



COUNTY GOVERNMENT OF VIHIGA

DEPARTMENT OF AGRICULTURE, LIVESTOCK AND FISHERIES

THE VIHIGA COUNTY AGROECOLOGY POLICY

JULY, 2024

FOREWARD

PREFACE

The agricultural sector in Vihiga County is the main driver of its economy with a CGP contribution of 34% and 85% of the labor force. The growth of this sector however faces numerous challenges that are linked to agroecology: land degradation, soil health, food insecurity, unemployment, low incomes, food safety, agricultural waste management and rural-urban migration, among other factors. In a bid to attain a sustainable food system, various guidelines, legislations, and strategies have been postulated but the county lacks a comprehensive policy that will ensure it attains food security and nutrition for all, while addressing the above-mentioned challenges.

The formulation of a policy framework that governs agroecological practices in the county has been long overdue especially based on the fact that management of the available agricultural resources continues to be a challenge for many farmers. Various programmes and initiatives have been adopted all over the county with very little success being realized in the recent past. In that regard, an interdepartmental team was formed in 2023 while aiming to formulate an Agroecology Policy, with the assistance of various development partners. The policy is informed by the fact that most of the policies, strategies and guidelines within the county do not indulge much on provisions of usage and proper management of the available critical agricultural resources. The Agroecology Policy takes into consideration the necessary conservation and utilization guidelines for these agricultural resources as it seeks to address various challenges in the food systems for the communities within Vihiga County. The policy also helps in addressing the same challenges in line with the provisions of the sustainable development goals while focusing on the wellbeing of these communities.

The development process for this policy document stemmed from concerted efforts of various stakeholders within the agriculture sector in Vihiga County together with the involvement of professionals from academia and research institutions dealing with agroecology matters. I recognize and truly appreciate their efforts and contributions. The policy framework envisaged in this document entails how proper planning and utilization of available agricultural resources in Vihiga County can be achieved. I therefore call upon all the relevant stakeholders to adopt the guidelines and recommendations within this policy in a bid to ensure that a sustainable Agri-food system is attained in the county and the western region at large.

Hon. Nicholas Kitungulu
County Executive Committee Member
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ACKNOWLEDGEMENT

The Agroecology Policy was successfully developed from concerted efforts that involved bringing together both material and human resources from several development partners within the agricultural sector, and wide consultations with professionals from various academic and research institutions. Without such input, the success of such a process would not have been realized. These efforts culminated in modeling a sub-national agroecology policy for sustainable agriculture in Vihiga county. The Department of Agriculture, Livestock, & Fisheries in Vihiga County is particularly grateful to the County Executive Committee Member Hon. Nicholas Kitungulu, for having provided a conducive working environment and exemplary leadership during the policy development process.

The department also appreciates the support and contributions that came from various departments within Vihiga County Government, especially the Department of Health Services, Department of Gender and Culture, together with the Department of Environment. The contributions from members of staff within the Department of Agriculture, Livestock, & Fisheries was also invaluable and are highly appreciated. The active participation of partners including PELUM Kenya, Bioversity International, Food and Land Use Coalition, SNV and the Seed Savers Network is also highly appreciated. Special thanks are due to PELUM Kenya and the Alliance of Bioversity International & CIAT, for providing financial support towards the realization of the Agroecology Policy for Vihiga.

Finally, I recognize the Technical Working Group (TWG) that worked tirelessly towards making the policy process a success as they demonstrated a greater sense of commitment.

Last but not least, H.E. The governor of Vihiga Hon. Dr. Wilbur Ottichilo EGH provided leadership and the much needed moral and logistical support to the entire process in line with his manifesto and the county integrated development plan (2023-2027).

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LIST OF ABBREVIATIONS/ACRONYMS

AE:	Agroecology
ALVs:	African Leafy Vegetables
ASTGs:	Agriculture Sector Transformation and Growth strategy
ATIC:	Agriculture Training and Innovation Centre
CASSCOM:	County Agriculture Sector Steering Committee
CECM:	County Executive Committee Member
CGP:	County Gross Product
CIAT:	International Centre for Tropical Agriculture
CIDP:	County Integrated Development Plan
COP:	Conference of Parties
FAO:	Food and Agriculture Organization
GHG:	Greenhouse Gases
GDP:	Gross Domestic Product
ITK:	Indigenous Technical Knowledge
KAFU:	Kaimosi Friends University
LM:	Lower Midland
MoALF&C:	Ministry of Agriculture, Livestock & Fisheries
PELUM:	Participatory Ecology & Land Use Management
PWD:	Persons with Disabilities
SDGs:	Sustainable Development Goals
SNV:	Netherlands Development Organization
TWG:	Technical Working Group
UM:	Upper Midland

EXECUTIVE SUMMARY

Agriculture is an important aspect within Kenya's economy as it contributes directly to about 33% of its GDP and 25% indirectly through linkages with other sectors (FAO, 2023). Despite being a leading aspect in the country's economic drive, the sector still faces a myriad of challenges that ends up affecting its food systems. This policy document highlights some of the key identifiable challenges, with specific emphasis on Vihiga County, while recommending various interventions that needs to be adopted in the sector to attain a sustainable food system for the rural communities.

The policy document contains four chapters. The first chapter revolves around how the agricultural sector is a major contributor to the economic growth of the country as it highlights some of the prevailing challenges being faced such as land degradation, declining soil health, food insecurity, unemployment, low incomes, and rural-urban migration. The second chapter focuses on the current situation being faced in Vihiga County concerning its Agri-food system, with complex challenges such as inadequate germplasm, land fragmentation, high population density, low agricultural productivity, poor agricultural diversity, among other factors at play. Chapter three seeks to bring out the necessary strategic direction in implementation of the policy, with the main focus being on promotion of agroecological practices adoption, to enhance agrobiodiversity conservation towards achievement of a sustainable food system in the county. This is to be realized as highlighted in the policy document through implementation of various strategies under thematic areas of production and environmental sustainability, food and nutrition, agroecology enterprises and market development, social and cultural inclusivity, together with agroecology research, linkages and innovation. The last chapter deals with the policy coordination and implementation mechanisms that needs to be adopted to achieve success. This is provided through having a legal framework, putting in place a proper co-ordination and institutional framework for the policy, carrying out monitoring, evaluation and reporting as the policy dissemination is being carried out.

To address the causes of a deteriorating food system in Vihiga County, the policy has identified the need to create an institutional framework for effective management and enforcement of all issues pertaining to proper management of the available agroecological resources. This includes the adoption of Community Agroecology Promoters, skilled in all aspects of the Agri-food system to disseminate to farmers and stakeholders along the value chains. It is therefore prudent that this policy, together with all the legal and institutional frameworks within the county that works towards achievement of proper agroecological practices be consistent within its implementation. The legal safeguards and strategic interventions that have been suggested within the policy should be adhered to so as to provide an enabling environment that will fast track and support implementation of proper agroecological practices for a sustainable food system in Vihiga County.

1.0 INTRODUCTION

1.1 Background

Agriculture is the backbone of Kenya's economy, contributing approximately 33% of GDP directly and 25% indirectly through linkages with other sectors. The sector employs more than 40% of the population and over 70% of the rural population (FAO, 2023). However, Kenya is still faced with numerous challenges with regards to agriculture and food systems. A sustainable food system ensures food security and nutrition for all while safeguarding the economic, social, and environmental foundations. Kenya faces challenges related to land degradation, food insecurity, unemployment, low incomes, and rural-urban migration. Agriculture, being a devolved function in Kenya underscores the importance of the county governments' role in ensuring food security.

Vihiga is a peri-urban county located in the Lake Victoria Basin in western region of Kenya between longitudes 34°30' and 35°0'E and latitudes 0° and 0°15'N. The County covers an area of 531 km² with a population of 590,013 and a density of 1050 persons per square kilometer. It has five sub counties namely; Hamisi, Emuhaya, Sabatia, Luanda and Vihiga, all with a total of 159,044 households, (KHIS, 2023).

The county is divided into two agroecological zones namely upper midland-UM (Hamisi, Sabatia and parts of Vihiga) and lower midland-LM (Emuhaya and Luanda). The UM is well drained with fertile soils as compared to the LM that is characterized by sandy loam soils derived from sedimentary and basalt rocks. About 404 Km² of Vihiga's land is arable representing 76% of the total area of the county. Vihiga experiences a fairly well distributed rainfall pattern throughout the year with an average annual precipitation of 1900 mm. Long rains are experienced in the months of March, April and May while short rains are in the months of September, October and November. The dry months are December, January and February. Vihiga County is a biodiversity hotspot due to its proximity to the degraded Maragoli hills and the Kakamega equatorial forest, both threatened with encroachment and species extinction.

The main agricultural activity in Vihiga county is mixed farming where food crops and livestock take up 83% of the arable land (MoALFC, 2021). Continuous tillage without fallow periods has greatly contributed to declining soil health. Soils are increasingly becoming more acidic resulting to poor yields, and inadequate and low-quality fodder for livestock. These factors coupled with climate change and misuse of some agrochemical inputs are contributing to low agricultural production and food safety concerns.

This policy seeks to address food systems challenges among the communities living in Vihiga County as embedded in sustainable development goals (SDGs) [2, 3, 12, 13 and 15], i.e., Zero hunger, good health and wellbeing, responsible consumption and production, climate action and life on land respectively.

2.0 SITUATIONAL ANALYSIS

2.1 Agroecology Perspectives

Agroecology is an inclusive and integrated approach that applies ecological and social concepts and principles to the design and management of agriculture and food systems. Further, it is also considered a science, set of practices and a social movement evolving as a concept over recent decades to expand in scope from a focus on fields and farms to encompass the entirety of agriculture and food systems (FAO, 2023). FAO identifies ten (10) elements of agroecology as follows: -

- i) Diversity
- ii) Co-creation and sharing of knowledge
- iii) Synergies
- iv) Efficiency
- v) Recycling
- vi) Resilience
- vii) Human and social values
- viii) Culture and food traditions
- ix) Responsible governance
- x) Circular and solidarity economy

2.2 Agri-Food systems

Agri-food systems supply global markets with large amounts of food to consumers. However, hunger and poverty are still persistent in most developing countries including Kenya. The food system faces loss of biodiversity, depletion of soil fertility, high levels of greenhouse gas emissions (GHG) and resource intensive agricultural systems. Conflicts and global pandemics such as Covid-19 have had great impact on international trade with food distribution and access across countries becoming more expensive. The global population is increasing and is expected to reach about 10 billion in 2050. Further, 30% of food meant for human consumption is wasted or lost (FAO, 2022). Sub-Saharan Africa has demonstrated a monotonous dietary pattern where communities rely largely on staple crops that are inadequate in diversity. All these issues pose major challenges in achieving sustainable food systems.

In Kenya, the agriculture sector contributes to the economy in terms of food and nutrition security, employment creation, and supply of agro-based industry raw materials. However, the agriculture sector continues to face constraints which impact negatively on the food systems. For instance, there has been severe drought, declining soil fertility, crop failure emerging pests and diseases of crops and livestock, inadequate access to quality and diverse seeds, poor market linkages, and inadequate dietary diversity. Although some policies have been enacted to address some of these challenges, they have not been adequate.

The Vihiga food system faces complex challenges which include inadequate germplasm; land fragmentation resulting in small farm sizes; high population density; low agricultural productivity; poor agricultural diversity; inadequate dietary diversity; poor and declining soil health, misuse of agrochemicals; emerging pests and diseases; environmental degradation; inadequate value addition; loss of agrobiodiversity; poor infrastructure and inadequate participatory technology development through co-creation.

2.3 Status of Agroecology

Agroecology has witnessed significant milestones in its evolution as a science, and a movement guiding sustainable agricultural practices. The Green Revolution of the 1960s brought increased food production but was met with criticism due to environmental and social concerns. This led to the development of organic agriculture in the 1970s, focusing on ecological balance and reduced synthetic inputs. The Rio Earth Summit in 1992 further highlighted the importance of sustainability in agriculture. Over the years, participatory approaches and farmer-led research gained prominence, empowering farmers to co-create sustainable solutions in agriculture.

International symposia and recognition by organizations like FAO have underscored the significance of agroecology in sustainable food systems and conservation of agrobiodiversity. The Kunming-Montreal Global Biodiversity Framework reached at the COP15 conference in Montreal, Canada in 2022, and ratified by Kenya highlights the importance of agroecology as a sustainable and resilient way to produce safe food. The Convention on Biological Diversity emphasizes conservation of biological diversity, the sustainable use of its components, fair and equitable sharing of benefits arising from genetic resources. Additionally, among the 23 targets to be achieved by 2030 included 30% conservation of land and sea, 30% restoration of ecosystems, and reduction in harmful subsidies.

Kenya has various constitutional provisions, legislations and policies related to agriculture, environment, public health and sustainable development that provide a framework for promoting and protecting agroecological practices. The Constitution of Kenya 2010 under Schedule 4 outlines the mandate of the county governments to formulate and implement crops and animal husbandry policies which include agroecology. The National Agriculture Policy 2021 and The Kenya National Agroecology Strategy for Food Systems Transformation 2024 – 2033 both aim to promote sustainable and ecological farming practices across the country. The Vihiga County Integrated Development Plan (CIDP) 2023-2027 also has a clear provision for an agroecology policy formulation and implementation.

2.3.1 Agrobiodiversity

Vihiga county is endowed with abundant biodiversity, encompassing both cultivated and wild species, which are utilized for various purposes. There is a cultural acceptance of agrobiodiversity, which promotes diverse agricultural and conservation practices. Efforts to increase access to local seeds have been made, including the establishment of seedbanks. In addition, there has been promotion of African Leafy Vegetables, mushrooms and indigenous

chicken production by various stakeholders. However, the soils in the county have been degraded, leading to reduced fertility and increased acidity. The prevailing farming practices involve conventional methods with the misuse of agrochemicals which is not sustainable. In regard to livestock production, dairy farming is limited to a few farmers while small animals like poultry, guinea pigs, rabbits, goats, and sheep are more common. There is limited recycling of both animal and crop waste which remains inadequate as an input. Nevertheless, there is a positive trend of awareness and adoption of agroecological practices.

2.3.2 Agroecosystems, Co-creation and Farmer Linkages

Currently, the agri-food system follows conventional practices characterized by continuous tillage, leading to negative impacts on soil fertility. Although some agroecological practices have been adopted in African Leafy Vegetable (ALV) production, the destruction of forests for farming systems result in the loss of biodiversity. Furthermore, crop and livestock production systems lack adequate efforts in soil and water conservation. Farmer-to-farmer exchange is limited due to inadequate linkages and co-creation efforts within the sector. The policy aims to promote sustainable and integrated agroecosystem design, enhance farmer-to-farmer knowledge exchange, and improve linkage and co-creation efforts to foster a resilient and thriving agricultural sector in Vihiga County.

2.3.3 Socio-economic Perspectives

Heavy reliance on food imports rather than local cultivation is influenced by economic, social, and cultural dynamics. Premature harvesting and consumption is driven by market demand and food security concerns. Overreliance on market-sourced foods can affect food security, local agricultural systems, and agrobiodiversity. There is declining usage of traditional practices and intergenerational knowledge transfer concerning seed saving, wild harvests, utilization of edible insects and mushrooms. Land fragmentation, and patriarchal land ownership systems affect agricultural productivity and the adoption of agroecology practices. Additionally, the prioritization of affordability over food quality by market actors can compromise food safety. However, the cultural attachment to local stocks like poultry and the practice of cultural festivals offer opportunities for exposure to and learning about traditional crops and sustainable farming techniques.

2.4 Legal Context

Vihiga County has no legal framework to address some key issues of agroecology e.g., agricultural waste, food safety, soil health and agrobiodiversity conservation. The following legal provisions are the guiding principles for developing this policy.

- i) **The Constitution of Kenya 2010** under Articles 43 (1)(c), 11, 40, and 69(1)(c) emphasize the right to food, the significance of culture, the protection of intellectual property rights, and the preservation of indigenous knowledge and biodiversity respectively.
- ii) **The Vihiga County Integrated Development Plan (CIDP) 2023-2027** provides for the formulation of an agroecology policy

- iii) **Climate Change Act (No. 11 of 2016)** acknowledges the importance of sustainable agriculture and encourages climate-smart practices that align with agroecological principles.
- iv) **Kenya Plant Health Inspectorate Service Act** of 2012 provides for protection of plants, seeds, plant varieties, and agricultural produce.
- v) **Plant Protection Act Cap 324** addresses better provision for the prevention of the introduction and spread of invasive species, pests and diseases destructive to plants.
- vi) **Standards Act Cap 496** promotes the standardization of commodities and codes of practice.
- vii) **Crops Act No. 16 of 2013** provides for growth and development of diversified agricultural crops among others.
- viii) **Agriculture Sector Transformation and Growth strategy (ASTGS, 2019-2029)** is anchored in increasing small scale farmers' incomes, agricultural outputs and value addition, boost food resilience.
- ix) **The Consumer Protection Act No 46, 2012** provides for protection of the consumers and prevention of unfair trade practices.
- x) **Protection of Traditional Knowledge and Cultural Expressions Act 2016** provides for the framework for the protection and promotion of traditional knowledge and cultural expressions.
- xi) **The Vihiga County Solid Waste Management Policy of 2019** provides for safe, compliant, environmentally, and sustainable solid waste management systems.

3.0 POLICY STRATEGIC DIRECTION

3.1 Justification

The agriculture and food system in Vihiga County faces loss of agrobiodiversity, declining soil fertility, inadequate crop and animal germplasm, land fragmentation resulting in small farm sizes and high population density. Other challenges include low agricultural productivity, poor agricultural diversification, inadequate dietary diversity, misuse of agrochemicals, emerging crop and animal pests, diseases and invasive species, land degradation, inadequate value addition, and poor agricultural market infrastructure. Furthermore, there is inadequate participatory technology development through co-creation, whereby farmer-to-farmer exchanges are limited.

This policy seeks to promote the adoption of agroecological practices to enhance agrobiodiversity conservation for a more sustainable food system. By adopting agroecological practices, the county shall ensure that its agricultural activities contribute to environmental health and food safety, food and nutrition security, and socioeconomic wellbeing. The policy aligns with global trends towards sustainable development goals, by adopting agroecology as an integrated approach to agriculture and food systems for Vihiga County.

3.2 Overall Goal of the Policy

The policy aims to achieve a sustainable food system for communities in Vihiga County.

3.3 Policy Objectives

- i. To promote agroecological practices for a resilient agriculture and food system in the County
- ii. To promote production and utilization of safe and diverse foods for improved nutrition
- iii. To enhance inclusion of vulnerable and marginalized groups in agroecology
- iv. To enhance access to agricultural markets and financial services for agroecology products and actors
- v. To strengthen co-creation and participatory adaptive research on agrobiodiversity in the Vihiga ecosystem

3.4 Thematic Areas

3.4.1 Production and Soil Health

The county government of Vihiga shall promote agroecological practices for resilient farming, soil and water conservation strategies .

Strategies

- i) Promote sustainable soil health and circularity of nutrients within the agri-food systems; efficient water harvesting and utilization systems.
- ii) Promote sustainable and climate smart agri-food systems for mitigating and adapting to climate change
- iii) Promote the production and use of local germplasm, bio-inputs (bio fertilizers, bio pesticides) and other Indigenous Technical Knowledge (ITK)

- iv) Promote restoration, conservation of local germplasm, through community seedbanks and multiplication centres
- v) Facilitate participatory agroecology extension services to build the capacity of farmers and stakeholders
- vi) Promote eradication of eucalyptus and other invasive species from common farm boundaries.

3.4.2 Food and Nutrition

The county government of Vihiga shall promote production and consumption of safe and diverse diets including traditional foods for a healthy population.

Strategies

- i) Develop and promote production and utilization of diversified food and feed.
- ii) Promote food and feed quality and safety to prevent food and feed related hazards.
- iii) Encourage change in knowledge, attitude and practices towards utilization of healthy, traditional and culturally appropriate foods from early childhood.
- iv) Promote safe production, processing, value addition and handling of food products from crops, livestock, fisheries and aquaculture to safeguard the consumer

3.4.3 Agroecology Enterprises and Agriculture Market Development

The County Government of Vihiga and stakeholders commit to promote economic production and marketing of agroecology products.

Strategies

- i) Promote branding, certification and standardization of local Agroecology inputs and products to enhance access to markets
- ii) Enhance access to benefit sharing of patented local products and germplasm (e.g., mushrooms, ALVs, beans and others)
- iii) Promote public-private partnerships in Agroecology (e.g., crop and livestock insurance, contract farming among others)
- iv) Promote and incentivize agroecology value chain activities
- v) Promote establishment of conducive agricultural market infrastructure (e.g., Designated markets)
- vi) Promote procurement of traditional foods (eg., ALVs among others) in public institutions.

3.4.4 Social and Cultural Inclusivity

The County Government of Vihiga shall integrate vulnerable and marginalized groups in Agroecology and enhance conservation, protection and promotion of indigenous agricultural knowledge and practices.

Strategies

- i) Involve youth, women, PWDs and marginalized groups in agroecology activities.
- ii) Strengthen conservation and dissemination of indigenous agricultural knowledge.
- iii) Promote cultural food festivals on a regular basis.

3.4.5 Agroecology Research, Linkages and Innovation

The County Government of Vihiga shall promote participatory, adaptive research and linkages for innovative Agroecology practices.

Strategies

- i) To strengthen research-extension linkages in co-creation and innovation
- ii) To enhance Agroecology extension services, appropriate technologies and innovations.
- iii) To promote documentation and establish repositories on Agroecology.
- iv) Establish agroecology training, innovation and demonstration center(s) through ATIC(s).
- v) Establish a linkage with KAFU and other institutions of higher learning for development and promotion of an agroecology curriculum

4.0 POLICY COORDINATION AND IMPLEMENTATION MECHANISM

4.1 Overview

Implementation of this policy shall adopt a multi sector and institution approach, where policy actors across the national and county governments, development partners and civil society organizations shall be coordinated. To ensure a holistic approach in implementing this policy, the county department of Agriculture, Livestock and Fisheries shall be responsible for coordinating stakeholders of this policy as well as ensuring policy dissemination is effectively carried out. Critical to the success of this policy is an organization of committed and dedicated stakeholders with clearly defined roles and responsibilities. This shall be supported by legislation and strategies to effectively implement the policy. The implementation period for this policy shall be ten years, and it shall be subject to periodic monitoring and evaluation to measure performance and inform policy decisions.

4.2 Legal Framework.

There is a need to develop a legal framework to guide the implementation of agroecology activities in Vihiga. The County Government of Vihiga shall develop an Agroecology Act and the respective regulations. The County Government shall allocate resources to fund the budget for the implementation of the agroecology policy as 10% of the County Department of Agriculture, Livestock and Fisheries annual budget. The County Government of Vihiga shall provide for partnership agreements/memoranda of understanding with relevant partners for support and implementation of the agroecology policy. A County Agroecology Board shall be established to coordinate agroecological activities within the County.

4.3 Co-ordination and Institutional Framework.

The coordination of stakeholders for implementation of this policy shall be overseen by a County Agroecology Board that shall be created. A secretariat headed by Director Agriculture will coordinate implementation of agroecology activities. . The administrative budget of the board will be anchored in the Department in charge of Agriculture and livestock. The Board shall mobilize the participation of partners and stakeholders in the policy implementation budget. The board membership shall comprise of CECMs, CASSCOM and farmer representatives as shown in Table below;

Table 1: Composition of County Agroecology Board

No.	Institution	Role
1.	Farmer Representative	Chair
2.	Agriculture, Livestock and Fisheries	Secretariat
3.	Health	Member
4.	Environment & Natural Resources	Member
5.	Commerce & Cooperatives	Member
6.	Education, Science & Technical Vocation Training	Member
7.	Culture & Social Services	Member

8.	Economic Planning	Member
9.	3 CASSCOM representatives (Non state actor, Civil society, Farmer)	Member

4.4 Monitoring, Evaluation and Reporting

Participatory Monitoring and Evaluation will be carried out to assess the progress in implementation of this policy. This will entail the development of key indicators based on the policy objectives and strategies. Review of the policy shall be carried out at midterm and end term. A reporting framework shall be developed encompassing various institutions implementing this policy.

4.5 Policy Dissemination

Dissemination of this policy to beneficiaries will play a pivotal role in ensuring the interventions are sustained and the goal is realized. The County Department of Agriculture, Livestock and Fisheries shall play a central role in policy advocacy which will be done through organized forums and meetings as well as media platforms.

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19. *Reuben Chumba (Director of Agriculture, Vihiga County)*

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Annexes

Annex 1: Implementation Matrix

Theme	Strategies	Key Performance Indicators (KPIs)	Responsibilities	Timelines
1. Production and Environmental Sustainability	1.1 Promote sustainable soil health, Efficient water harvesting and utilization systems	<ul style="list-style-type: none"> • Improved soil pH. • Percentage changes in yields • Increased percentage crop diversification • Percentage increase in adoption of water harvesting technologies. • Number of soil and water conservation technologies adopted • Models of water harvesting technologies developed • Type of soil and water conservation technologies adopted • Types of sustainable irrigation systems adopted 	Local communities Director Agriculture	2024-2034
	1.2 Promote the production and use of local germplasm and bio-inputs (bio- fertilizers, bio- pesticides)	<ul style="list-style-type: none"> • Percentage increase in production of local germplasm. • Increase in diversification of varieties of germplasm. • Number and types of bio inputs in use 	Local communities Director Agriculture and partners	2024-2034
	1.3 Promote restoration, conservation of local germplasm, through establishment and maintenance of seed-banks & multiplication centres	<ul style="list-style-type: none"> • Number of local germplasm restored and conserved • Number of seedbanks established • Number of functioning seed-banks & multiplication centres 	Local communities Director Agriculture Research Institutions Academia	2024-2034
	1.4 Facilitate participatory agroecology extension services to build the capacity of farmers and stakeholders	<ul style="list-style-type: none"> • Models of agroecological extension services. • Number of farmers implementing agroecological technologies 	Local communities Director Agriculture Partners	2024-2034
	1.5 Promote eradication of eucalyptus and other invasive species from common farm boundaries	<ul style="list-style-type: none"> • Percentage reduction in eucalyptus along common boundary and riparian areas 	Local communities Director Agriculture Partners	2024-2034

2. Food and Nutrition	2.1 Develop and promote production and utilization of diversified food	<ul style="list-style-type: none"> • Number of farmers practicing: • (a) Crop and (b) livestock diversity production • Number of people consuming minimum dietary diversity. 	<p>County Director Agriculture</p> <p>County Director Health</p>	2024-2034
3. Agroecology Enterprises and Agricultural Market Development	3.1 Promote participatory certification and standardization of local AE inputs and products to enhance access to markets	<ul style="list-style-type: none"> • No. of Agroecology actors Sensitized and Trained • No. of products Certified and Standardized 	CTC/Agriculture/ Dev. Partners	2024-2034
	3.2 Enhance access to benefit sharing of patented local genetic material	<ul style="list-style-type: none"> • No. of Sensitization and Trainings conducted • No. of AE products patented 	CTC/Agriculture/ Dev. Partners	2024-2034
	3.3 Promote public private partnerships in AE.	<ul style="list-style-type: none"> • Number of Agroecology Investment under PPP 	CTC/Agriculture/ Dev. Partners	2024-2034
	3.4 Promote and incentivize AE activities (input supply, production, processing, & value addition)	<ul style="list-style-type: none"> • Number of Beneficiaries on Tax waiver and Incentives 	CTC/Agriculture/ Dev. Partners	2024-2034
	3.5 Facilitate establishment of conducive market infrastructure and embrace green procurement within public institutions	<ul style="list-style-type: none"> • No. of Conducive AE markets established. • No. of Institutions which have adopted procurement of agroecology products 	CTC/Agriculture/ Dev. Partners	2024-2034
	3.6 Promote crop and livestock insurance; contract farming for AE enterprises (risk mitigation/ resilience in introduction)	<ul style="list-style-type: none"> • No. of Agroecologist Enterprises Ensured. • No. of Agroecological enterprise • Under Contract farming 	CTC/Agriculture/ Dev. Partners	2024-2034
4. Social & Cultural Inclusivity	4.1 Involve youth, women, PWDs and marginalized groups in agroecology activities	<ul style="list-style-type: none"> • No. of linkages with institutions providing assistive farm devices • No. of Cooperatives created • No. of farmers trained on AE • No. of farmers trained on lobby & advocacy 	Director Tourism Director culture & Director of Social services.	2024-2034
	4.2 Strengthen conservation and dissemination of indigenous agricultural knowledge	<ul style="list-style-type: none"> • No. of farmers with indigenous agricultural knowledge mapped • No. of farmers trained agricultural knowledge • 1 repository created at 	Director ICT, Director Social Services, Director of Culture and County Director of Agriculture. Director	2024-2034

		<p>the county</p> <ul style="list-style-type: none"> • Bi-annual exhibitions • No. of documentaries, newsletter publications & barazas held to disseminate information 	of Tourism,	
	4.3 Promote cultural food festivals on a regular basis.	<ul style="list-style-type: none"> • Bi-annual Food festivals 	Director ICT, Director Social Services, Director of Culture and Director of Agriculture. Director of Tourism,	2024-2034
5. Agroecology Research, Linkages, and Innovation	5.1 To strengthen research extension linkages in co-creation and innovation	<ul style="list-style-type: none"> • Number of collaborative research initiative between research & extension services • Number of linkages formed with development partners. • Number of PPPs formed 	DoALF Development partners Academia & National international research organizations	2024-2034
	5.2 To enhance Agroecology extension services, appropriate technologies and innovations.	<ul style="list-style-type: none"> • Number of appropriate AE innovations and technologies promoted and disseminated. • No. of stakeholders aware of AE technology & innovation • Number of joint fielddays, exhibitions, shows, and field demos on AE conducted 	DoALF Development partners Academia & National international research organizations	2024-2034
	5.3 To promote documentation and establish repositories on Agroecology	<ul style="list-style-type: none"> • No. of both electronic and hard copy repositories on AE developed & documented. • No. of stakeholders accessing and utilizing documented repositories on AE • No. of Agricultural training & innovation resource centers with repository established • No. of AE curricular, training approaches, and tools developed and utilized. 	DoALF Development partners Academia, and Both National & international research organizations	2024-2034
	5.4 Establish agroecology training, innovation and demonstration center(s)	<ul style="list-style-type: none"> • Number of Extension services providers and farmers trained on AE • Number of innovation centers established in each sub-county. 	DoALF Development partners Academia & National international research organizations	2024-2034