoption of agroecology can promote resilience through restoration, conservation, protection and management of natural resources.

3.2.1 Policy issue: Degradation of agrobiodiversity and the loss of ecosystem function in agri-food production landscapes

The degradation of agrobiodiversity and the loss of ecosystem services in agricultural landscapes undermine resilience therefore compromising food security and long-term sustainability.

3.2.2 Policy Objective

To restore agrobiodiversity and enhance ecosystem function for increased resilience and sustainability

3.2.3 Policy Strategies

The County Government will;

1. Facilitate adoption of technologies, innovations and management practices, that enhance water harvesting, storage and water use efficiency in agricultural, livestock and fishery systems
2. Integrate of local and indigenous knowledge and practices in participatory innovation for landscape rehabilitation and restoration
3. Promote partnerships and initiatives to support carbon sequestration and development carbon credit market for the benefit of all stakeholders in the agri-food system
4. Promote establishment of nature-based enterprises such as apiculture, silkworm, black soldier fly, azolla production, vermicomposting and conservancies
5. Facilitate landscape restoration and conservation by rehabilitation of degraded ecosystems such as rangelands and forests
6. Promote risk management strategies (transfer, reduction, restoration and reserves) including crop and livestock insurance and, strengthening climate early warning systems

7. Support climate actions that are responsive to the needs of youth, women, elderly and persons with disabilities.
8. Establish a buffer zone of vegetation along water bodies to filter runoff can help prevent eutrophication.

3.3 Agroecology Enterprises and Markets

Inefficiencies in food supply chains, including high transaction costs and weak linkages, remain a key hinderance to effective food access and distribution. According to the Kenya Organic Data Survey (2024), there is a significant demand for various organic products that currently surpasses the available supply, presenting an opportunity for organic farmers and producers to expand their operations and meet the growing market needs. Despite the growing demand for agroecological products, challenges with certification costs, market and distribution and supply chain management exist. To promote equitable access to nutritious and diverse foods, there is need to invest in local food systems where markets provide farmers and consumers with better access to food, ensuring communities have control over their food. Agroecology puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems.

3.3.1 Policy Issue: Inefficient food supply chains and limited access to market opportunities for the development of agroecological enterprises

Inefficient food supply chains such as high transaction costs and weak linkages constrain effective food distribution and access. Additionally, the limited access to market opportunities impedes the sustainable growth and scaling of agroecological enterprises, restricting their ability to thrive and contribute to equitable socio-economic development in Makueni County.

3.3.2 Policy Objective

To promote agroecological enterprise development for improved livelihoods and inclusive socio-economic development in Makueni County and beyond

3.3.3 Policy Strategies

The County Government will;

1. Improve the organization of farmers and support alternative market infrastructure with regards to marketing, joint distribution and storage to reduce post-harvest losses, enhance value addition and improve market accessibility.
2. Allocate market outlets for agroecology products
3. Strengthen farmer-led agroecological enterprises (AEEs), cooperatives and valued added processing initiatives to increase uptake and adoption of agroecological products.
4. Strengthen market linkages and information systems on agroecological products for fair pricing and marketing
5. Promote public-private partnerships for increased access to domestic, regional and international markets for agro ecological products and services

6. Promote public procurement of agroecological products such as hospitals, schools and public offices
7. Develop incentives for young entrepreneurs, women, persons with disabilities and community-led enterprises that capture and retain value locally, recognizing and addressing their specific constraints and needs
8. Promote branding, certification and standardization of local agroecology products to enhance access to markets
9. Link agroecology enterprises (AEES) to financial opportunities in green growth, insurance and Business Development Services (BDS) to facilitate access to green financing by actors.

3.4 Food and nutritional security for all

Achieving food and nutrition security while at the same time reversing and minimizing damage to the natural environment is critical for sustainable development. Makueni County faces the triple burden of malnutrition and food insecurity reflected in coexistence of undernutrition (stunting, wasting and underweight), micronutrient deficiencies, and over-nutrition (overweight and obesity). In 2022, the under five children stunting level stood at 19.8 percent which is above the national average of 17.6 percent (KNBS and ICF, 2023). In addition, only 26.9 percent of women aged 15–49 met the minimum diversity level compared to the national average of 48.5 percent. At the same time, there has been increased cases of non-communicable and other chronic diseases, some of which have been associated with unhealthy diets. Unfortunately, the traditional crops which are drought tolerant and nutrient dense have largely been abandoned. This calls for mechanisms for increasing access to healthy, diverse and safe diets, while at the same time minimizing damage to our ecosystems.

3.4.1 Policy issue: Limited access and utilization of diverse, nutritious and healthy diets impacting negatively on food and nutritional security

The food and nutrition security situation of Makueni County is alarming and, in some cases, higher than the national average when considering the food and nutrition security indicator. There is little progress registered in the KDHS reports of 2014 and 2022. The existing food systems prioritize calorie intake over balanced nutrition, leading to negative health outcomes.

3.4.2 Policy Objective

To promote healthy, diverse, nutritious and culturally appropriate diets for all

3.4.3 Policy Strategies

The County Government will;

1. Promote One Health approach to strengthen food safety, enhance resilience and minimize incidence of diseases
2. Stimulate consumption of diverse safe and healthy diets in communities, public and private institutions
3. Support nutrition sensitive programming that sustainably caters for the nutritional needs of different groups including women, youth and persons with disabilities

4. Promote consumption of underutilized foods for resilient, stable local food systems
5. Promote the integration of local and indigenous knowledge and practices in the production and consumption of food
6. Support consumer education, awareness and behavior change on benefits of agroecological products proactively as an investment into primary healthcare and environmental conservation
7. Enhance mechanisms and investments for food waste management (reduce, recycle, reuse) at household levels and municipal markets.
8. Mainstream zoning in municipalities that supports waste water recycling and spaces for waste segregation and processing
9. Promote utilization of green energy sources such as, solar, biogas, wind power etc. at institutional and household levels

3.5 Knowledge, training and capacity for agroecology transition

Agricultural extension is an avenue for sharing knowledge, technologies, management practices among farmers and other actors. Makueni County Government has been implementing the Enhanced Extension Programme to accelerate agricultural production, productivity and profitability through coordinated extension services, enhanced linkages for input supply and structured agro-marketing. Despite the improvement, the current extensive service has knowledge gaps, inadequate extension services, and a top-down approach to agroecology promotion which hinders widespread uptake. Therefore, there is need have coordinated system that includes public, private and community led extension service.

3.5.1 Policy Issue: Inadequate knowledge and capacity to implement agroecology

The Makueni extension program including the training centres are yet to incorporate agroecology leading to knowledge gaps across the public, private and community-led extension service.

3.5.2 Policy objective

To enhance the capacity and knowledge of the relevant stakeholders for sustainable agroecological transition.

3.5.3 Policy Strategies

The County Government will;

1. Entrench agroecology into the county agricultural extension services for continuous support and guidance on agroecological transition.
2. Facilitate partnerships with research institutions, and local innovators to co-create agroecological solutions contextualized to the agro-ecological conditions in the county.
3. Strengthen the public and private extension services to scale-up the adoption of agroecological practices.

4. Develop a coordinated multi-stakeholder forum for knowledge sharing on best practices, innovations, and lessons learned in agroecology.
5. Provide incentives, technical support and organize practical demonstrations to encourage farmers and other actors to implement agroecological innovations.
6. Design and implement a standardized curriculum and models on agroecology for use in schools (4k clubs), Agricultural Training Centers (ATCs), County Technical Training Institutes (CTTIs), and other relevant educational institutions to build long-term capacity in agroecological transition.

3.6 Enabling environment for agroecology

The transition to sustainable agri-food systems is supported by a range of national and county frameworks. Some of the national level policies include; Agricultural Policy (2021); Livestock Policy (2020); Environment Policy (2013); National Climate Change Response Strategy (NCCRS); National Climate Change Action Plans (2015-17; 2018-22) and National Food and Nutrition Security Policy (2011), the National Agroecology Strategy for Food System Transformation (2024 – 2033). The National Agroecology Strategy supports the mainstreaming of agroecology into existing national and county plans and strategies to enable their adoption. To this end, counties are required to domesticate the key provision of the Strategy. Makueni County has a number of frameworks supporting the agri-food sector (section 2.2.3). Despite these policies, agroecological initiatives are not properly anchored in policy. At the same time, there is need to strengthen mechanisms for consultation and cooperation among the national and county governments and non-state agencies to ensure the agroecological transformation of food systems.

3.6.1 Policy Issue: Weak policy and institutional frameworks to support agroecology

The policy and institutional framework for implementing agroecology practices in Makueni County is weak characterized by poor interconnectedness of the relevant departments, silo implementation and reporting structures.

3.6.2 Policy Objective

To create an enabling environment for scaling up agroecological practices in Makueni County

3.6.3 Policy Strategies

The County Government will;

1. Mainstream agroecology in the county policies, laws, regulations and plans across relevant sectors and departments to ensure alignment, coherence and synergies with the national and county agroecology priorities.
2. Establish multisectoral and inter-departmental coordination mechanism for designing, managing and, monitoring and evaluation of agroecology-related policies, plans and financing
3. Promote horizontal integration of agroecology across departments to ensure coherence in decision-making, consistency in policy actions, equitable distribution of resources, and collective accountability in agroecological transitions.

4. Strengthen resource mobilization and funding for agroecology through increased government funding and Public and Private Partnerships (PPPs), while addressing needs of all actors including women, youth and persons with disabilities.
5. Promote market, non-market and regulatory incentives to support agroecological transition, including technical assistance, participatory guarantee systems, collective action, certification and payment for ecosystem services.

3.7 Social equity, inclusion and governance

The commitment of Makueni County to attaining social equity, inclusion, and good governance is underlined in various national and international legal and policy documents, including the Constitution of Kenya (2010) and the County Integrated Development Plan (CIDP 2023-2027). Despite these frameworks, persistent challenges such as unequal access to resources and opportunities, socio-economic disparities, and exclusion of marginalized groups continue to hinder inclusive development. Structural barriers including inequitable distribution of public services, limited participation of vulnerable groups in decision-making, and entrenched socio-cultural biases have contributed to governance gaps that undermine efforts toward social justice. Weak enforcement of progressive policies, administrative inefficiencies, and limited public accountability mechanisms further exacerbate inequalities, making it difficult to achieve meaningful inclusion. Agroecology seeks to address power imbalances and conflicts of interest, in order to generate local knowledge, promote social justice, nurture identity and culture, and strengthen the economic viability of rural areas.

3.7.1 Policy Issue: Inequitable access to resources and decision-making processes within the agri-food system

3.7.2 Policy Objective

To promote gender inclusivity and equitable access to resources for improved governance of the agri-food system

3.7.3 Policy Strategies

The county government will;

1. Foster change in power dynamics by encouraging greater participation of (marginalized groups) in decision-making on access, control, share and utilization of productive resources.
2. Promote awareness and a strong focus on the rights of women, children, youths, persons with disabilities and indigenous people to ensure productive capability.
3. Create job opportunities by fostering investment in youths and women-led green enterprises and initiatives.
4. Foster socially inclusive financial systems by scaling-up equitable participation in a green and inclusive digital economy to attain full agroecological transition.
5. Strengthen public participation forums to co-create agroecological initiatives and programs that reflect local needs and knowledge.

CHAPTER FOUR IMPLEMENTATION FRAMEWORK

Makueni Agroecology Policy implementation will involve State and non-State actors at the National and County levels. The actors will play a key role in the implementation of the Policy options outlined in Chapter Three, or coordination of the actors and collective actions in the Policy. The policy will also require technical and financial support from the public and private sector actors. The Policy will be implemented through the legal and institutional framework described below. Thematic strategies will be developed to address specific sub-Sector requirements and for better implementation of this Policy.

4.1 Coordination Framework and Administrative Mechanisms

Makueni County Government will be responsible for policy formulation, resource mobilization, and implementation oversight. The county will mainstream policies, strategies and plans arising from this Policy horizontally across relevant sectors and vertically at sub-county, ward, and village levels as well as in county institutions. The Departments of Agriculture, Environment, Health, Trade/Cooperatives, and Education will be responsible for their assigned roles in relation to agroecology.

The Agroecology Policy Implementation Committee (APIC) will steer implementation of the policy. Chaired by the CEC in charge of agriculture, the APIC will comprise the Chief Officers of the relevant departments within the Ministries of Agriculture and Livestock Development, Health, Environment, Climate Change and Forestry, Education, Investment, Trade and Industry, Cooperatives, and Water, Sanitation and Irrigation. Chief Officers of other Ministries will be co-opted on a need basis. Representatives of National government agencies at the County level such as but not limited to AFA, KEPHIS, NDMA, NEMA, Meteorology department, etc. as well as Development Partners, NGOs, CSOs and farmers associations working within the County will also be members of the APIC. The Chief Officer of the Ministry of Agriculture will be the Secretary of the APIC. A similar structure will be established at the Sub-County and Ward levels. The APIC will report to the Cabinet and Governor and collaborate with the National Government through CASSCOM, JASSCOM, and CoG.

The APIC will offer strategic guidance on policy implementation and foster effective relations between the National and County governments in collaboration with the CASSCOM, JASSCOM and CoG. Members of the APIC will be co-opted in the CASSCOM which will have a standing Technical Working Group on Agroecology. CASSCOMs are anchored on Legal Notice (No. 2 of 2012) on Establishment of Joint Committees in Agriculture Sector under the Intergovernmental Relations Act. 2012. The mandate of the APIC will be to:

1. Domesticate and mainstream the Makueni Agroecology Policy in County Integrated Development Plans (CIDPs) and coordinate the development of annual work plans.
2. Develop and supervise the implementation of the elements of the County Action Plan linked to the Agroecology Policy
3. Foster collaborations and linkages with public and private institutions in the management and delivery of agroecology programs and services.
4. Facilitating sector-wide linkages with intra and cross county initiatives on Agroecology.

The Agroecology Policy Implementation Committee (APIC) will comprise key players in the Makueni agri-food system including but not limited to the following institutions and actors;

1. Departments for Agriculture, Livestock Fisheries, Health, Education, Trade, and Environment
2. Representatives of National Government agencies at the County level such as AFA, KEPHIS, NEMA, KALRO, NDMA, etc.
3. Representatives of Farmer Organizations promoting agroecology
4. Representatives of the Kenya Association of Manufacturers (KAM)
5. Representatives of the Organic Fertilizer and Input Manufacturers Association (OFIMAK)
6. Representative of Civil Society organizations working on agroecology at the regional level
7. Representative of Development Partners working within the County
8. Representative of Food Transporters/logistics organizations working within the county
9. Representatives of universities, academic institutions, and research organizations
10. Representatives of other stakeholder groups that may be nominated by the committee

4.2 Legal and Regulatory Framework

Laws and regulations are integral to effective policy implementation and operationalization. The legal framework for crops, livestock, fisheries and irrigation is based on a body of laws that require review and development to conform to and implement the Constitution and further support implementation of this policy. The County government in consultation with stakeholders will review and harmonize the Agricultural and related Sector laws to ensure compliance with the Constitution and support the implementation of this Policy. Some of the existing policies and legal frameworks that provide guidance on the implementation of the policy include the Agricultural Policy (2021), The Makueni County Agriculture and Livestock Policy (2021), The Makueni County Integrated Development Plan (CIDP) III (2023-2027), Makueni County Environment and Climate Change Policy (2021), Makueni County Education & Training Policy (2021), and Makueni County Disaster Management and Special Programmes Policy (2021).

A Makueni Agroecology Act and Regulations will be developed to entrench the institutional framework described above and to address the specific sector needs and aid in the agroecology transition within the county. The Act will also create an Agroecology Fund and establish various fiscal and non-fiscal incentives to promote and catalyze an agroecology transformation in Makueni County.

4.3 Funding Arrangements

To implement this Agricultural Policy, the bulk of the funding will be provided by the County government allocation to the Ministry of Agriculture, Livestock and Fisheries, for agroecological transition. Part of this funding will be through the proposed Agroecology Fund at 10 percent of the County's agriculture budget. However, efforts will be made to mobilize additional financial support from development partners to realize the objectives of the policy.

Green finance initiatives such as carbon credit programs linked to agroecological practices such as agroforestry and soil health interventions will also be promoted to ensure adequate funding for the policy implementation. Direct financing and investments by the private sector through Public Private Partnerships (PPPs) will be critical to the successful implementation of the Makueni Agroecology Policy. Mechanisms will be put in place to strengthen the rural credit institutions to support farmers' investments in agroecological innovations and production, savings and risk management; introduction of simple procedures in providing loan facilities for agricultural activities and agro-based start-ups and industries; ensuring availability of credit to farmers and

other agroecological value chain actors at concessionary interest rates and introduction of appropriate agricultural insurance schemes to protect farmers from risks associated with natural calamities and climate change shocks. The involvement of NGOs and civil society in resource mobilization, capacity development and general oversight over governance, trade issues and other policy interventions will be essential. Commercialization of products such as production and sale of organic fertilizers from the Mango processing plant and municipal waste will also be considered. The County Government of Makueni will be required to create a conducive regulatory environment to facilitate the participation of the private sector in agroecological transition.

CHAPTER FIVE: MONITORING AND EVALUATION

For successful implementation, the Policy will be integrated into the CIDP and Annual Plans, and an M&E framework developed as an integral component to ensure the policy objectives are achieved in a cost effective, coordinated and harmonized manner.

5.1 Monitoring

The County Ministry of Agriculture will collaborate with the National Ministry of Agriculture and Livestock Development (MoALD), County Ministries, Departments and Agencies (MDAs), private sector and other stakeholders to develop an M&E framework aligned to the National M&E Framework for the National Agroecology Strategy for Food System Transformation (2024 – 2033) within six months of the adoption of the Policy. The M&E framework is expected to also align with the National Integrated Monitoring and Evaluation Systems (NIMES) and have clear terms of reference for relevant stakeholders in data collection and reporting at all levels.

The County Integrated Development Plans (CIDPs) which will have integrated the Agroecology Policy will serve as the foundation for agricultural M&E, supported by County Agricultural Sector M&E Units and County Performance Management Frameworks (CPMFs) that track agricultural projects, extension services, and resource utilization. Key performance indicators (KPI) linked to the Policy Focus areas will be developed and tracked for evaluation and reporting purposes. A digital dashboard of the M&E framework will also be developed and linked to the National Agroecology Strategy's M&E Framework.

Component	Indicators	Data Source	Frequency of Monitoring	Responsible
Agroecology adoption	Farmers adopting agroecological practices (organic farming, agroforestry, intercropping) (%)	Field surveys, extension officer reports	Quarterly	County Dept. of Agriculture, NGOs, Farmer Groups
Soil health and land use	Soil fertility improvement (organic matter content, erosion control)	Soil testing reports, GIS mapping	Annually	Research institutions, CASSCOM
Climate resilience and adaptation	Water conservation practices (rainwater harvesting, irrigation efficiency)	Farm-level data, meteorological reports	Bi-annually	County Water and Environment Dept., Agroecology Technical Working Group
Food and nutrition security	Increase in household food production and diversity (%)	Household surveys, nutrition studies	Annually	Public Health Dept. Dept of Agriculture, Development Partners, CASSCOM
Market access and economic impact	Increase in income from agroecological products (%)	Market assessments, cooperatives' reports	Quarterly	Trade and Cooperatives Dept.
Knowledge and capacity building	Number of farmers trained in agroecological practices	Training attendance records, workshops	Monthly	Agriculture Extension Services, Development partners
Policy and governance efficiency	Level of multi-stakeholder coordination in implementation	Policy reviews reports, stakeholder engagement meetings	Annually	CASSCOM, Agroecology Technical Working Group

5.2 Evaluation

The M&E framework will provide clear benchmarks for performance evaluation using measurable metrics that reflect the progress and success of the strategy. The KPIs will serve as a tool to monitor

outcomes, identify challenges, and ensure continuous improvement throughout the implementation process. Comprehensive data collection tools will be designed and implemented, with clear indicators to address data needs and requirements. There will be quarterly progress reports by the Chief Officer/APIC Secretary presented to the Cabinet and other stakeholders. Regular farmer and stakeholder feedback surveys will be carried out to rate the extent of agroecological transition against the set targets, and the data disseminated to the relevant stakeholders. External audits from agroecology experts and research institutions will be engaged to determine whether the county is taking the right direction in agroecological transition, and identify the gaps which could be worked on to improve the transition. The policy will be reviewed periodically to address the sector challenges and emerging issues.

5.3 Reporting

Regular and consistent reporting, essential for keeping stakeholders informed about the policy's progress will be undertaken at the various levels of implementation. Reporting will provide both quantitative and qualitative data of the Makueni Agroecology Policy implementation, highlighting achievements, challenges, and areas where adjustments will be need to be made. Reporting structures outlining formats and frequencies for providing updates on the policy implementation progress with clear outputs and outcomes results/indicators and associated means of verification will be established.

Report Type	Content	Responsible	Frequency
Quarterly progress reports	Implementation updates, success stories, challenges	APIC/Chief Officer	Quarterly
Annual performance Review	Impact assessment, policy adjustments	CASSCOM, Research Institutions	Annually
Stakeholder learning workshops	Best practices sharing, innovation adoption	Farmer Groups, NGOs, Research Institutions	Bi-annually

5.4 Learning

Stakeholders with specified information needs will be identified and reports tailored to address different information needs. The M&E reports will be structured to ensure findings from monitoring and evaluation activities can be used to continuously improve policy implementation and inform the future programming on agroecology. The experiences and learnings from the implementation of the agroecology programmes and initiatives will act as a guide to the development of new policies and strategies that will enhance the transition.

CHAPTER SIX: REVIEW OF POLICY

The Makueni Agroecology Policy will be reviewed every ten (10) years after its initial implementation to assess its effectiveness, relevance, and alignment with the county's evolving agricultural, environmental, and socio-economic needs. However, an earlier review can be initiated in the event of the following circumstances;

- **Constitutional changes:** If there are significant amendments or changes to the Constitution of Kenya that affect agricultural or environmental governance, the policy should be reviewed to ensure alignment.
- **Calamities or emergencies:** In the event of major environmental, climate-related disasters, or public health crises that impact the food system, a review may be warranted to adjust the policy to address the new challenges.
- **Alignment with regional or international frameworks:** When there are updates to regional or international agreements, such as the African Union's Agenda 2063, the UN's Sustainable Development Goals (SDGs), or other frameworks, the policy may need to be reviewed to ensure alignment.
- **Emerging issues or challenges:** If new issues arise, such as technological advancements, shifts in market dynamics, or changes in land use patterns, a review may be necessary to ensure the policy continues to address contemporary needs effectively.

The Makueni County Department of Agriculture, Livestock, and Fisheries, in collaboration with County Agroecology Summit and Secretariat should take the lead in initiating the policy review process, as they are the primary agencies involved in agroecology implementation. The review process should utilize evidence and lessons from previous performance evaluation, benefiting from M&E processes. This includes data collection, consultations, impact evaluation, and benchmarking to assess socio-economic and environmental impacts, stakeholder feedback, and compare outcomes with best practices for informed policy adjustments

CHAPTER SEVEN: ANNEXES

7.1 Definition of Terms

Agroecology	Agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. Agroecological approaches use natural processes to optimize the interactions between plants, animals, humans and the environment while taking into consideration local and scientific knowledge and the social aspects that advocate for a sustainable and fair food system. Agroecology covers all ecosystems including agroecosystems, aquatic ecosystem (freshwater and marine), silviculture, terrestrial (forest ecosystem, savannah/grassland ecosystem), desert and tundra ecosystems. It incorporates a set of practices including organic agriculture, regenerative agriculture, permaculture, ecological agriculture, soil and water conservation and management, agroforestry and, integrated pest management.
Food System	It encompasses the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded.
Food System Transformation	Food system transformation refers to the comprehensive reorganization of food production, distribution, and consumption to ensure food and nutrition security and environmental sustainability through agroecological approaches.
Healthy and safe diet	This is a diet that consists of adequate intake of fruits, vegetables, legumes and clean drinking water; reduced intake of free sugars and fats; and food that is not contaminated with potentially harmful bacteria, parasites, viruses, toxins and chemicals.
Vulnerable groups	Vulnerable groups in society are those segments of the population that are more likely to suffer from disadvantages, marginalization, or discrimination due to various socioeconomic, physical, or psychological factors. Vulnerable groups within society, including women, older members of society, persons with disabilities, children, youth, members of minority or marginalized communities, and members of particular ethnic, religious or cultural communities.
Producers	Actors responsible for planting, cultivating and harvesting of crops and trees or rearing livestock and fisheries to produce food and other non-food products.
Productive resources	These are the factors of production used to produce goods and services and includes in natural resources, labour, capital and entrepreneurship.
Value chain actors	These are food system actors involved in producing, processing, distributing, marketing, retailing, and consuming food. They include input suppliers, producers, processors, distributors/wholesalers, retailers and consumers.

7.2 References

HLPE (2019). Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. <https://www.intechopen.com/chapters/80648>

KNBS (2022) The Kenya Poverty Report <https://www.knbs.or.ke/wp-content/uploads/2024/10/The-Kenya-Poverty-Report-2022.pdf>

KNBS and ICF (2023). Kenya Demographic and Health Survey 2022. Key Indicators Report. Nairobi, Kenya and Rockville, Maryland, USA: KNBS and ICF

Makueni County Government (2023) Makueni County Integrated Smart Survey Report https://makueni.go.ke/sandbox/site/files/2024/08/Makueni-SMART-Survey-2023-Report-final_final.pdf

UNFSS (2021). Kenya's pathway to sustainable food systems: Kenya National Food Systems Dialogue Series. https://www.unfoodsystemshub.org/docs/unfoodsystemslibraries/national-pathways/kenya/2021-09-27-en-kenya-fss-dialogue-series-final-report-.pdf?sfvrsn=109d50c_1