## Climate Risks and Stress Levels

Kericho County's agricultural sector faces varying levels of climate stress across its key value chains. Tea farming, a major economic activity, experiences high stress due to drought, Hailstones, floods and increased pest infestations, affecting both yield and quality.

| Value Chain | Climate Risks | Stress Level | Most Affected Subcounty |
|---|---|---|---|
| Tea | Drought, Hailstones, Frost | High | Ainamoi, Bureti,Belgut |
| Maize | Drought, floods, landslide,low & unpredictable rainfall and pest infestations | Medium | Kipkelion west |
| Dairy Farming | Floods, Prolonged dry Season, Water shortage , Heat Stress, pest and diseases. | Medium-High | All |
| Coffee | Prolonged dry season, Drought , increased pest and diseases due to change in temperature. | Medium-High | Kipkelion east & west,Soin Sigowet |
| Beans | Drought, heat stress (pests), and waterlogging during heavy rainfall causing fungal infection | Medium | Kipkelion east & west,Soin Sigowet |

## Adaptive Practices and Climate Smart Solutions

Kericho County's agricultural sector faces multiple climate risks ( Drought, heat, floods and soil Degradation, land slides ,pest and diseases, Frost and hailstones) requiring adaptive solutions to enhance resilience.

| Climate Risk | Adaptive Solutions |
|---|---|
| Drought | Drought-resistant crop varieties, implement soil and water conservation measures and structures, change planting times, improve livestock housing and conduct disease surveillance |
| Heat Stress | Plant shade trees, improve livestock housing, provide water during dry periods. |
| Pests & Diseases | Integrated pest management, Conduct disease surveillance and carry out regular vaccinations |
| Flooding | Construct soil and water conservation structures, harvest and manage water, improve livestock housing, build poultry housing |
| Soil Degradation & Landslides | Apply soil and water conservation measures and structures, and implement water harvesting, agroforestry, controlled grazing and altitude limitation on farming |
| Hailstones & frost | Construction of greenhouses and installation of shed nets for horticultural crops. Insurance for tea against hailstones |

## Climate-Smart Agriculture Initiatives

**Water Harvesting and Irrigation:** Promotion of rainwater harvesting and surface runoff collection through water pans and adoption of efficient irrigation systems like drip irrigation to address water scarcity.
**Agroforestry:** Integrating trees into farming systems to provide shade, reduce soil erosion, and enhance carbon sequestration.
**Drought-Resistant and Early-Maturing Crops:** Adoption of climate-resilient crop varieties to withstand prolonged dry spells.
**Soil Conservation Techniques:** Use of mulch, cover cropping, and conservation tillage to prevent soil erosion and retain soil moisture.
**Integrated Pest Management (IPM):** Sustainable pest control through biological agents, organic pesticides, and crop rotation to reduce pesticide dependency.
**Digital Climate Advisory Services:** Use of mobile apps and climate information systems to provide farmers with real-time weather forecasts and best farming practices.
**Climate-Smart Livestock Farming:** Improvements in animal breeds, better feed management, routine disease surveillance, vaccination and adoption of zero-grazing techniques enhance resilience against heat stress and improve livestock productivity.
**Use of Organic Fertilizers and Composting:** Reducing reliance on synthetic fertilizers, the county promotes composting and organic farming practices, which improve soil health and reduce environmental pollution.
**Infrastructure enhancement:** Develop and preserve efficient accessible and reliable infrastructure

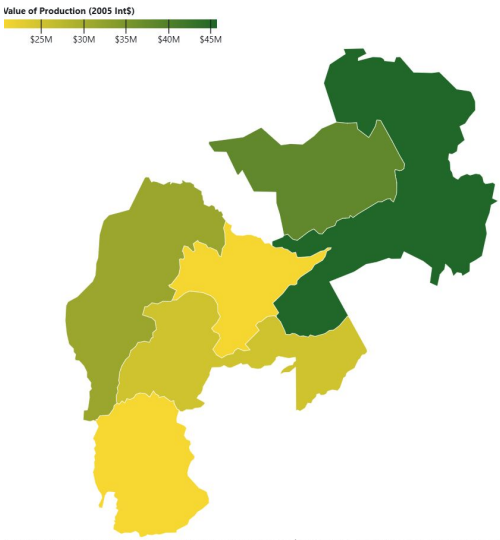
## Economic Snapshot and Investment Opportunities

- Pasture and fodder production
- Development of specialty tea and coffee value chains
- Contract farming for avocados
- Milk processing
- Production of sugarcane germplasm
- Beekeeping & honey processing
- County aggregation and Industrial park

# AGRICULTURAL LANDSCAPE ANALYSIS

## County Overview

Kericho County, located in the South Rift of the Great Rift Valley about 256 km from the capital city of Nairobi, covers an area of approximately 2,479km². According to the 2019 census, its population is 901,777 people, with projections showing growth in its urban centres. The economy is predominantly agrarian. Agriculture is the mainstay and is divided between cash crops and food crops, alongside substantial livestock farming. Tea is the primary cash crop, especially in the high-altitude parts of the county (Ainamoi, Bureti, Belgut), while coffee and sugarcane are also important(Kipkelion west,ainamoi,soin sigowet,belgut). Food crops grown includesweet potatoes, maize, beans, millet, vegetables and horticultural crops. Livestock enterprises include dairy cattle (both pure breeds and crossbreeds), poultry, pigs, goats, sheep and bees (beekeeping).




Grey regions signal lack of Total Value of Production (VoP) data. Monetary VoP values are represented in 2005 international dollars.

## Priority Value Chains

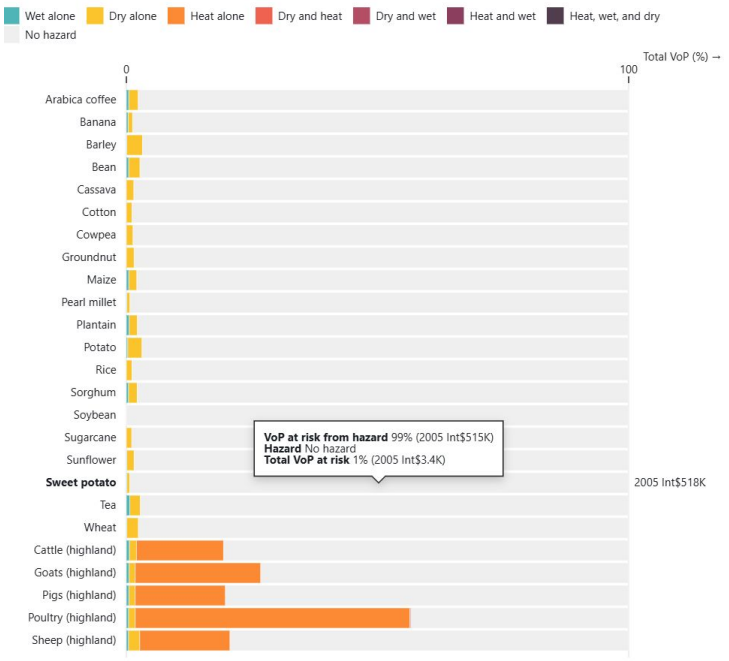
Kericho County's agricultural production is driven by both crop and livestock enterprises that fit its varied zones. The leading crops are tea, coffee, maize, beans, potatoes, sugarcane, bananas, and horticultural crops (tomatoes, vegetables). Coffee, pyrethrum and avocado farming is gaining traction due to favorable markets .

Maize and beans are widely grown as staple foods across most parts of the county. Millet and sorghum are gaining traction in drier zones due to their drought-resistance.

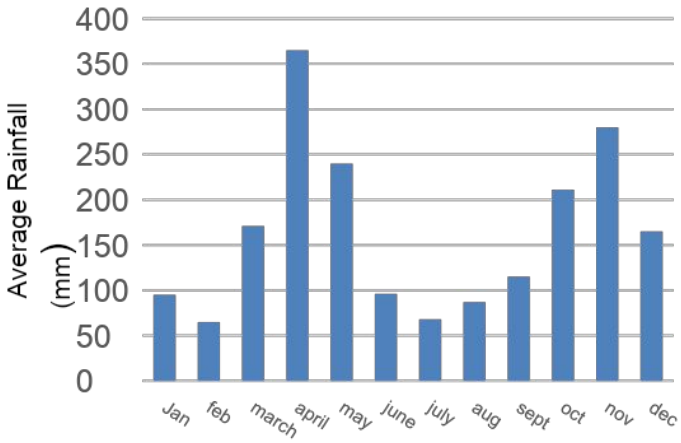
In the livestock sector, dairy farming is the major enterprise, followed by beef then poultry (mainly local chicken) and beekeeping. These crops and livestock value chains are central to Kericho's economy, offering food security, income, and a buffer against climate shocks.

## Weather and Climate

Kericho County experiences a bimodal rainfall pattern, with long rains from march to May and short rains between October and December. The dry season runs from January to February, occasionally disrupted by weather shocks, however the lower zones experience longer intermittent dry seasons. The county's moderate temperatures (10°C–29°C, averaging 17°C) and rainfall ranging from about 1,400 mm in lowlands to 2,125 mm in highlands make it highly suitable for crop and livestock production. The altitude of Kericho is 1833m to 2889m above the sea level




Monetary VoP values are represented in 2005 international dollars.




*SOURCE:https://en.climate-data.org/africa/kenya/kericho/kericho-921/*

*Average monthly Rainfall 1991 to 2021*