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FROM POLICY TO PRACTICE: STRENGTHENING INTEGRATED CLIMATE, AGRICULTURE, AND HEALTH ACTION IN KENYA

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Executive Summary

Climate change is reshaping Kenya's development trajectory, with droughts and floods increasingly frequent and severe in arid and semi-arid lands (ASALs). Climate-related impacts already cost Kenya an estimated 3–5% of GDP annually, and with over 70% of rural livelihoods dependent on rain-fed agriculture, the country's food systems, incomes, and health outcomes remain highly exposed to climate variability (NCPD, 2024, World Bank 2021).

Field research and policy analysis conducted under the Visibilize4ClimateAction project in 2025/6 led by the African Population and Health Research Centre in collaboration with key partners, in Laikipia, Samburu, and Turkana counties illustrate the scale of this vulnerability. 83% of surveyed households had experienced at least one climate shock, 76.6% were severely food insecure, and households that had exhausted food-based coping strategies were three to five times more likely to experience poor mental health outcomes. These findings underscore the tightly interconnected nature of climate, food security, and health risk in Kenya's drylands.

Kenya has built a strong policy foundation for addressing these challenges, anchored in the Climate Change Act (2016), the National Climate Change Action Plan III (2023 - 2027), the Climate Smart Agriculture Strategy (2017 - 2026), the National Agroecology Strategy (2024 - 2033), and the Climate Change and Health Strategy (2024 - 2029). The opportunity now lies not in new frameworks, but in strengthening coherence across these existing policies and translating commitments into coordinated implementation. This brief highlights how national and county governments can advance this integration. This can be achieved through joint planning and budgeting across sectors, climate financing anchored in domestic instruments and aligned with livelihood, nutrition, and health outcomes, and stronger coordination among frontline delivery systems such as community health workers and agricultural extension officers, with implementation pathways tailored to each county's existing institutional and financing capacity.

Key Messages

- **Climate shocks are already undermining food security and nutrition across Kenya's ASAL counties**, with 76.6% of surveyed households in Laikipia, Samburu and Turkana severely food insecure, while child wasting exceeded the 15% emergency threshold in Turkana, highlighting the need for adaptation efforts to explicitly integrate nutrition outcomes alongside agricultural production.
- **Mental health is an underrecognized dimension of climate vulnerability**: households that had exhausted food-based coping strategies were three to five times more likely to report poor mental health outcomes, showing that climate adaptation and food-security programming must incorporate psychosocial support.
- **Kenya's climate, agriculture, and health policies already provide a strong foundation for integrated action**; the priority now is strengthening coherence and coordinated delivery across existing frameworks, not creating new ones.
- **Experiences from Laikipia, Samburu, and Turkana show that integrated resilience takes different forms locally**. From Laikipia's County Climate Change Fund Mechanism and agroecology to Turkana's One Health and mental health governance structures, and Samburu's approach linking pastoral and ecosystem resilience with nutrition and mental health, means national guidance must allow for context-specific county implementation.
- **Existing coordination structures and frontline systems, including community health promoters, agricultural extension officers, and ward-level climate actors, are already positioned to deliver integrated support**; what is needed is deliberate cross-training and shared planning, not parallel institutions.

Context

Climate change is increasingly shaping Kenya's development trajectory, with significant impacts on livelihoods, food systems, and public health. The country is highly exposed to climate-related hazards such as droughts and floods, which have become more frequent and severe in recent years, particularly in arid and semi-arid lands (ASALs) (UNICEF, 2023). These climate hazards disrupt agricultural production, strain water resources, and increase vulnerability among already at-risk populations.

The economic implications are substantial. Climate-related impacts are estimated to cost Kenya between 3% and 5% of GDP annually, with projected increases if adaptation efforts are not strengthened (NCPD, 2024). At the same time, Kenya's economy remains highly dependent on climate-sensitive sectors. Agriculture contributes approximately 20% of GDP and employs over 40% of the population, with more than 70% of rural livelihoods relying on rain-fed agriculture (World Bank, 2021). This dependence makes food systems and incomes particularly vulnerable to climate variability.

These disruptions also have major implications for nutrition and health. Climate change affects food availability, access, and utilization, contributing to reduced dietary diversity and increased malnutrition, especially among children, pregnant women, and vulnerable populations (FAO et al., 2023). In addition, climate change is linked to a growing burden of disease, including waterborne illnesses, vector-borne diseases such as malaria, and

heat-related health risks (WHO, 2021). Beyond physical health, climate change is increasingly recognized as a mental health challenge. Climate-related shocks such as drought, displacement, food insecurity, and loss of livelihoods contribute to stress, anxiety, trauma, and other psychosocial outcomes, particularly in vulnerable and resource-constrained settings (WHO, 2021).

At the subnational level, Kenya's arid and semi-arid lands (ASALs), including Turkana, Samburu and Laikipia, are particularly vulnerable to recurrent climate shocks that affect livelihoods and food security. Between January and March 2026, an estimated 3.3 million people across Kenya's 23 ASAL counties were experiencing acute food insecurity at IPC Phase 3 (Crisis), including approximately 400,000 people facing Emergency conditions (IPC, 2026). These conditions are compounded by poor health and nutrition outcomes, with over 658,000 children and women requiring treatment for acute malnutrition, reflecting deepening vulnerability linked to climate shocks (ACAPS, 2022).

The Visibilize4ClimateAction project conducted field research on the impact of climate change on the nutritional status and mental health of vulnerable populations in the East African drylands, alongside a policy analysis examining how effectively Kenya's policy frameworks address the interconnected challenges of climate change, agriculture, and health, with a specific focus on Laikipia, Samburu and Turkana counties. The evidence shows the interconnected nature of climate, food security and

health, with 83% of surveyed households experiencing at least one climate shock, 76.6% being severely food insecure, and more than half having taken no action to prepare for future shocks. Additionally, households that had exhausted food-based coping strategies were three to five times more likely to experience poor mental health outcomes, underscoring the need for climate adaptation approaches that strengthen livelihoods, food and nutrition security, and health while responding to local contexts.

Building on this evidence, this policy brief puts forward recommendations to strengthen integrated implementation nationally and at county level.



Key Insights

Kenya has a strong policy foundation for integrated climate action. The Climate Change Act (2016) provides the legal basis for mainstreaming climate change across sectors, while the National Climate Change Action Plan (NCCAP) III 2023–2027, Kenya Climate Smart Agriculture Strategy 2017–2026, National Agroecology Strategy for Food System Transformation 2024–2033, and Kenya Climate Change and Health Strategy 2024 - 2029, demonstrate a growing shift toward approaches that connect climate resilience, agriculture, food systems and health. The opportunity is therefore to build on this foundation by strengthening coherence across policies and translating existing commitments into coordinated implementation.

Agriculture provides an important entry point for connecting climate resilience with food and nutrition outcomes. Climate-smart agriculture is well established within Kenya's policy landscape, with emphasis on sustainable land management, resilient production and adaptation to climate risks (MOALF, 2017). The National Agroecology Strategy further provides a complementary opportunity to promote diversified food production, sustainable natural-resource management and resilient livelihoods (Ministry of Agriculture and Livestock Development, 2024). Together, these frameworks provide a basis for moving beyond agricultural productivity alone toward food systems that are resilient to climate shocks and better able to support healthy diets.



There is an opportunity to integrate nutrition further into climate and agricultural mechanisms. Kenya has established food and nutrition policies and multisectoral mechanisms, including national and county nutrition action plans. However, the policy analysis found that climate and agricultural frameworks tend to give greater attention to food security and production than to explicit nutrition outcomes. Strengthening nutrition-sensitive approaches, including enhancing dietary diversity and access to diverse, nutritious foods, within climate and agricultural programmes would help ensure that adaptation contributes not only to food availability but also to improved nutrition (NFSP, 2011; KNAP, 2018).

This is particularly relevant given Visibilize4ClimateAction findings that 76.6% of surveyed households across the study sites were severely food insecure and child wasting exceeded the 15% emergency threshold overall and in all study counties except Laikipia (Visibilize4ClimateAction Project, 2026).

Mental health is an important emerging dimension of climate resilience. While Kenya's policy frameworks increasingly recognize climate-related health risks, mental health is less consistently addressed across climate and agricultural policies. Climate shocks can affect mental wellbeing indirectly through food insecurity, livelihood disruption and declining household coping capacity (WHO, 2022). Visibilize4ClimateAction research provides further evidence of this pathway. Approximately 21% of respondents met the screening threshold for depression, while Post Traumatic Stress Disorder (PTSD) reached 24% in Samburu study sites, and households that had exhausted their food-based coping strategies were three to five times more likely to experience poor mental-health outcomes (Visibilize4ClimateAction, 2026). This provides a strong case for considering mental wellbeing within climate adaptation, food-security and resilience interventions.

Existing coordination and delivery mechanisms provide opportunities for stronger integration. Kenya already has national and county structures that bring together actors working on climate, agriculture, nutrition and health, including the National Climate Change Council, Climate

Change Directorate, multisectoral nutrition mechanisms and agricultural multi-stakeholder platforms.

The opportunity is to strengthen how these mechanisms connect planning, budgeting, implementation and monitoring across sectors rather than establish parallel structures. Stakeholder consultations under the Visibilize4ClimateAction project similarly highlighted the potential to better connect frontline systems, for example, by strengthening collaboration between agricultural extension officers and community health promoters serving the same climate-vulnerable communities (Visibilize4ClimateAction Project, 2026).

Monitoring systems need to capture integrated

resilience outcomes. Existing sectoral monitoring systems provide important information, but the national policy analysis identified opportunities to better capture outcomes that cut across sectors, particularly nutrition, mental health and community resilience. This could include jointly tracking dietary diversity and malnutrition in climate-affected populations, mental-health burden and service access, adoption of climate-resilient and nutrition-sensitive agriculture, continuity of health and nutrition services during climate shocks, and climate finance directed toward integrated interventions. Such information would help national and county governments assess whether adaptation investments are translating into improved resilience and wellbeing.



Case Study Insights: Lessons from Laikipia, Samburu, and Turkana Counties

Experiences from Laikipia, Samburu and Turkana illustrate how Kenya's national climate priorities are being translated into action in different ASAL contexts. All three counties have established climate policies, action plans and devolved institutional mechanisms, including climate change units, funds and community-level planning structures. Their experiences also demonstrate that integrated resilience cannot follow a single model: differences in livelihoods, food systems, ecosystems and health vulnerabilities require locally tailored approaches that connect climate action with agriculture, nutrition and health.

Laikipia: Linking locally led climate finance with diversified and agroecological food systems.

Laikipia has established a strong foundation for locally led adaptation through its Climate Change Act 2021, Climate Change Policy 2025, County Climate Change Fund (CCCCF) Mechanism and ward-level planning structures. Notably, the CCCCf is allocated 2% of the county's annual development budget, providing a domestic financing mechanism for locally identified climate priorities. Its governance arrangements also embed community consultation within the climate-project cycle (Laikipia County Climate Change Act, 2021). Project evidence points to an additional opportunity to build on this foundation through agroecology. Practices such as crop diversification, agroforestry, indigenous seed conservation, composting, water harvesting and soil restoration can strengthen food production, ecosystem health and nutrition simultaneously (Visibilize4ClimateAction Project, 2026). Laikipia therefore provides a useful example of how devolved climate finance, participatory planning and agroecological approaches can be brought together to support locally led resilience.

Samburu: Connecting pastoral resilience, natural-resource management, nutrition and mental wellbeing.

Samburu has developed a strong legal and institutional foundation through instruments including the County Climate Change Act (2022) and County Climate Change Action Plan 2023–2027, with adaptation efforts emphasizing rangelands, water, livestock and natural-resource management. However, the project evidence demonstrates why these interventions also matter for nutrition and health. 89.1% of surveyed households were severely food insecure and only 35.1% of women achieved minimum dietary diversity (Visibilize4ClimateAction Project, 2026). Samburu also recorded the highest prevalence of PTSD among the three study sites, at 24%, while the research identified an association between drought exposure and anxiety and trauma (Visibilize4ClimateAction Project, 2026). The county therefore illustrates the value of connecting rangeland and livestock resilience with food security, dietary diversity and mental-health support, particularly in pastoral communities exposed to recurrent climate shocks.

Turkana: Linking food-system resilience, One Health and mental health.

Turkana illustrates how climate, livelihood, nutrition and health vulnerabilities can converge in highly climate-exposed pastoral settings. Visibilize4ClimateAction found that 97.4% of surveyed households were severely food insecure, only 13.3% of women achieved minimum dietary diversity, and around 60% of households were using crisis-level food coping strategies (Visibilize4ClimateAction Project, 2026). The county is also developing approaches that provide entry points for more integrated responses. The One Health approach recognizes the connections between human, animal and environmental health, while the establishment of the Turkana County Mental Health Council provides an institutional mechanism for strengthening attention to mental wellbeing. Together, these approaches create opportunities to better connect climate and livestock-related livelihood shocks, food and nutrition security, and community-based health responses.

Taken together, the three cases offer complementary lessons for national and county policy: Laikipia demonstrates the potential of locally led climate finance and agroecological approaches; Samburu highlights the importance of linking pastoral and ecosystem resilience with nutrition and mental health; and Turkana demonstrates the value of connecting food-system resilience with One Health and mental-health governance.

These three counties also represent relatively mature devolved climate institutions; counties earlier in this process may need to prioritize foundational steps, such as establishing a legal and financing framework for climate action, before adopting the fuller set of interventions demonstrated here. These experiences suggest that Kenya can strengthen integrated resilience by building on existing county institutions and innovations while adapting implementation to local livelihood, ecological and health contexts.



Opportunities for Strengthening Integrated Implementation

Kenya's existing policies, institutions and community systems provide a strong platform for more integrated climate action. The priority is to make better use of these foundations to translate policy commitments into coordinated implementation.

- 1. Strengthen joint planning and delivery.** Existing national and county coordination mechanisms can be used more deliberately for joint planning, budgeting and implementation across environment, agriculture, health and nutrition, with clearer roles and shared priorities.
- 2. Use of policy and financing windows to deepen integration.** Upcoming reviews of climate, agriculture, nutrition and county development frameworks provide opportunities to embed nutrition and mental health within existing policies and plans rather than create parallel frameworks. Climate finance can similarly support interventions that deliver multiple benefits across livelihoods, ecosystems, nutrition and health (Visibilize4ClimateAction, 2026).
- 3. Connect frontline delivery systems.** Community Health Promoters, agricultural extension officers and ward-level climate structures already serve many of the same climate-vulnerable communities. Greater coordination and cross-training could enable these systems to provide more integrated support on climate resilience, agriculture, nutrition and health (Visibilize4ClimateAction, 2026).
- 4. Strengthen evidence for integrated decision-making.** A small set of shared indicators covering nutrition, mental health, climate-resilient agriculture and climate finance would help governments demonstrate whether adaptation investments are improving resilience and wellbeing. Developing economic investment cases for integrated interventions could also strengthen the evidence available for budgeting and resource mobilization.

Recommendations

I. National Government

- Strengthen integrated policy implementation:** The Ministries of Environment, Agriculture and Health should use the upcoming review cycles of the NCCAP III (2023-2027), Kenya Climate Smart Agriculture Strategy (2017 - 2026), National Agroecology Strategy (2024 - 2033), and Kenya Climate Change and Health Strategy (2024 - 2029) as the entry point to embed nutrition, mental health and agroecology within these frameworks. The National Climate Change Council and Climate Change Directorate should convene and coordinate this cross-ministry process to a shared timeline.
- Align financing with integrated climate and health outcomes:** The National Treasury and relevant sector ministries should prioritize climate investments that deliver measurable benefits for livelihoods, food and nutrition security, mental health and ecosystem resilience, starting with domestic budget instruments already in use at county level, such as the Climate Change Fund Mechanism model demonstrated in Laikipia. Financing and expertise from development partners, research institutions and the private sector should complement, not substitute for, this domestic commitment, with clear roles defined for each.
- Scale up locally appropriate integrated interventions, within each county's current authority and financing base.** Counties with an established Climate Change Fund and legal framework, as in Laikipia, are well placed to expand agroecology, nutrition-sensitive agriculture, sustainable rangeland management and community-based mental health approaches directly. Counties without this legislative foundation can begin with the joint-planning and frontline-coordination actions, which do not require new legislation, while working with the national government to access financing and technical support for the fuller set of interventions. All counties should draw on the differentiated lessons from Laikipia, Samburu and Turkana appropriate to their own institutional starting point, engaging communities, research institutions and private-sector actors.
- Strengthen integrated frontline delivery and monitoring.** County health, agriculture and environment departments should leverage existing resources by cross-training community health promoters, agricultural extension officers and ward-level climate actors to deliver coordinated support, complemented by a focused set of indicators on nutrition, mental health and climate-resilient agriculture to strengthen learning and accountability.

II. County Government

- Institutionalize joint planning, budgeting and implementation.** County departments responsible for Climate Change, Agriculture and Health should

use existing county coordination structures to define shared priorities, responsibilities and resource commitments across climate adaptation, agriculture, nutrition and mental health, with implementation support from development partners and civil society.

Conclusion

Kenya does not need new climate, agriculture, or health frameworks, it needs to implement and connect the strong ones it already has. Evidence from Laikipia, Samburu, and Turkana shows that where climate shocks, food insecurity, and mental health risks intersect, the response must be equally integrated, drawing on existing county institutions, financing mechanisms, and frontline systems already serving the same communities. These three counties also show that integration looks different depending on each county's institutional starting point, underscoring the need for both national coherence and locally differentiated implementation. Without stronger coherence, Kenya risks continuing to absorb the substantial costs of climate change i.e economically, nutritionally, and in the wellbeing of its most vulnerable populations, even as the policy tools to address them are largely in place.

Realizing this opportunity will require deliberate action: national ministries anchoring financing in domestic instruments while embedding nutrition, mental health, and agroecology within existing strategies; county governments institutionalizing joint planning and scaling proven local approaches at a pace matched to their own capacity and financing base; and frontline systems working in greater coordination, supported by shared indicators that reveal whether adaptation investments are truly improving resilience. Kenya is well positioned to lead in integrated climate action, the task now is implementation.

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