

**AF SA**

ALLIANCE FOR FOOD SOVEREIGNTY IN AFRICA



# **KENYAN NATIONAL CLIMATE CHANGE POLICIES**

**Gaps and  
Opportunities for  
Mainstreaming  
agroecology in  
Kenya**

2020



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# Acronyms

AFFA	Agriculture, Food and Fisheries Authority Act
AFSA	Alliance for Food Sovereignty in Africa
ASALS	Arid and Semi-Arid Lands
CDM	Clean Development Mechanism
CIDP	County Integrated Development Plans
CSA	Climate Smart Agriculture
DNA	Designated National Authority
EMCA	Environmental Management and Coordination Act
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GHG	Green House Gases
JKUAT	Jomo Kenyatta University of Agriculture and Technology
MTP	Medium Term Plan
NAP	National Adaptation Plan
NCCAP	National Climate Change Action Plan
NCCRS	National Climate Change Response Strategy
NDC	Nationally Determined Contribution
NDMA	National Drought Management Authority
NEAP	National Environment Action Plan
NIE	National Implementing Entity
KARI	Kenya Agriculture Research Institute
KCSAS	Kenya Climate Smart Agriculture Strategy
ReSCOPE	Regional Schools and Colleges Permaculture Programme
SCOPE	Schools and Colleges Permaculture Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNCCD	United Nations Convention to Combat Desertification

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# Background and Introduction

## Background

Alliance for Food Sovereignty in Africa (AFSA) is running a continental campaign on Agroecology for Climate Action in 12 African countries (Cote d'Ivoire, Cameroon, Ghana, Ethiopia, Kenya, Senegal, South Africa, Nigeria, Togo, Uganda, Zambia and Zimbabwe). The overall goal of the campaign is to ensure that "Agroecology recognized in national, regional and international policy spaces and frameworks as a strategy for climate change adaptation and mitigation in Africa." At national level, the objective of the campaign is to influence national climate policy frameworks, plans and strategies to reflect agroecology as an adaptation and mitigation measure for climate change. As part of the campaign strategy, members in the 12 countries have agreed on studying the national policy environment for purposes of identifying entry points for inclusion of Agroecology into these policy and strategy documents.

At national level the objective of the campaign is to influence national climate policy frameworks, plans and strategies to reflect agroecology as an adaptation and mitigation measure for climate change. As part of the campaign strategy, the members in the 12 countries agreed on undertaking a study of the national policy environment on climate change for purposes of identifying entry points for inclusion of Agroecology.

In Kenya, the study was undertaken by Regional Schools and Colleges Permaculture Programme (ReSCOPE) through Schools and Colleges Permaculture Programme (SCOPE Kenya) under the auspices of the AFSA Campaign on Agroecology for Climate Action. AFSA and ReSCOPE have a common interest to deliver a continental campaign on Agroecology for Climate Action, and SCOPE Kenya is the implementing agency in Kenya.



## Objectives of the study:



The study was conducted with the broad objective of reviewing Kenya national climate change policy environment for purposes of identifying entry points for inclusion of Agroecology.

### The specific objectives included:

- Create an understanding of existing climate change related policies, plans, strategies, regulations and frameworks at national level.
- Identify critical entry points for mainstreaming agro ecology within the identified policy frameworks.
- Propose approaches to guide the integration of agro ecology in the national legislation and frameworks identified.

## Scope of the study:

The review was confined to national public policies on climate change specifically and related sector policies including environment, water, agriculture and ASALS development. It also looked into County Governments Act 2012 and other county specific plans with a bearing on climate change. The review sought to identify the extent to which climate change adaptation and mitigation strategies have been captured in public policies at national levels, as well as progress in counties in mainstreaming climate change adaptation and mitigation in county development plans and budgets.

## Methodology of the study:

The study adopted a document analysis method for data collection. It involved accessing policies and legislation from the official government documents and websites. Visits to ministries or other relevant offices were not possible due to restrictions of physical interactions following the COVID 19 pandemic. The accessed documents were studied with special emphasis on the extent to which climate change adaptation and mitigation strategies have been integrated, including identifiable gaps and opportunities for agroecology.

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## Policy Identification and analysis

### **The Constitution of Kenya (2010)**

The Constitution of Kenya (2010) provides ground for the formulation of adaptation and mitigation legislation, policies and strategies through a number of relevant articles. In Article 11 under Culture, the Constitution recognizes the *roles of science and indigenous technologies in the development of the nation*. Further, it provides that legislation will be enacted to *recognize and protect ownership of indigenous seeds and plant varieties and use by communities*. It goes further to guarantee the right to a clean and healthy environment under the Bill of Rights (Chapter 4, Article 42) which provides that *every Kenyan has a right to a clean and healthy environment*. In Article 43 on Economic and Social rights, the constitution states that *“every person has a right to be free from hunger, and to have adequate food of acceptable quality”*. In chapter 5 on Land and Environment, article 69 provides for obligations in respect of the environment while Article 72 requires Parliament to pass legislation relating to the environment.

### **Entry points for agroecology:**

*Specifically, articles 11, 43 and 72 provide opportunities for agroecology since they promote community seed systems and self-determined food systems, including appropriate and supportive legislation.*

## Kenya Vision 2030 (2008) and its Medium Term Plans

*Kenya Vision 2030*, is the country's development blueprint. Its objective is to help transform Kenya into a "newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment." The Vision 2030 particularly recognizes that Agriculture will continue to play a crucial role towards the achievement of a sustained GDP growth rate of 10% annually. The Vision is based on three pillars: economic, social and political. The vision recognized climate change as a risk that could slow the country's development. However, it did not identify actions to address climate change in its original form. Climate change actions were identified in the Second Medium Term Plan (MTP) (2013-2017). The Third Medium Term Plan (2018-2022) recognized climate change as a crosscutting thematic area, and mainstreamed climate change actions in sector plans.

### Gaps

The initial version of Vision 2030 does not directly recognize the implications or impacts of climate change on realization of the goals. The vision does not adequately recognize the threats and opportunities presented by climate change. It does not provide specific guidance on how various sectors can work together to address climate change. The issues of sustainability as envisioned in the strategies of adaptation and mitigation of climate change are only assumed under the broad principle of "sustainable development".

### Opportunities for agroecology

*The vision recognized climate change as a risk that could slow the country's development. Climate change actions were identified in the Second Medium Term Plan (MTP) (2013-2017). The Third Medium Term Plan (2018-2022) recognized climate change as a crosscutting thematic area, and mainstreamed climate change actions in sector plans. The ongoing (third) MTP provides a good opportunity for mainstreaming of agroecology.*

## Kenya Climate Smart Agriculture Strategy (2017- 2026)

CSA is defined as an agriculture that “sustainably increases productivity, enhances resilience, reduces/removes greenhouse gas emissions, and enhances the achievement of national food security and development goals” (FAO, 2010). This definition set a global agenda for investments in agricultural innovations that unite agriculture, development and climate change communities under a common agenda through integrating the three dimensions of sustainable development (economic, social and environmental) by jointly addressing food security and climate challenges.

The objective of the Kenya *Climate Smart Agriculture Strategy (KCSAS)* is to adapt to climate change and build the resilience of agricultural systems, while minimizing GHG emissions. CSA aims to achieve three main objectives: sustainably increase agricultural productivity and incomes; adapt and build resilience to climate change; and reduce and/or remove greenhouse gas emissions, where possible. Planned actions will lead to enhanced food and nutritional security, and improved livelihoods.

### Gaps

Weak recognition of locally determined and resilient climate smart agricultural practices that address climate change, especially those based on local and indigenous knowledge.

### Opportunities for agroecology

*CSA objective is to adapt to climate change and build the resilience of agricultural systems while minimizing GHG emissions. Agroecology is one strategy that will contribute to the achievement of all these objectives as it reduces greenhouse gas emission substantially while increasing agricultural productivity. Overall, enhances community’s resilience to climate change in line with the objectives of KCSAS.*

## National Climate Change Action Plan (2018-2022)

NCCAP 2018-2022 furthers the achievement of Kenya's development goals by providing mechanisms to realize low carbon climate resilient development. It emphasizes sustainability, while prioritizing adaptation and enhanced climate resilience for vulnerable groups. NCCAP 2018-2022 has identified seven priority areas, including: Disaster Risk Management; Food and Nutrition Security; Water and the Blue Economy; Forestry; Wildlife, and Tourism; Health, Sanitation, and Human Settlements; Manufacturing; and Energy and Transport. NCAAP aligns with the Government's Big Four Agenda, and the *Sustainable Development Goals (SDGs)*. NCCAP 2018-2022 seeks to increase the number of households and entities benefiting from devolved adaptive services; improve the ability of people to cope with drought and floods; improve the coordination and delivery of disaster management response; improve crop productivity through roll out of actions in the *Kenya Climate Smart Agriculture (KCSA), 2017-2026*; improve crop productivity by increasing the acreage under irrigation; increase productivity in the livestock and fisheries sectors through implementation of relevant actions in KCSA; and diversify livelihoods to adjust to the changing climate.

### Gaps

The NCCAP 2018-2022 is too generalized in its approach to addressing gender issues on climate change. It has not adequately mainstreamed adaptation, building resilience and mitigation of GHG's into the agricultural sector.

The Policy document mainly focuses on the Clean Development Mechanism (CDM) and so there is need to consider other climate mitigation opportunities. There is a need to develop a government scorecard on climate change finance and aid effectiveness

### Opportunities for mainstreaming agro ecology

*One of the policy's objective is to improve the ability of people to cope with drought and floods and increase crop productivity: agroecology presents an approach that will increase crop productivity and increase the ability of people to cope with drought and floods.*

*Food and Nutrition security is one of the NCCAP's priority areas. This can be a major entry point for agroecology as it ensures that quality and affordable food is available.*

## National Climate Change Response Strategy (2010)

Kenya's *National Climate Change Response Strategy* was the first national policy document on climate change. It sought to advance the integration of climate change adaptation and mitigation into all government planning, budgeting, and development objectives. Under agriculture, the strategy sought to implement the following among other interventions:

- Support community-based adaptation strategies, e.g. building or enhancing systems for conveying climate information to rural populations.
- enhanced financial and technical support to the Orphan Crops Programme so that indigenous and more drought tolerant food crops like cassava, millet, sorghum sweet potatoes can be re-introduced into the farming systems,
- promoting Conservation Agriculture (CA), whose aim is to achieve sustainable and profitable agriculture and ultimately improve farmers' livelihoods through the application of the three CA principles: minimal soil disturbance, permanent soil cover and crop rotations
- diversifying rural economies, e.g. through value addition to agricultural products and financial support for sericulture and apiculture with the aim of reducing reliance on climate-sensitive agricultural practices
- strengthening integrated and environmental friendly pest management systems to cope with increased threats from insects, pathogens, and weeds,
- breeding animals from various agroecological zones that adapt well to climatic vagaries, through the assistance of the Kenya Livestock Breeding Board and other relevant institutions,
- training communities on identification and establishment of emergency fodder banks from crop residues, growing seasonal/perennial fodder trees and grasses, preservation of seasonal wetlands during droughts and moving livestock into these during dry spells, as well as identification of forage types that suits various agroecological zones,
- inventorying indigenous knowledge that has conventionally been used by local communities to cope with erratic climate, e.g. on rainfall prediction and use of conventional medicine in treatment of animal diseases, as well as supporting the improvement and dissemination of such technologies. These inventories are important elements for planning as they provide efficient, appropriate and time tested ways of advising communities affected by climate change,

### Opportunities for agroecology

*The interventions as highlighted provide huge opportunities for agroecology both agricultural and livestock keeping areas. The plan is being implemented till 2030.*

## Climate Risk Management Framework (2017)

The Climate Risk Management Framework for Kenya integrates disaster risk reduction, climate change adaptation, and sustainable development, so that they are pursued as mutually supportive rather than stand-alone goals. It promotes an integrated climate risk management approach as a central part of policy and planning at National and County levels.

The framework has ten priority areas, whose objectives are as follows:

- a) Institutional framework: To harmonize programmes and projects and create a coordination mechanism.
- b) Policy framework: To create an enabling policy and legal framework for integrated climate risk management.
- c) Capacity building: To build capacity at national and county level for integrated climate risk management.
- d) Exposure, vulnerability and capacity: To analyze the level of exposure, vulnerability to disasters, and capacity at the local scale.
- e) Gender mainstreaming: To involve communities at risk, and consider gender and marginalized groups.
- f) Resource mobilization: To mobilize resources for climate risk management.
- g) Mainstreaming climate risk management: To mainstream climate risk management into sector programmes, plans and activities.
- h) Pilot projects: To design and implement pilot projects at county and national level.
- i) Training, research and outreach: To enhance research and dissemination of information about climate risk management.
- j) Learning: To create platforms for sharing lessons and good practices on integrated climate risk management.

## Gaps

Most gaps have since been addressed through subsequent legislation. However, data gaps such as the availability of information regarding key natural ecosystems and gender-disaggregated information still persist. Further, gaps in knowledge exist at all levels regarding climate risk preparedness and response, from the national to the community levels.

## Opportunities for agroecology

*There exist opportunities in designing agroecological projects that respond to climate risks, involving the communities at risks while considering gender and marginalized groups. Such agroecological projects can be designed and implemented in agricultural and pastoralist areas. The players in agroecology in Kenya are already implementing such projects which can provide useful learning. Key entry area is the county governments given that most target areas which affect communities directly are devolved.*

## Kenya's Nationally Determined Contribution (NDC) (2016)

Kenya's NDC under the *Paris Agreement* of the *UNFCCC* includes mitigation and adaptation contributions. In regard to adaptation, "Kenya will ensure enhanced resilience to climate change towards the attainment of Vision 2030, by mainstreaming climate change into Medium Term Plans (MTPs), and implementing adaptation actions." The mitigation contribution "seeks to abate Kenya's GHG emissions by 30% by 2030, relative to the business as usual scenario of 143 MtCO<sub>2</sub>eq." Achievement of Kenya's NDC is subject to international support in the form of finance, investment, technology development and transfer, and capacity development. To enhance the resilience of agriculture, livestock development and fisheries, Kenya banks on climate smart agriculture which is being taunted to provide both mitigation and adaptation opportunities.

### Gaps

Kenya's implementation of NDCs will begin in 2021. However, the country experiences a slow implementation of key legislation and frameworks related to climate change, and which inspired Kenya's NDCs. Kenya relies on external funding to implement the bulk of climate mitigation and adaptation actions and this contributes to the slow pace in achievement of the NDCs.

### Opportunities for agroecology

*As the country requires all stakeholders to make contributions in addressing NDCs, including civil society and businesses, this provides an opportunity for implementation of agroecology and appropriate livestock keeping strategies especially to reduce greenhouse gas emissions in agriculture.*

## National Climate Finance Policy (2018)

The *National Climate Finance Policy* promotes the establishment of legal, institutional, and reporting frameworks for access to, and management of climate finance. The goal of the policy is to further Kenya's national development goals through enhanced mobilization of climate finance that contributes to low carbon climate resilient development goals. This Policy establishes the legal, institutional and reporting frameworks to access and manage climate finance, consistent with the institutional structures and framework set out in the Climate Change Act, 2016. The goal of the Policy is to further Kenya's national development goals through enhanced mobilization of climate finance that contributes to low carbon climate resilient development goals. The objectives of the policy are to:

- Enhance the implementation of public finance management in relation to climate financing;
- Establish mechanisms to mobilize internal and external climate finance;
- Track, monitor, evaluate and report on sources, applications and impacts of climate finance;
- Enhance the capacity of the country to mobilize climate change finance to support sustainable development; and
- Encourage private sector participation in climate relevant financing opportunities.

### Gaps

While a key objective is to establish mechanisms to mobilize internal and external finance for climate response, including from civil society and businesses, Kenya still relies heavily on external resources to respond to vagaries of climate change.

### Opportunities for agroecology

*Most civil societies addressing climate change promote agroecology as an adaptation strategy. Civil society should continue the push for innovative finance reporting mechanisms that can well amplify their contributions in national climate financing. Including such civil society in climate finance reporting framework will of necessity include agroecology in national climate mitigation and adaptation strategies.*

## Climate Change Act (No. 11 of 2016)

The *Climate Change Act (No. 11 of 2016)* is the first comprehensive legal framework for climate change governance in Kenya. The objective of the Act is to “Enhance climate change resilience and low carbon development for sustainable development of Kenya.” The Act establishes the National Climate Change Council (Section 5), Climate Change Directorate (Section 9), and Climate Change Fund (Section 25).

### Gaps

The act fails to provide quantifiable emissions reduction targets. It does not specify how to incorporate gender in public awareness campaigns. There is no special element addressing the plight of the vulnerable.

### Opportunities for agroecology

*The act provides for mechanisms and framework to achieve low carbon development. This provides a legal anchorage for agroecology as it is a low carbon agricultural practice.*

## Big Four Agenda (2018-2022)

The Government of Kenya’s Big Four Agenda establishes priority areas for 2018 to 2022 of ensuring Food and Nutrition Security, Affordable Housing, Enhanced Manufacturing, and Universal Health Coverage. The agenda recommends that all sector plans and budgets be aligned to the Big Four Agenda.

Under *Food and Nutrition Security*, the government seeks to deliver 100% food security and nutrition commitment. It seeks to achieve this by increasing large scale production of staple foods, a move that will see 700,000 new acres of maize, potatoes, and rice being put under cultivation in a private/public partnership. The crops will be grown under irrigation, to solve the problem of erratic rains, which affect farmers across the country. The move is expected to increase, by a significant amount, the level of crop production in the country. By 2022, it is expected that maize production will increase by 27 million bags, and potatoes by 0.9 million tons.

### Gaps

A primary approach in this priority is establishment of large scale farms under irrigation - industrial farming. There is little focus on smallholder farmers as well as farming approaches that reduce greenhouse gas emissions. Even though county governments are supposed to plan around the four priority areas, coordination with national government is still a challenge.

### Opportunities for agroecology

*County governments are expected to plan agricultural programmes around the Big Four Agenda’s priority on food and nutrition security. The promoters of agroecology in Kenya have an opportunity to partner with county governments to implement agriculture programmes, and this provides an opportunity to promote agroecology as a farming system that can assure both food and nutrition security.*

## National Adaptation Plan (2015-2030) (NAP)

Kenya's *National Adaptation Plan 2015-2030 (NAP)* was submitted to the UNFCCC in 2017. The aim of NAP is to consolidate the country's vision on adaptation supported by macro-level adaptation actions that relate with the economic sectors and county level vulnerabilities to enhance long term resilience and adaptive capacity. This NAP presents adaptation actions that cover the timeframe 2015-2030. NAP is aligned to MTP II in which climate change adaptation is represented in the drought risk management and ending drought emergencies, environment, water, energy, agriculture, livestock, and fisheries sectors. NAP proposes macro-level adaptation actions and sub-actions in 20 planning sectors, categorizing them into short-, medium- and long-term time frames. The objectives of the NAP include:

- Highlight the importance of adaptation and resilience building actions in development;
- Integrate climate change adaptation into national and county level development planning and budgeting processes;
- Enhance the resilience of public and private sector investment in the national transformation, economic and social pillars of Vision 2030 to climate shocks;
- Enhance synergies between adaptation and mitigation actions in order to attain a low carbon climate resilient economy; and
- Enhance resilience of vulnerable populations to climate shocks through adaptation and disaster risk reduction strategies.

### Gaps

The NAP focuses mainly on macro-level adaptation actions. It creates a mismatch between national actions and county level indicators for monitoring and evaluation.

### Opportunities for agroecology

The NAP is aligned to most climate response legislation and frameworks which also provide opportunities for inclusion of agroecology as a strategy in the national climate response.

## National Climate Change Framework Policy (2018)

The *National Climate Change Framework Policy* aims at ensuring the integration of climate change considerations into planning, budgeting, implementation, and decision-making at the National and County levels, and across all sectors.

The objectives of this Policy are to:

- Establish and maintain an effective and efficient institutional framework to mainstream climate change responses across relevant sectors and into integrated planning, budgeting, decision-making and implementation, at both the national and county levels.
- Reduce vulnerability to the impacts of climate change by building adaptive capacity, enhancing climate change resilience and strengthening capacities for disaster risk reduction.
- Catalyse Kenya's transition to cleaner, lower emission and less carbon intensive development.
- Incentivize private sector involvement in building climate change resilience and engaging in low carbon development opportunities.
- Facilitate widespread public awareness, participation, ownership and oversight of Kenya's climate change response efforts and Action Plans.
- Provide a framework to mobilise resources for Kenya's climate change response and ensure effective and transparent utilisation of the resources.
- Adopt intergenerational, special needs and gender mainstreaming approaches across all aspects of Kenya's climate change response.
- Provide the policy framework to facilitate effective implementation of regularly updated and scientifically informed Climate Change Action Plans.
- Enhance research and use of science and technology in policy decisions and sustainable management of resources.

### Gaps

The policy has not directly recognized and planned for indigenous and local knowledge and practices that reduce the impacts of climate change at the local level.

### Opportunities for agroecology

*The policy is implemented by both national and county governments. In facilitating widespread public awareness, participation and ownership, promoters of agroecology can work closely with county governments to promote agroecological responses. Further, implementation of the policy recognizes very progressive guiding principles which if applied would amplify the spaces for agroecology. Among others, the policy recognizes that building partnerships, collaboration and synergies among various stakeholders from the public, government, non-governmental organisations, civil society and private sector, as well as vulnerable communities and populations including women and youth, will be prioritized to achieve effective implementation of this Policy.*

*Other guiding principles include: common but differentiated responsibilities and capabilities, right to a clean and healthy environment, right to sustainable development, and avoiding maladaptation (defined by the UNFCCC as any changes in natural or human systems that inadvertently increase vulnerability to climatic stimuli).*

## The National Policy for the Sustainable Development of Northern Kenya and other Arid Lands

The goal of the policy is to facilitate and fast-track sustainable development in Northern Kenya and other arid lands by increasing investment in the region and ensuring that the use of those resources is fully reconciled with the realities of people's lives. It focuses on climate resilience requiring the government to find solutions to address climate challenges and to come up with measures to manage drought and strengthen livelihoods. The policy also focuses on an enabling environment for accelerated investments in "foundations" to reduce poverty and build resilience and growth. The establishment of the National Drought Management Authority (NDMA), the National Disaster Contingency Fund and the Council for Pastoralists education are provided for in the policy. A key objective is to *strengthen the climate resilience of communities in the ASALS and ensure sustainable livelihoods.*

Other objectives include:

- To strengthen the integration of Northern Kenya and other arid lands with the rest of the country and mobilize the resources necessary to ensure equity and release the region's potential.
- To improve the enabling environment for development in Northern Kenya and other arid lands by establishing the necessary foundations for development.
- To develop alternative approaches to service delivery, governance and public administration which accommodate the specific realities of Northern Kenya and pastoral areas

### Opportunities for agroecology

*In strengthening the resilience of communities, there is room for diversification of land enterprises. Some areas in the ASALS have started farming enterprises. These being newly mobilized farmlands, promoters of agroecology have an opportunity to introduce agroecology as a climate adaptation strategy in the ASALS. The policy also stipulates that the government will systematically strengthen the strategies used by communities to adapt to climate variability and to reduce and manage the risks from natural disasters. This is an opportunity to mainstream indigenous knowledge and local practices of natural resources management in climate responses. The policy directly provides for the following actions to protect natural resources:*

- Reinforce the authority of traditional natural resource management systems that promote sound environmental practices.
- Protect and promote indigenous knowledge and practice, promote environmental education and awareness, intensify environmental conservation efforts.
- Protect and increase forest cover, riverine vegetation and critical water catchment areas in the ASALS, including special ecosystems such as Mts. Marsabit and Kulal.
- Eradicate undesirable invasive species such as prosopis.
- Promote low-maintenance water technologies, with an emphasis on water harvesting which (given likely climate change impacts) can deal with both abundance and scarcity.
- Ensure that the interests of pastoralists, particularly pastoralist women, are adequately and appropriately addressed in new land legislation and institutions, in line with the National Land Policy

*The above actions provide an easy entry point for agroecology in the ASALS.*

## Environmental Management and Coordination Act (EMCA, 2015):

The Act is the principle instrument of Government for the management of the environment. The Environmental Management and Coordination Act (EMCA) 2015, embraces all environmental management issues in the country. The Act addresses the environmental concerns and safeguards against environmental degradation within and outside protected areas.

The Act provides the legal framework for the implementation of National Environment Action Plan (NEAP), which gives due regard to ensuring that people live in a healthy environment. It also emphasizes maximum participation by stakeholders in the development and implementation of policies, plans and processes for the management of the environment and provides for the relevant institutional framework for the coordination of environmental management including Kenya's National Climate Change Action Plan<sup>11</sup>; the establishment of the National Environment Management Authority (NEMA) which is the Designated National Authority (DNA) for Clean Development Mechanism (CDM) and the National Implementing Entity (NIE) for the Adaptation Fund.

### Gaps

EMCA does not have strong provisions on climate change adaptation and mitigation, which can be attributed to the time when they were made. For instance, the policy merely states that a climate change strategy should be developed.

### Opportunities

The Act strongly recognizes the contribution of indigenous and traditional knowledge and defines them as here under. *These definitions open up opportunities for agroecology whose key components are still practitioners' knowledge.*

*"indigenous knowledge" means any traditional knowledge of sources, components, capabilities, practices and uses of, and processes of preparation, use and storage of plant and animal species and their genetic resources;*

*"Traditional knowledge" means such knowledge as may be socially and culturally acquired within or without the context of conventional education by Kenyans.*

*The Act is also very clear on control of pesticides and toxic substances in agriculture*

*The Act also recognizes the contribution of civil society which is referred to in the Act as Public Benefit Organizations. Further the Act .*

## The Agricultural Sector Development Strategy (2010-2020)

This strategy is the overall national policy document for the agricultural sector in Kenya, which comprises crops, livestock, fisheries, land, water, cooperatives, environment, regional development and forestry. The sector also includes the development of arid and semi-arid lands. The policy recognizes that the development and growth of the agricultural sector is anchored in, among other areas, developing and managing key factors of production such as land, water, inputs, and financial resources. A key goal of the strategy is food and nutritional security for all Kenyans which shall be attained especially by increasing smallholder productivity. The strategy recognizes environmental preservation. It goes ahead to recognize the role of the private sector and sets out to establish an Innovation Fund for Agriculture and agribusiness. Finally, the strategy recognizes insufficient water storage infrastructure; inadequate disaster preparedness and response; low and declining soil fertility; heavy livestock losses to diseases and pests; pre- and post-harvest crop losses; and limited access to capital as some of the key challenges to development of the agricultural sector.

### Gaps

The strategy has not directly addressed climate change adaptation and mitigation despite that fact that it has an implementation life of ten years.

### Opportunities for agroecology

*The strategy has comprehensively identified the key areas in agriculture that need to be addressed to ensure food and nutrition security for Kenyans. It has identified insufficient water storage infrastructure; inadequate disaster preparedness and response; low and declining soil fertility; heavy livestock losses to diseases and pests; pre- and post-harvest crop losses; and limited access to capital as some of the key challenges to development of the agricultural sector. These are also the key areas that agroecology addresses and therefore this convergence provides a good entry point for agroecology.*

## The County Governments Act, 2012

The Act states that a county government shall plan within a framework that integrates economic, physical, social, environmental and spatial planning, protect and develop natural resources in a manner that aligns national and county government policies. Environment and climate change is a function of the national and county government and requires concurrent jurisdiction across both levels. Agriculture, water and environment are devolved functions and are the most critical to ensure food and nutrition security. County Integrated Development Plans (CIDPs) present an opportunity to identify climate change priorities and actions at the county level, and to integrate these actions in programmes and initiatives. Under the County Governments Act (2012), CIDPs must have clear outcomes, monitoring and evaluation, and reporting mechanisms. In addition, CIDPs must set out a resource mobilization and management structure. The mandatory requirement for development of sectoral plans allows room for detailed analysis of climate change priorities and investment needs at the county level. The Act therefore becomes the most important legislation to focus on as it requires county governments to take charge of climate change issues in their counties. Counties are also expected to set up County Climate Change Fund and attendant committees to finance and implement climate change adaptation responses at county level.

### Gaps

Most county governments have not developed the necessary legislation to holistically address climate change issues. Where such legislations exist, they are not supported by corresponding budgetary allocations to implement the priority adaptation and mitigation actions.

### Opportunities:

*Through structured private-public partnerships, promoters of agroecology can support county governments to mainstream climate change and agroecology in their CIDPs; set up county climate change focal points as well as climate change funds; and enact relevant legislation with a bearing on agroecology.*

The table below summarizes some of the actions counties have taken to respond to climate change. It also shows some of the opportunities that exist and which provide easy entry points for agroecology.

**Table 1: County level actions relevant for climate change and agroecology**

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agroecology
<b>All counties</b>	County Governments are required to mainstream climate change in their CIDPs. Since 2013, CIDPs have mentioned the impacts of climate change, and many have identified actions to address these impacts. Adaptation actions have been a priority for most County Governments,	All counties have the opportunity to include climate change and agroecology related actions in the CIDPs and attendant implementation programmes.
<b>Garissa</b>	Garissa has a Climate Change Fund Act, which requires the County Government of Garissa to set aside 2% of its annual development budget for a special fund for climate change adaptation and mitigation strategies. The fund also calls for initiating and coordinating Climate Change Adaptation and Mitigation frameworks at the community level and facilitating community initiated Climate Change Adaptation and Mitigation activities in the County.	Agroecology can be adopted as one of the programmes funded to assist local people adapt to climate change. Agroecology is a community initiated climate change mitigation and adaptation strategy and thus it can easily be adopted and funded.
<b>Makueni</b>	Makueni County has developed a Climate Change Fund, which aims at providing funds for climate change strategies by setting aside 1% of its annual budget to climate change action. Through its CIDP Makueni county has identified climate change actions set to mitigate and help community members adapt to climate change. The CIDP's mission includes sustainable land management and emphasizes on conservation of the environment and its natural resources. In partnership with other organizations such as UKAID and the national government, Makueni County has conducted various projects all aimed at mitigating and adapting to climate change.	Agroecology promotes sustainable land management and environmental conservation which is their major mission in the CIDP
<b>Kitui</b>	Kitui County government has created the Kitui climate change adaptation fund of Ksh.117 million, which is aimed at transforming the county into a green economy county. They have also identified charcoal burning as one of the major contributors to climate change and have developed the Kitui County Charcoal Management Act with the objective of controlling and regulating trade and production of charcoal in order to conserve biodiversity and contribute to sustainable land management and use.	Agroecology comes with climate change adaptation and mitigation actions which Kitui County Government can fund to enhance resilience. The Kitui CIDP aims at promoting good practises in soil and water management, seed production and environmental management - actions which are fundamental in agroecology.

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>West Pokot</b>	<p>The county government is developing a policy document on coordination, harmonization, and funding of climate change programmes. The document is targeting the agricultural sector, with priority on activities geared towards climate change adaptation and preparedness. Currently the county's investment in climate change is at 8%.</p> <p>Through its CIDP, the county aims at sustainable management of land resources and increasing farm productivity through improvements in irrigation farming, cash cropping, extension services, seed and feed supply and support with drought-resistant crops. It aims at ensuring sustainability through soil and water conservation, reforestation of hilly areas and rehabilitation of degraded areas, water harvesting for crop production, farm forestry and rangeland rehabilitation.</p>	<p>The county government policy document targets activities geared towards climate change adaptation and preparedness presenting an opportunity to promote agroecology.</p> <p>The county CIDP calls for sustainability through soil conservation, rangeland rehabilitation and farm forestry and agroecology can be adopted as one of the strategies in ensuring soil conservation and sustainability.</p>
<b>Isiolo</b>	<p>Isiolo County has the Isiolo County Climate Change Fund Act 2016 aimed at funding climate change resilience and adaptation projects. Through its CIDP Isiolo has a mission of sustainable utilization of resources. It directs the training of farmers on environmental conservation and appropriate farming methods to reduce impacts of climate change and environmental degradation. Its CIDP focuses on promoting organic farming, clean production systems and renewable energy. It prioritizes increasing the awareness on technologies to increase soil fertility, water harvesting, post-harvest food handling and storage.</p>	<p>The Isiolo CIDP prioritizes organic farming, which is part of agroecology, and thus non-governmental organizations should work in conjunction with the county government to ensure the success of the CIDP and to create awareness to the farmers and build their capacity on various agro-pastoral strategies that strengthen agroecology.</p>
<b>Wajir</b>	<p>Wajir county has developed a Climate Change Fund Act (No. 3 of 2016) which requires the county government to allocate 2% of its budget community-initiated adaptation and mitigation projects.</p>	<p>Agro-pastoral strategies around agroecology can be implemented through this fund.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Kajiado</b>	<p>Kajiado county has developed a policy brief aimed at guiding them to developing a climate change policy. In the brief, they have identified major causes and effects of climate change and the possible mitigation strategies.</p> <p>The county CIDP 2018-2022 integrates sustainable land management, conservation agriculture and soil fertility improvement. The CIDP also encourages training on post-harvest management practices to reduce losses.</p> <p>It attempts to promote biodiversity protection through land-use policies, forest plantations, forestry conservation and protection.</p>	<p>The CIDP incorporates actions for pastoralists and farmers to respond to climate change, whose implementation would be a good entry for agroecology. It partially integrates the maintenance of healthy and fertile soils and this can be a great entry point for agroecology.</p>
<b>Laikipia</b>	<p>Laikipia county has invested 6% of its budget on climate change. Through its CIDP, the county government has a mission of sustainable development, sustainable land management through promotion of conservation agriculture, training communities on natural resource conservation and soil fertility improvement through soil fertility analysis, mapping and management.</p> <p>It commits to promote farm and renewable energy development, specifically biogas, solar and wind energy and energy-saving jikos.</p>	<p>The CIDP of Laikipia has a mission on sustainable land management through promotion of conservation agriculture. This presents an opportunity for promotion of agroecology by its promoters in the county.</p>
<b>Baringo</b>	<p>Baringo county has invested 6% of its budget on climate change resilience and adaptation projects.</p> <p>The Baringo County Government through its CIDP 2018 calls for proper utilization of resources in a sustainable manner generally especially to conservation of forests. It highly encourages use of traditional high value crop seeds.</p>	<p>Agroecology is among the climate change resilience and adaptation strategies that can be adopted.</p> <p>Baringo CIDP calls for sustainable utilization of natural resources such as land and agroecology is among key farming strategies that conserve the environment and sustainably utilizing our resources. It also encourages the use of traditional seeds, which is a principle of agroecology.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Embu</b>	<p>Embu county has drafted a climate change policy, which when complete will be their guide towards mitigating and adapting to climate change. It has also integrated farmers and scientific methods in an attempt to find the adaptation strategies for the community members. Through its CIDP Embu county has directed sustainable land management by promoting the adoption of proper farming methods and has promoted utilization of ecological land use management methods.</p>	<p>In the climate change policy being drafted there is an opportunity for agroecology to be incorporated and prioritized as a mitigation and adaptation strategy. The CIDP promotes adoption of proper farming methods where agroecology is one such method. It also calls for capacity building on farm forestry and provision of seeds and this can be a great avenue for non-governmental organizations to build capacity of community on agroecology.</p>
<b>Machakos</b>	<p>Machakos County has developed Agricultural Development Fund Act, which is a pronouncement of public policy in the county. The Act provides for the growth and development of the agricultural sector, enhancement of production and value addition, and marketing of agricultural products in the county.</p>	<p>The Machakos County agricultural development fund act empowers the county to support agricultural services such as agro-forestry, sustainable land management, soil and water conservation and crop diversification and this presents a great opportunity to mainstream agroecology as the above practises are component of agroecology and create awareness to the community members.</p>
<b>Bungoma</b>	<p>Through its CIDP Bungoma County aims at sustainable environmental and land use management and sustainable agricultural practices. The CIDP recognizes soil health challenges and directs the support to improve soil fertility through encouragement of organic manure, soil conservation, agro-forestry and Conservation agriculture.</p>	<p>The CIDP recognizes soil health challenges and directs on strategies aimed at improving the soil fertility, which can be a great entry point for agroecology. The CIDP also calls for interventions to ensure environmental and land use management and agroecology is such intervention.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Meru</b>	<p>The Meru CIDP calls for sustainable development through the promotion of sustainable and competitive agriculture, which is a good opportunity to promote agroecology, as it is a sustainable farming practices contributing greatly to sustainable farming. The CIDP further provides for utilization of rural organic wastes to make composts. It also promotes increase in awareness and land under biodiversity Conservation.</p>	<p>The CIDP calls for strategies to enhance soil fertility and manage pests and diseases. Agroecology perfectly addresses this. It also calls for the utilization of rural organic waste to make compost manure.</p>
<b>Kakamega</b>	<p>The Kakamega CIDP acknowledges that there is a decline in soil fertility ad calls for measures to restore it such as harnessing of organic manure, conserving the soil, supplying subsidized fertilizers, conducting soil testing. It directs the promotion of indigenous and highly productive seeds. The CIDP encourages water harvesting and storage individually and as associations. It also directs communities to practice afforestation.</p>	<p>The Kakamega CIDP calls for collecting of organic manure and this can be used to farm agro-ecologically thus a major entry point. The CIDP also calls for environmental conservation and sustainable land use management and agroecology inco-operates all of these together.</p>
<b>Bomet</b>	<p>In collaboration with Life skills promoters, Bomet county are carrying out a climate change governance project since 2019 aimed at building necessary capacity and supporting the county government mainstream climate change in planning and implementation. The Bomet CIDP has a mission of sustainable environment and adoption of appropriate technology that will correct environmental degradation by use of animal manure, agroforestry training and the laying out of soil and water conservation structures. The CIDP also promotes use of sustainable commercial and domestic energy and the general strengthening of fresh agricultural produce marketing.</p>	<p>The CIDP directs the use of appropriate technology in ensuring sustainable environment and this can act as a good platform for introducing agroecology as an appropriate technology to farming. It again prioritizes pest and disease control mechanism, advocates the use of animal manure to reduce environmental degradation, and thus acts as a good entry point for mainstreaming agroecology.</p>
<b>Kirinyaga</b>	<p>The Kirinyaga CIDP commits to sustainable land management. It recognizes an existing status of low soil fertility in the county, which is noted as the cause of low agricultural productivity. There is prioritization of the prevention of soil erosion. The CIDP provides direction for seed bulking and the facilitation of the supply of seeds. It suggests promotion of solar and wind energy and the promotion of renewable energy.</p>	<p>The CIDP acknowledges low soil fertility, which has led to low agricultural productivity, and this can be a good point to introduce agroecology as a means to raising soil fertility to increase yields. It again calls for sustainable land management and agroecology can be adopted and promoted as an approach towards sustainable land management.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Migori</b>	<p>Migori county has developed a County Adaptation plan with an aim of determining county level vulnerabilities against identified hazards to enhance long-term resilience and adaptive capacity.</p> <p>The plan presents adaptation actions that cover the period 2018-2022.</p> <p>In conjunction with other stakeholders and partners, the county has carried out projects aimed at increasing the county's resilience to climate change.</p> <p>Through its CIDP Migori county directs conservation of land, soil, ecosystems and wetlands.</p>	<p>As the adaptation plan seeks to enhance long-term resilience and adaptive capacity, the county should embrace agroecology as it fulfills both objectives.</p> <p>Though weak, the county CIDP calls for conservation of ecosystems and agroecology could be promoted as a strategy towards conservation.</p>
<b>Busia</b>	<p>Busia CIDP provides for promotion of sustainable development, green economy, and adoption of environmental conservation and management practices, sustainable management of land resources, sustainable commercial agriculture, social welfare services, production of organic fertilizer, promotion of agricultural mechanization, improvement of animal breeds, management of vectors and pests, and the general stimulation of marketing of agricultural produce.</p>	<p>Agroecology can be used to address a number of the identified challenges identified by the CIDP.</p>
<b>Vihiga</b>	<p>The Vihiga CIDP calls for adoption of environmentally sustainable methods that preserve and enhance soil and ground water. This is through terracing to prevent soil loss and degradation through erosion, and applying natural fertilizers to improve soil structure and fertility. Farmers are also encouraged to monitor precipitation patterns to change crops or use different harvest and planting dates.</p> <p>The CIDP also states that early warning and management systems will be put in place to facilitate adaptation to climate variability and change.</p> <p>The county is also responding to climate change through public education, promotion of drought resistant crops and planting of indigenous trees.</p>	<p>Adopting and promoting agroecology could be one of the best strategies to achieve sustainable land use and implement climate change mitigation strategies especially in soil rehabilitation and biodiversity conservation.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Homabay</b>	<p>Homabay county in collaboration with other partners is carrying out a Programme aimed at supporting vulnerable populations at risk of natural hazards caused by climate change. The county is increasingly supporting policies and components funded by devolution and climate change funds. Through its CIDP, Homabay County calls for adoption of appropriate technologies such as protection of soil and water conservation, conservation agriculture, agroforestry, carbon sinks and organic inputs.</p>	<p>The CIDP calls for the adoption of appropriate technologies, soil and agriculture conservation and use of organic inputs. This provides an opportunity to mainstream agroecology.</p>
<b>Muranga</b>	<p>Muranga County Government has initiated serious Climate Change adaptation and mitigation projects to ensure minimal impact of climate vulnerabilities in Muranga. Through its CIDP, the county calls for sustainable management of land resources. It provides for promotion of reforestation to replace the trees that have been cut in search of wood fuel while exploring other alternatives of fuel such as biogas and solar energy.</p> <p>It recognizes adverse effects of climate change and directs mitigation measures including application of modern and appropriate farming technologies, promotion of carbon sink and sequestration through enhancing forest cover and reducing environmental degradation as well as use of carbon credits.</p> <p>It calls for and encourages diversification of crops to help cope with effects of climate change.</p> <p>It promotes the use of compost manure on farms and the growing of high-value traditional drought resistance crops e.g. cassava, sweet potatoes, sorghum to ensure food security during dry seasons.</p>	<p>The county has identified actions to combat climate change. These actions form a very good basis for mainstreaming agroecology in the county strategies for mitigation and adaptation.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Nakuru</b>	<p>Nakuru county has a Sustainable Energy and Climate Change Action Plan (SEACAP) through the Covenant of Mayors in Sub-Saharan Africa (CoM SSA) - which is an initiative of sub-national governments taking local climate action.</p> <p>Through its CIDP, the county sets out to promote sustainable development through intensification of extension services, promotion of agro-forestry and orphaned crops, afforestation, irrigation, and support for environmental conservation. It calls for more research in farm inputs, sustainable crop and animal improvement, entrepreneurship development, alternative sources of energy, catchment and riverbank protection and other agro-technology.</p> <p>It encourages the use of organic manure and nitrogen-fixing plants, practises of organic farming, conservation agriculture and a 10% tree cover.</p> <p>It plans to conduct capacity building of farmers on safe and responsible use of pesticides.</p>	<p>The CIDP has identified a number of practices that can be entry points for agroecology, including: sustainable crop improvement, use of organic manure, use of alternative sources of energy, use of nitrogen-fixing plants, etc.</p>
<b>Kiambu</b>	<p>The Kiambu County government has established a directorate of climate change led by a director with the role of helping the community adapt and mitigate climate change.</p> <p>It's also working on developing an agroecology policy aimed at enabling the county put into practice agroecological strategies to help mitigate and adapt to climate change.</p> <p>Through its CIDP Kiambu County integrates the principle of sustainable land management as one of its missions. It aims at protecting biodiversity through rehabilitation of natural forests. The CIDP further acknowledges soil health issues in the county. It captures soil and water conservation as county functions and goes ahead to identify measures to promote agroforestry, increasing forest cover, and soil conservation. The CIDP encourages communities to adopt organic farming and especially the use of organic fertilizers.</p>	<p>Through the new directorate of climate change, agroecology can be promoted as a key strategy in mitigation and adaptation, and relevant policies developed to strengthen the practices.</p> <p>The CIDP captures important entry points which if exploited can position agroecology as a strategic response strategy to climate change in Kiambu county.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Taita Taveta</b>	<p>The CIDP has identified critical drivers of climate change and identified measures to address them. It promotes soil and water conservation through terracing, tree planting, and directs the improvement of soil fertility through improving access to fertilizer, training on technologies in soil fertility, and promoting agroforestry and conservation agriculture.</p> <p>The CIDP also promotes alternative source of energy such as solar and biofuels and encourages aggressive tree-planting, reforestation, afforestation and the promotion and protection of forestry and biodiversity.</p>	<p>Agroecology can be promoted as a strategy to improve soil fertility in Taita Taveta as this has been identified as a critical area.</p>
<b>Kisumu</b>	<p>The Kisumu county has invested 6% of its budget on climate change. It has also set up a directorate to deal with climate change through developing actions that ensure communities become resilient to climate change. Kisumu County is in the process of developing the Kisumu County Climate Change Act, which is at the bill stage. The bill spells out the mitigation and adaptation strategies to be implemented in the county. The county also has an environment policy which recognizes that the “survival of the people of Kisumu is ultimately intertwined with the environment”. The policy identifies environmental challenges in the county and actions to address them.</p> <p>In its CIDP, Kisumu County has the mission of improving livelihoods through promotion of competitive agriculture, sustainable management of land resources and sustainable management of forestry and wildlife resources.</p> <p>It also directs trainings and dissemination of sustainable land use management practices. Farmers are also encouraged to use fertilizers as well as organic manure while improving land management for soil and water conservation.</p>	<p>The CIDP, environment policy and the climate change bill all present useful entry points for agroecology in Kisumu county.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Transzoia</b>	<p>In partnership with other organizations, Transzoia county has an ongoing climate change resilience program that mitigate the effects of climate change.</p> <p>Through its CIDP, the county aims to improve livelihoods through sustainable use, conservation and management of forests and trees. It also aims to increase agricultural production in an environmentally sustainable manner. It further directs land use management, water-harvesting and environmental conservation through integrating farming with livestock production by use of animal manure on crops, biogas production and use of fodder trees as well as promotion of other crops to reduce over-relying on maize.</p>	<p>The county has a mission of increasing agricultural production in an environmentally sustainable manner as well as using animal manure on crops. These are easy entry points for agroecology.</p>
<b>Nyeri</b>	<p>Soils in Nyeri have become too acidic. Nyeri county is drafting a climate change policy to mitigate against the effects of climate change, mainly by protection of the water towers.</p> <p>In its CIDP, Nyeri integrates sustainable land use as a vision and promotes soil, water and environmental conservation. The plan promotes actions to address soil fertility, both organic and non-organic practices. It promotes green economy by encouraging agroforestry, renewable energy and organic farming.</p>	<p>The County through its CIDP promotes agro-economy and defines it as to include organic farming. This presents an opportunity to promote agroecology as a green economy strategies. The county has plans to promote soil fertility through use of organic fertilizers, thus a major opportunity to promote adoption of agroecology.</p>
<b>Kericho</b>	<p>In its CIDP, Kericho county aims at promoting sustainable land management practices. It directs the promotion of organic means such as compost manure, crop residues, and fertilizer trees, intercropping legumes with cereals, conservation agriculture and soil resting. It sets out to support climate change mitigation by encouraging farmers to practice agroforestry as a source of energy.</p>	<p>In its objective to increase the soil fertility, the county through its CIDP promotes the use of organic means such as compost manure, intercropping, conservation agriculture and crop residues. These are good avenues for promoting agroecology.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Tharaka-Nithi</b>	<p>In collaboration with other organisations, Tharaka Nithi county has carried out various climate change adaptation and mitigation projects such as the Tharaka Nithi county climate change adaptation initiative aimed at increasing the community's resilience to climate change. Tharaka Nithi county has developed a climate fund act known as the Tharaka Nithi climate change Fund Act 2019 to fund climate change resilience and mitigation projects.</p> <p>In its CIDP, Tharaka Nithi county calls for sustainable land management and integrates the maintenance of healthy and fertile soil by directing soil and water conservation, conservation agriculture and the promotion of environment-friendly farming practices that reduce soil erosion and pollution of surface water. It also promotes the farming of drought-resistant crops and the traditional high nutritious value Crops and provides for subsidized farm inputs.</p>	<p>Most of the actions identified by the CIDP are important avenues for promoting agroecology in the county.</p>
<b>Nairobi</b>	<p>Nairobi county has the Urban Agriculture Promotion and Regulation Act, which seeks to guide on safe food production in the county. The Nairobi CIDP directs the integration of the principles of sustainable development into county policies and programmes.</p> <p>It directs the adoption of organic farming along rivers and capacity building of the youth and women groups in organic farming skills through trainings. Farmers would be trained in plant disease and pest control as well as in post-harvest management practices.</p> <p>It calls for conservation of biodiversity and practices of afforestation to conserve the environment.</p>	<p>Stakeholders in agroecology in Nairobi can use the act and the CIDP to promote agroecology. The CIDP calls for women and youth to be trained on organic farming and pest control measures, a great avenue to mainstream agroecology in the county.</p>

County	Highlights of CIDP 2018 - 2022 relevant for climate change	Opportunities for agro ecology
<b>Samburu</b>	<p>Samburu CIDP provides for policy formulation to promote afforestation, forest-protection, soil and water conservation, while preventing farming and settlement along riverbanks.</p> <p>To improve agricultural productivity, the CIDP encourages the use of drought resistant food crops such as sorghum, finger millet, cowpeas, maize, green grams and local vegetables. It encourages the use of farm manure to improve soil fertility, community seed-bulking, proper post-harvesting handling, management of crop diseases, vectors and pests, strengthening of extension services and use of animal draught-power from land preparation. It directs a campaign for adoption of agriculture as an alternative livelihood to pastoralism and intervenes to prevent overgrazing of lands.</p>	<p>The county through its CIDP adopts agroecological principles and components such as promotion of traditional and drought resistant crops, use of compost manure to increase soil fertility and community seed bulking. Implementing these and other practices will promote adoption of agroecology in the county.</p>
<b>Nyandarua</b>	<p>The CIDP aims to increase agricultural production in an environmentally sustainable manner, including sustainable management of land resources. It encourages organic farming, soil and water conservation, and improved land use management by promoting soil conservation and intensive farming.</p> <p>The CIDP promotes on-farm seed production, diversification of crops, and use of drought tolerant crops. It directs the integration of biodiversity management principles in county development planning.</p>	<p>The county aims at increasing the agricultural production in an environmentally sustainable manner, which is also a principle of agroecology. It also encourages organic farming, soil conservation and sustainable land use management, all which are components of agroecology. The county too directs on integration of principles of biodiversity management, which again provides an opportunity to promote agroecology in implementation of the set actions.</p>
<b>Siaya</b>	<p>The Siaya County CIDP sets out frameworks for increasing the quality and quantity of farm produce using sustainable interventions such as provision of quality and affordable farm inputs such as fertilizers, plant and livestock health measures, improvement of breeds, feed supply, seed-bulking, diversification of crops with introduction of high-value crops and cash crops as well as on-farm communal post-harvest and food storage. Siaya county promotes afforestation, farm-forestry and use of Integrated Soil Fertility Management.</p>	<p>While the CIDP does not directly promote agroecological practices, agroecology stakeholders can innovatively promote relevant agroecological practices to address the identified challenges.</p>

# 3

## The challenges faced, lessons learnt and recommendations for future agroecology policy work

### Challenges faced

#### Land degradation

Land degradation indicates the loss of lands quality, actual or potential productivity and decline of its utility. All these affects the lands capacity to yield good and quality produce. The indicators of land degradation include: land management issues, loss or decline of biodiversity, soil erosion, climate change, and reduction in soil fertility, desertification, deforestation, and soil salinization. Since agroecology depends on land fertility for optimal produce, land degradation has a direct negative impact on agroecology.

Globally, Studies by UNCCD and UNEP showed that approximately 2 billion hectares of land and 1.5 billion people are directly affected by one or more forms of land degradation, with the majority being in developing countries (UNCCD, 2011; UNEP, 2013). Approximately 12 million hectares of agricultural land, which could potentially yield 20 million tons of grain, are lost due to land degradation annually. This adds to the billions of hectares that are already degraded (Brown, 2007; UNEP, 2013). Land degradation also reduces the potential or ability of the land to be resilient thus when exposed to floods and drought or climate change the effects become devastating especially crop failure.

Assessments on Kenya's land cover have shown an overall deterioration of vegetation cover over time. This is a sign of land degradation in various parts of the country. Bare lands are also increasing as natural vegetation areas are converted to agricultural land with an increase in soil erosion. Agricultural land has been increasing by 7.3% while bare lands increase by 2.6%. The problem in Kenya is growing worse since soil erosion risk mapping has revealed that almost all the counties in Kenya are at risk from one form of land degradation or other.

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### Low and declining soil fertility

Soil fertility-related issues are a major concern to Kenya, given that 75% of the Kenyan populations are dependent on agriculture for food and income, and it contributes 26% to the Gross Domestic Product (GDP) and 60% to foreign exchange earnings. However, only about one third of the total land area of Kenya is agriculturally productive, including the Kenyan highlands, coastal plains and the lake region. Kenya has used chemical fertilizers, agrochemicals and unsustainable farming practices for decades, with the results that soil fertility has greatly reduced leading to production of low yields.

A rough estimation of current rates of soil fertility loss indicate that globally, only about 60 years of topsoil are left. This is as a result of various farming methods that have been adopted that strip the soil of carbon and make it less resilient as well as weaker in nutrients. Soil is being lost at between 10 and 40 times the rate at which it can be naturally regained or replenished. With declining productivity and soil nutrient depletion, many farmers have taken the initiative to improve the situation by use of both inorganic and organic nutrient sources such as manures, composts and traditional fallows where possible.

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### Low policy support

For the agroecology policy to be effective, there needs to be other supportive policies such as land policy, the climate change policy and the environment policy. This is important since agroecology is dependent on different factors such as water, environment, land and climate change. These factors can lead to its success or failure. If there are no such supportive policies, implementing the agroecology policy will be difficult and ineffective. For instance, the Crops Act (2013) and the Agriculture, Food and Fisheries Authority Act (AFFA) (2013), have significant and worrying implications on agroecological farming in the country. The acts prohibit a number of agroecological practices which are used by smallholder farmers to reinforce their farming and livelihood systems. The Crops Act 2013 forbids seed exchange, handling and storage of uncertified seeds, as well as growing farmer varieties next to fields of certified crops. This is critical since most of the seeds used in the country by smallholder farmers are acquired through traditional means. The existence of many incompatible laws has resulted in complex land management issues which have directly affected the practice of agroecology.

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### **Inadequate budgetary allocation and funding to agroecology**

Kenyans enshrined the right to food in the Kenyan Constitution 2010 which states *that every Kenyan has a right to adequate food of acceptable quality*. Kenya has consistently failed to implement the Maputo Protocol which calls for 10 per cent allocation of the national budget to agricultural development. In the fiscal year 2020-2021, the government allocated about 100 billion to agriculture out of close to 2.7 trillion budget. This is about a third of the 10% recommendation by the Maputo protocol. In 2019 - 2020 fiscal year, agriculture sector was allocated a paltry 2.9% of the national budget.

In Kenya, sustainable and regenerative farming techniques have either been neglected, ignored or disregarded. The government favours green revolution approaches with the belief that chemical-intensive, large-scale industrial agriculture is the only way to produce sufficient food. This hinders the implementation of agroecological practices such as awareness creation and research leading to its low spread and adoption.

Credit is a key factor of production but its accessibility especially to women who form the bulk of agroecological farmers remains a challenge. This has affected the range of activities and different practices that a farmer can adopt on his or her farm. Although there have been a number of institutions involved in agricultural financing over time, actual investment in the sector has been small.

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### **Lack of supportive policy framework**

There is no specific policy on agroecology in Kenya. Agroecological farming is barely mentioned in agricultural policies and related activities are only alluded to but their implementation eventually takes the green revolution approach. The main thrust of agriculture education and training by government institutions is industrial agriculture until recently when basic principles of agroecology were introduced without clear reference to agroecology. A number of institutions of higher education have started courses in agroecology (example: JKUAT - Diploma in Organic Farming)

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### **High poverty levels**

About 40 percent of the Kenyan population (20 million people) lives below the national poverty line. High levels of poverty in the country, where agriculture is the main source of livelihoods, have significant effects on environmental sustainability. The poor engage in farming practices that negatively affect the environment and reduce land and soil potential. With increased pressure on the natural resource base and the need to increase productivity, the challenge remains that of intensifying land use while sustaining the productive capacity of the resource base.

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### Effects of Climate change

The impact of climate change poses a major challenge to agricultural productivity, as the frequency of drought is expected to increase both in intensity and extent. Agricultural production in Kenya is almost exclusively rainfall-dependent, and most farmers are exposed to the risks of unreliable rainfall or prolonged drought. With climate change, droughts are expected to increase both in frequency and intensity. Without investment to increase yields and appropriate mitigation and adaptation measures, these changes will have an increasing impact on the stability of the food supply and the ability of households to cope with fluctuating income.

Droughts and floods have increased in frequency and intensity in the immediate past three decades, resulting in high crop failure and livestock deaths.

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### Inadequate research on agroecology

There has not been adequate investments in agroecological research in Kenya, especially quality and demand driven research. With reduced official government support to agricultural research, research institutions respond to research requests on diverse needs provided these come with research funding. The research system in place for agriculture is also faced with a number of challenges, including a lack of a strong research-extension-farmer linkage, limited investment and coordination by local research institutions like KARI and institutions of higher learning, inadequate funding, lack of well elaborated priorities that reflect policy pronouncements, lack of monitoring and evaluation and low use of trained scientists from institutions of higher learning.

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### Biodiversity decline

Biodiversity can be defined as the diversity of life on Earth including the richness, evenness, and composition of species, alleles, functional groups, or ecosystems (Isbell, 2012). Biodiversity is a critical and crucial component of agroecology as this biodiversity is important for pollination and adds nutrients in the soil.

In pre-colonial times, Kenyan farms were so rich in indigenous biodiversity and this made food production to thrive. There was diverse food which was high in nutrients, locally produced and locally available. This has since changed into monoculture farms with the maize tragedy manifesting on most farms. Maize has become the dominant food crop and in Kenya together with other colonial food crops such as kales, spinach and cabbages. In official government records, indigenous crops that sustained food and nutrition security are now regarded as orphaned crops. The declining food biodiversity is posing significant challenges to agroecology in Kenya.

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### Rapid population growth

Kenya has one of the world's fastest population growth rates. The population has more than tripled over the last 30 years. As a result of the rapid population growth, the natural resources such as land and water have been under great pressure leading to their degradation and over exploitation. Their productive potential has greatly declined and this has had significant impact on promotion of agroecological practices in Kenya as the practice has been to promote quick fix solutions without considering their impacts on the same soils.

## Recommendations and lessons learnt

- The national and county governments of Kenya should develop adequate and supportive policies for promotion and adoption of agroecology: to enable farmers to make long-term investments in improving soil fertility; helping farmers identify best practices for their specific micro-environment; increase adoption of drought-tolerant varieties, which can achieve 20-30 percent higher yields than non-drought tolerant varieties.
- The national and county governments in Kenya should ensure that labor and financial markets are more flexible and supportive of sustainable and regenerative farming practices such as agroecology.
- National and county governments of Kenya through the Ministry and Departments of water should collaborate with civil society organizations to improve water management systems, such as surface water harvesting, roof catchments, efficient surface irrigation, precision irrigation, and sustainable harvesting of aquifers guided by existing water survey results.
- The National and County governments should work with communities to develop easy to use eco-cultural food maps and calendars to help in clarifying local social-ecological systems that would assist in rejuvenation of local heritage crops and attendant practices
- National government and counties in ASAL areas should implement the National Policy for the Sustainable Development of Northern Kenya and other Arid Lands religiously to ensure ASAL areas are protected from the vagaries of climate change. They should further address banditry issues where they exist, conversion of pastoral lands into conservancies and cross border mobility.
- The flooding experiences of coastal regions in the past few years call for an integrated coastal areas management policy. The Kenyan coastal areas have become quite vulnerable to effects of climate and development of specific policies addressing coast-specific areas would be a step in the right direction.
- National government through the Ministry of Education, Science and Technology should invest in agroecological research and have agroecology mainstreamed in agricultural education curricula. Research results to be disseminated through official government extension systems as well as by stakeholders.

# References

- Beintema, N., Mose, L., Kibet, T., Emongor, R., Murithi, F., Kimani, I., Ndungu, V. & Mwangi, P. (2018). Kenya: Agricultural R&D Indicators Factsheet Update. Washington, D.C.: International Food Policy Research Institute (IFPRI); and Kenya Agricultural and Livestock Research Organisation (KALRO). Retrieved from: <https://www.ifpri.org/publication/kenya-agricultural-rd-indicators-factsheet-update>
- Birch, I. (2018). Agricultural productivity in Kenya: barriers and opportunities. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies.
- Brown, L. (2007). Losing soil. Washington, DC: The Earth Policy Institute. Available online at: [www.earth-policy.org](http://www.earth-policy.org)
- GOK (2018). National Climate Change Action Plan 2018-2022. Published by the Ministry of Environment and Mineral Resources, Nairobi, Kenya
- GOK (2015). National Climate Change Response Strategy. Published by the Government Press, Nairobi, Kenya.
- Government of Kenya (2018). *Sector Plan for the Blue Economy*. Kenya Vision 2030.
- Government of Kenya (2018). *Sector Plan for the Blue Economy*. Kenya Vision 2030, page 19.
- IMO (2014).
- Isbell, F. (2012). Causes and consequences of biodiversity declines. *Nat. Edu. Knowledge* 3:54.
- Kenya National Adaptation Plan: 2015-2030, Government of Kenya, July 2016.
- Masters, W. A., Djurfeldt, A. A., De Haan, C., Hazell, P., Jayne, T., Jirström, M. & Reardon, T. (2013). Urbanization and farm size in Asia and Africa: Implications for food security and agricultural research. *Global Food Security*, 8. <http://dx.doi.org/10.1016/j.gfs.2013.07.002>
- Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-Being: Synthesis*. Washington, DC: Island Press.
- Muyanga, M. & Jayne, T. S. (2014). Effects of rising rural population density on smallholder agriculture in Kenya. *Food Policy*, 48, 98-113. <http://dx.doi.org/10.1016/j.foodpol.2014.03.001>
- Naeem, S., Bunker, D. E., Hector, A., Loreau, M., and Perrings, C. (eds.) (2009). *Biodiversity*,

Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective. Oxford: Oxford University Press. doi: 10.1093/acprof:oso/9780199547951.001.0001

The Constitution of Kenya, 2010.

UNFCCC (2018). *Achievements of the Climate Development Mechanism*. Retrieved from: <http://unfccc.int/timeline/>

UNCCD (United Nations Convention to Combat Desertification). (2017). *Desertification: a Visual Synthesis*. Bonn: UNCCD Secretariat.

UNDP (2018). Kenya Human Development Report, UNDP, Nairobi.

UNEP (United Nations Environment Programme). (2019). UNEP Annual Report 2019. Available online at: [www.unep.org/annualreport/2019/](http://www.unep.org/annualreport/2019/)

World Bank (2012). World Bank study cited in: Government of Kenya (2017). *National Policy for the Sustainable Development of Arid and Semi-Arid Lands*. Nairobi: Ministry of Devolution and ASAL Areas.

Woteki, C. (2013). The road to pollinator health. *Editor. Sci.* 341, 695. doi: 10.1126/ science. 1244271



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