




A Vision 2030 Flagship Project



## National Drought Management Authority

### MAKUENI COUNTY

#### DROUGHT EARLY WARNING BULLETIN FOR AUGUST 2025

AUGUST EW PHASE	Early Warning Phase Classification		
<b>Drought Status: NORMAL</b>  <b>Shughull za kawaida</b>	LIVELIHOOD ZONE	EW PHASE	TRENDS
	Marginal Mixed Farming	Normal	Worsening
	Mixed Farming	Normal	Stable
	<b>County</b>	Normal	Worsening

**Drought Situation & EW Phase Classification**

**Biophysical Indicators**

- Makueni County was dry and cool in August, with slightly above-normal temperatures and rainfall at 98% of average.
- Vegetation greenness declined to normal levels (VCI 45.5) and forage ranged from fair to poor.

**Socio-Economic Indicators (Impact Indicators)**

**Production Indicators**

- Rain-fed crop yields were 40–60 percent of normal due to moisture stress and pests.
- Livestock body condition and milk production (1.8 L/HH/day) remained within normal ranges with no abnormal migration or drought-related deaths.

**Access Indicators**

- Household access remained stable, with favourable Terms of Trade (123 kg/Goat).
- Milk consumption at 1.1 litres, and water access distances of 3.6 km for households and 4.4 km for livestock, all within normal ranges.

**Utilization Indicators**

- Nutrition remained stable with 5.3 percent of children at risk of malnutrition.
- While 81 percent of households had acceptable food consumption scores.
- However, reliance on severe coping strategies rose to 10% from 7.0% the previous month

Biophysical Indicators	Value	Normal ranges
Rainfall (% of normal)	98	80-120
VCI-3 month	45.5	35 - 50
Forage Condition	Fair to poor	Good to fair
Production indicators	Value	Normal ranges
Crop Condition (Maize)	Fair to poor	Good to fair
Maize Stocks Held by Households (Kgs)	55	≥89
Livestock Body Condition	Good to fair	Good to fair
Milk Production (Litres)	1.8	1.3-2.4
Livestock Migration Pattern	Normal	Normal
Livestock Deaths (from Drought)	No death	No death
Access Indicators	Value	Normal ranges
Terms of Trade (ToT)	123	41-137 kg
Milk Consumption (in litres)	1.1	0.6-1.1
Return Distance to Water Sources (Km)	Household	4.7-5.2
	Livestock	4.7-5.5
Utilization indicators	Value	Normal ranges
Nutrition Status, MUAC (% at risk of malnutrition)	5.3	2.2-10.9
Coping Strategy Index (CSI)	5.9	5.4-10.6
Food Consumption Score (%)	Mean	46.3
	Acceptable	81
	Borderline	19
	Poor	0

<ul style="list-style-type: none"> <li>Short rains harvests</li> <li>Short dry spell</li> <li>Reduced milk yields</li> <li>Increased HH Food Stocks</li> <li>Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>Planting/Weeding</li> <li>Long rains</li> <li>High Calving Rate</li> <li>Milk Yields Increase</li> </ul>	<ul style="list-style-type: none"> <li>Long rains harvests</li> <li>A long dry spell</li> <li>Land preparation</li> <li>Increased HH Food Stocks</li> <li>Kidding (Sept)</li> </ul>	<ul style="list-style-type: none"> <li>Short rains</li> <li>Planting/weeding</li> </ul>								
<b>Dry Season</b>	<b>Long Rains</b>	<b>Dry Cool Season</b>	<b>Short Rains Season</b>								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1.0 CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

- During August, Makueni County experienced predominantly dry and cool weather conditions, accompanied by slightly above-normal temperatures across most area.

- Rainfall remained minimal but was close to the long-term average, with CHIRPS satellite estimates indicating 2.6mm, 2.4mm and 2.6mm in the first, second and third dekads, respectively, against the long-term average of 2.6mm for both periods. This represented 98 percent of the expected monthly total (Figure 1).

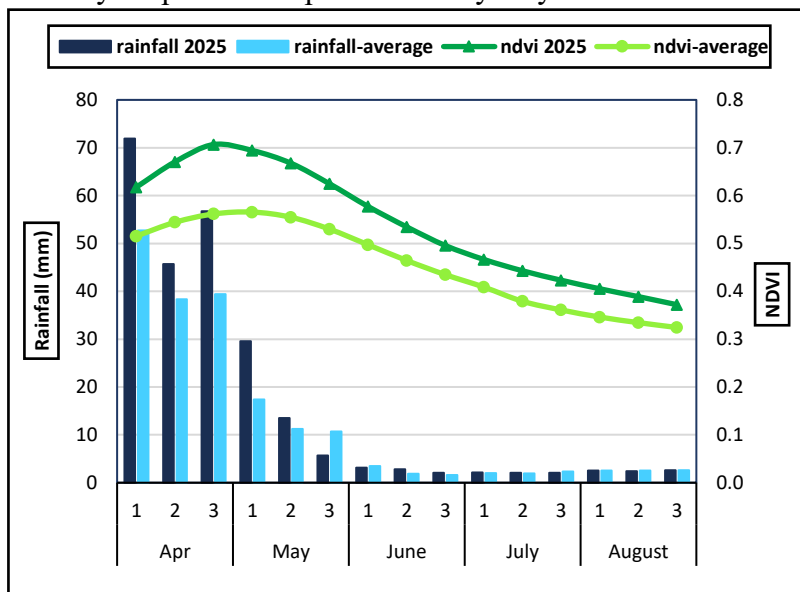


Figure 1: Dekad Rainfall (mm) and NDVI Values Compared to LTA

- Despite the low precipitation, vegetation conditions were favourable, with the NDVI recorded at 0.4, equivalent to 113 percent of the long-term average. This suggested that both rangelands and cropped areas sustained relatively good greenness levels for this time of year.

## 1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- According to the Kenya Meteorological Department, the county received between 2 and 10 millimetres of rainfall during the month (Figure 2).
- The showers were scant, unevenly distributed, and mainly short-lived, occurring over one or two days with little impact on soil moisture or the recharge of water sources.
- Several parts of the county experienced persistent dry weather, coupled with cool and cloudy conditions, while some areas also recorded mean temperatures that were warmer than average.

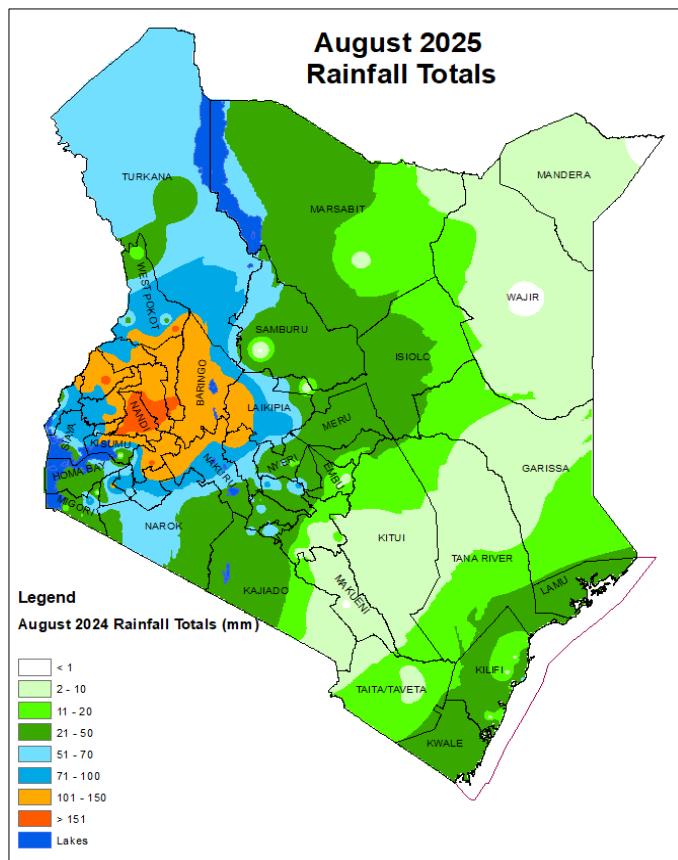


Figure 2: August 2025 Rainfall Totals

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 VEGETATION CONDITION

#### 2.1.1 Vegetation Condition Index (VCI)

- The Vegetation Condition Index (VCI) for Makueni County declined in August, averaging 45.5 compared to 55.8 in July, indicating normal but weakening vegetation greenness.
- Kibwezi West (53.4) and Kilome (51.4) recorded above-normal greenness, while Kibwezi East (43.0), Mbooni (42.8), Kaiti (41.6), and Makueni (40.6) remained within the normal band (Figure 3).
- The overall decline reflects the predominantly dry and cool weather conditions and progressive soil moisture depletion during the month.

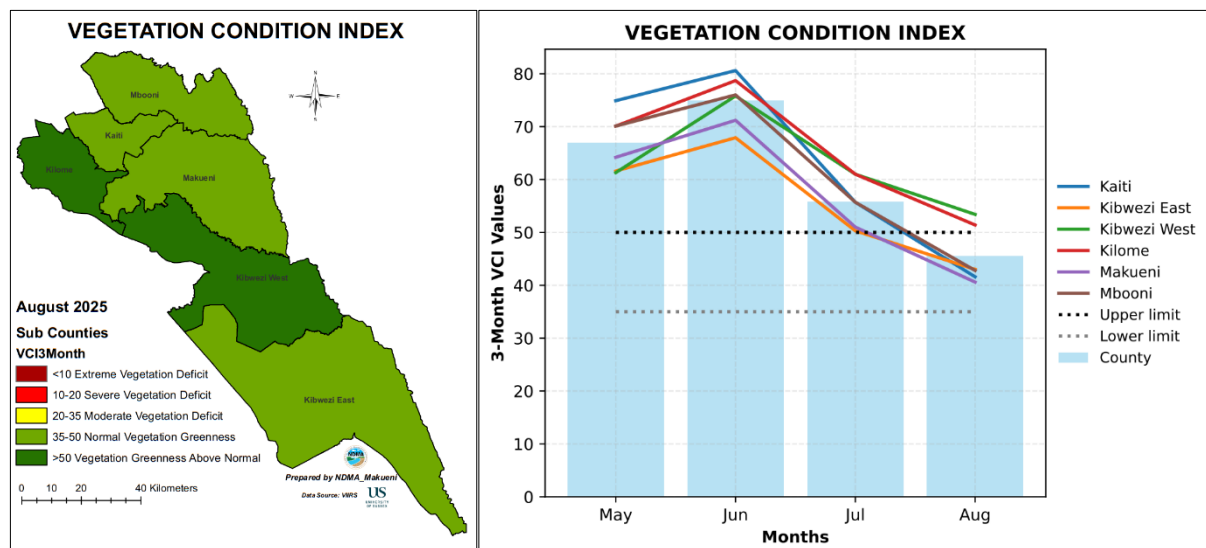


Figure 3: Makueni Sub Counties Vegetation Condition Index

#### 2.1.2 Pasture and Browse Condition

- Pasture and browse conditions continued to deteriorate between June and August, reflecting the effects of the dry season (Figure 4).
- Areas in good condition declined sharply from 43 percent in June to 29 percent in July and completely disappeared in August for both pasture and browse. In contrast, areas in poor condition increased from 10 percent to 29 percent for pasture and from zero percent to 24 percent for browse over the same period, signaling reduced forage quality and availability.
- By August, the majority of pasture (71 percent) and browse (76 percent) was classified as fair, pointing to mounting pressure on rangeland resources due to moisture depletion and limited regeneration.
- Consequently, the available forage was projected to last only 1–2 months compared to the normal 2–3 months.

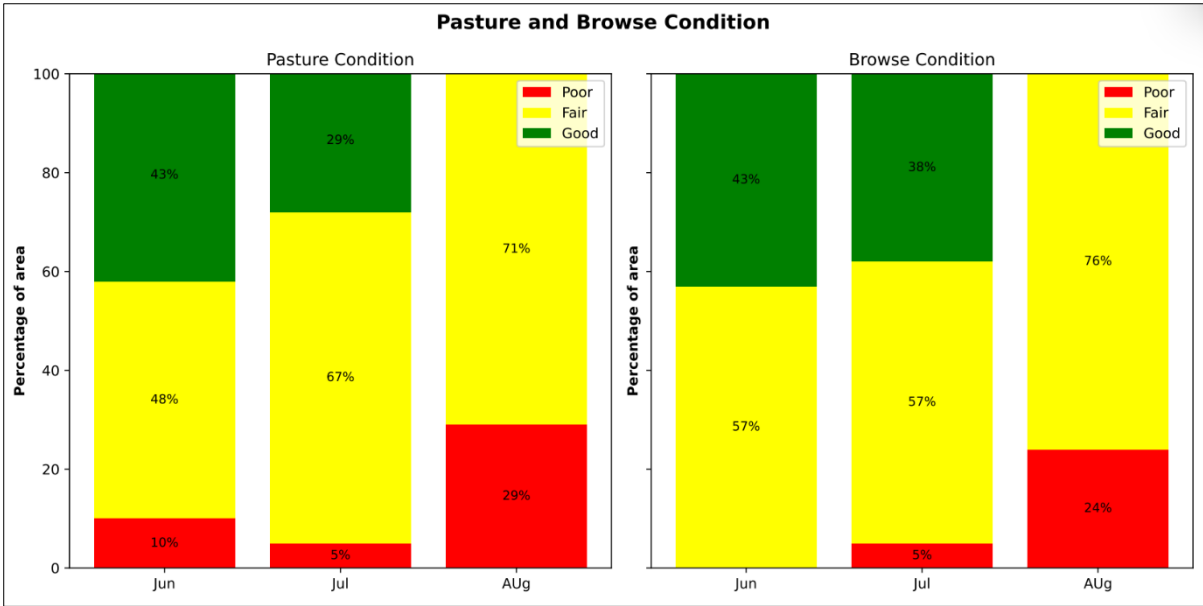


Figure 4: Pasture and Browse Condition

## 2.2 WATER RESOURCE

### 2.2.1 Sources

- During the period under review, households and livestock relied on a mix of traditional and improved water sources, with springs (26 percent) and shallow wells (22 percent) emerging as the dominant contributors.
- Boreholes accounted for 19 percent of supply, reflecting their growing importance in bridging water gaps during the dry season. Traditional river wells contributed 15 percent, serving as a critical fallback source, while roof catchments (7 percent) and piped water systems (6 percent) made smaller but important inputs, particularly for domestic use.
- Rivers, however, accounted for only five percent, underscoring the impact of declining surface flows during the dry spell.
- The heavy reliance on springs, shallow wells, and boreholes indicates increasing pressure on groundwater sources, while the reduced contribution from rivers and pans/dams reflects the seasonal depletion of surface water (Figure 5).

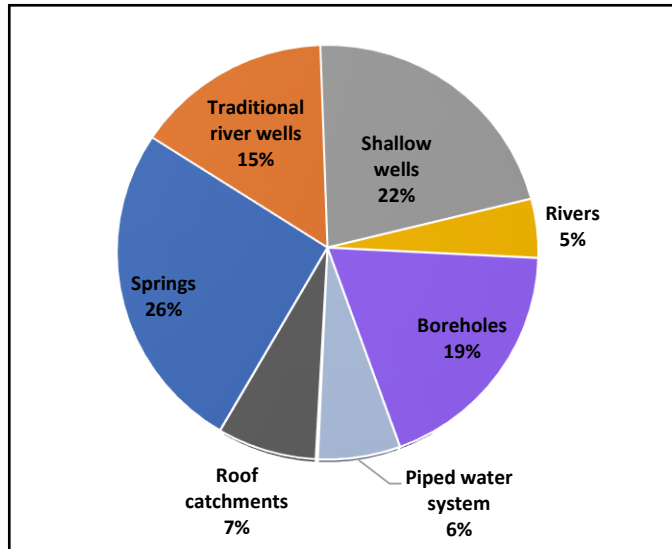


Figure 5: Major Water Sources, August 2025

### 2.2.2 Household Access and Utilization

- Household access to water improved in August as average trekking distance to sources reduced to 3.6 km, representing a 15 percent decline from July and 27 percent below the long-term average (Figure 6).
- Distances, however, varied across livelihood zones, ranging from 5.9 km in the Marginal Mixed Farming zone to 1.8 km in the Mixed Farming zone.
- Per capita daily water consumption remained steady at 20 litres, though water safety was still a concern, with only 17 percent of households treating their drinking water.

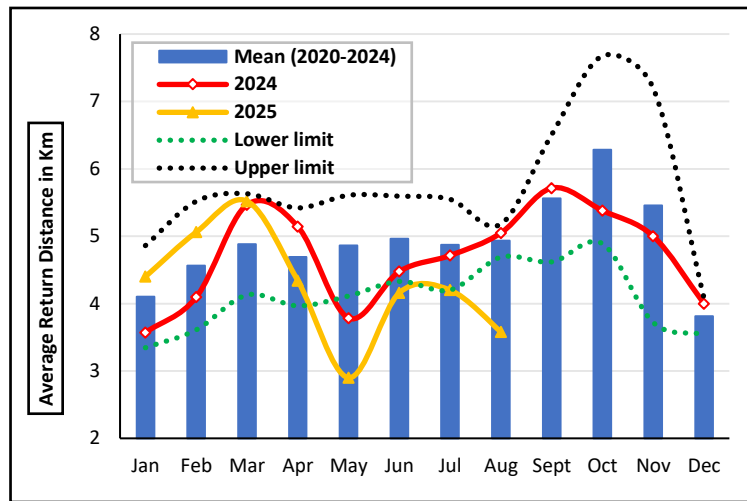


Figure 6: Household Distance to Water Sources

- The share of households paying for water rose to 37 percent compared to 32 percent in July, with a higher proportion in the Marginal Mixed Farming zone (56 percent) than in the Mixed Farming zone (23 percent).
- While water at source remained affordable at Ksh 5 per 20-litre jerrycan, vendor-supplied water cost Ksh 10–20, reflecting distribution costs and limited access in remote areas.

### 2.2.3 Livestock Access to Water

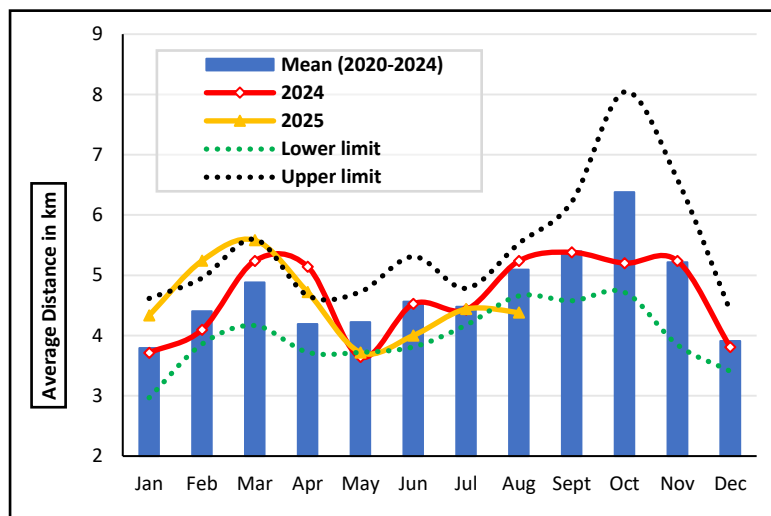


Figure 7: Livestock Trekking Distance to Water Sources

- During the month, livestock access to water was generally stable, with animals trekking an average of 4.4 kilometers to reach watering points, a distance unchanged from the previous month.
- Variations were observed across livelihood zones, with herds in the Marginal Mixed Farming areas covering the longest return distances of about 7.6 km, while those in the Mixed Farming zone traveled the shortest distance at around 2.0 km.
- Compared to the long-term average, the overall trekking distance was 14 percent shorter, signaling relatively better access to water than is normally experienced at this time of year (Figure 7).
- Furthermore, livestock were consistently watered on a daily basis across all zones, pointing to reliable water availability during the reporting period.

### 3.0 PRODUCTION INDICATORS

#### 3.1 LIVESTOCK PRODUCTION

##### 3.1.1 Livestock Body Condition

- Livestock body condition declined between June and August due to reduced forage availability, with animals in good condition dropping from 57 percent to 10 percent, while those in moderate condition rose from 43 percent to 90 percent.
- Importantly, no cases of borderline, thin, or emaciated animals were reported during the period, indicating that overall health remained within acceptable limits despite the deterioration trend (Figure 8).

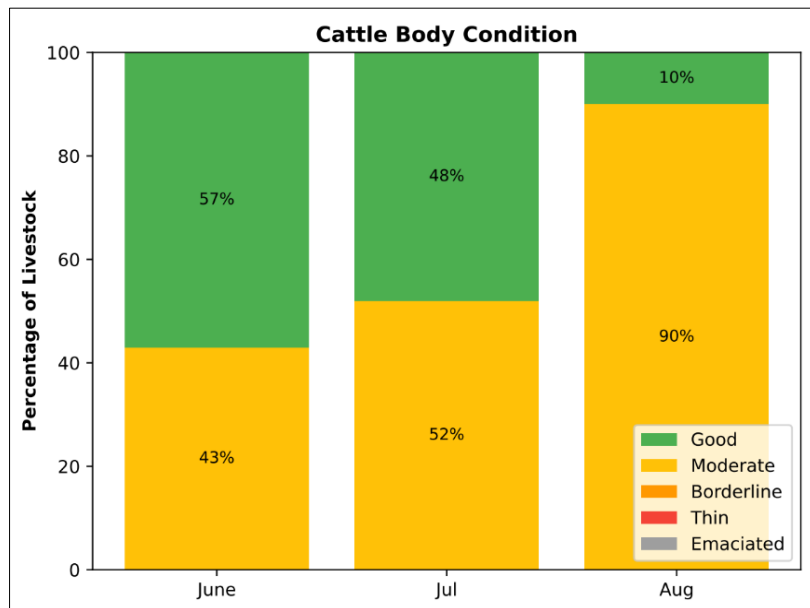


Figure 8: Cattle Body Condition

##### 3.1.2 Livestock Diseases and Mortalities

- Livestock health remained stable across all livelihood zones during the reporting period, with no incidences of unusual mortalities or major disease outbreaks observed.

##### 3.1.3 Milk Production

- Milk production in the county remained generally stable in August, averaging 1.8 litres per household per day, slightly lower than July's 2.0 litres and the long-term average of 1.9 litres (Figure 9)
- Production was higher in the Mixed Farming zone (2.2 litres) compared to the Marginal Mixed Farming zone (1.6 litres), with Kilome recording the highest yields of 2–4 litres per household, while Kibwezi East registered less than 0.5 litres due to forage shortages and water scarcity.

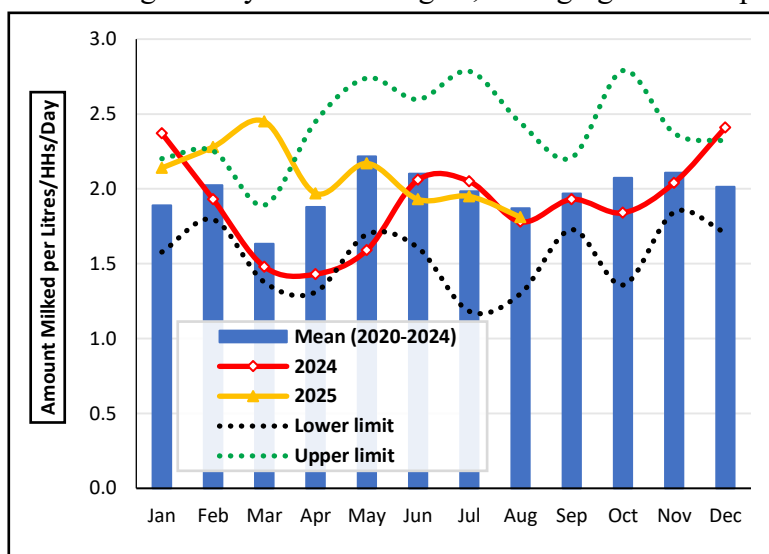


Figure 9: Milk Production

- Despite these variations, milk prices remained steady at an average of Ksh 64 per litre; ranging from Ksh 70 in the

Marginal Mixed Farming zone to Ksh 59 in the Mixed Farming zone. Offering some economic resilience to producers amidst localized production constraints.

### 3.2 RAIN-FED CROP PRODUCTION

#### 3.2.1 Stage and Condition of Food Crops

- Rain-fed crop performance in August was generally below average, with most farms at the harvesting stage for maize commonly intercropped with pigeon peas, cowpeas, beans, or green grams though in some areas harvesting had already been completed.
- Yields were severely constrained by erratic rainfall, moisture depletion, and widespread pest infestations, with maize fields particularly affected by moisture stress, while cowpea and bean plots experienced intense pest pressure.
- Consequently, production was projected at only 40–60 percent of the long-term average, and overall output remained mixed but largely poor, as pest damage and the prolonged dry spell combined to drive significant yield shortfalls across the county.

#### 3.2.2 Cereal Stocks Held by Households

- Household maize stocks rose markedly in August to an average of 55 kilograms per household, up from 20 kilograms in July, mainly due to ongoing harvests.
- The Mixed Farming zone recorded relatively better availability, with households holding about 81 kilograms, while the Marginal Mixed Farming zone reported extremely low stocks at just two kilograms.
- Despite this seasonal improvement, overall maize availability remained below normal, with current household stocks 39 percent lower than the three-year average, highlighting persistent food security concerns, especially in the more vulnerable marginal areas (Figure 10).

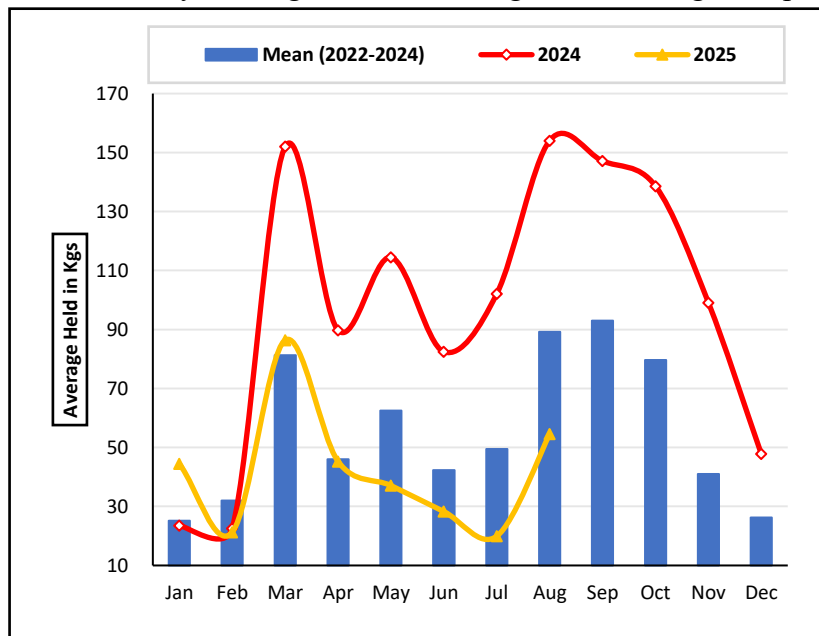


Figure 10: Maize Stock Held by Households

stocks 39 percent lower than the three-year average, highlighting persistent food security concerns, especially in the more vulnerable marginal areas (Figure 10).

## 4.0 MARKET PERFORMANCE

### 4.1 LIVESTOCK MARKETING

#### 4.1.1 Cattle Prices

- Cattle prices experienced a slight decline in August, averaging Kshs 39,738, which represented a nine percent drop from Kshs 43,667 in July.
- Price variations were evident across livelihood zones, with the Marginal Mixed Farming zone recording the highest average price at Kshs 42,778 due to better livestock quality and stronger market demand, while the Mixed Farming zone reported the lowest at Kshs 37,458.
- Despite the month-to-month decrease, the overall average price remained 38 percent above the short-term average of Kshs 28,696, indicating a stronger than usual market and improved returns for livestock producers compared to recent historical trends (Figure 11).

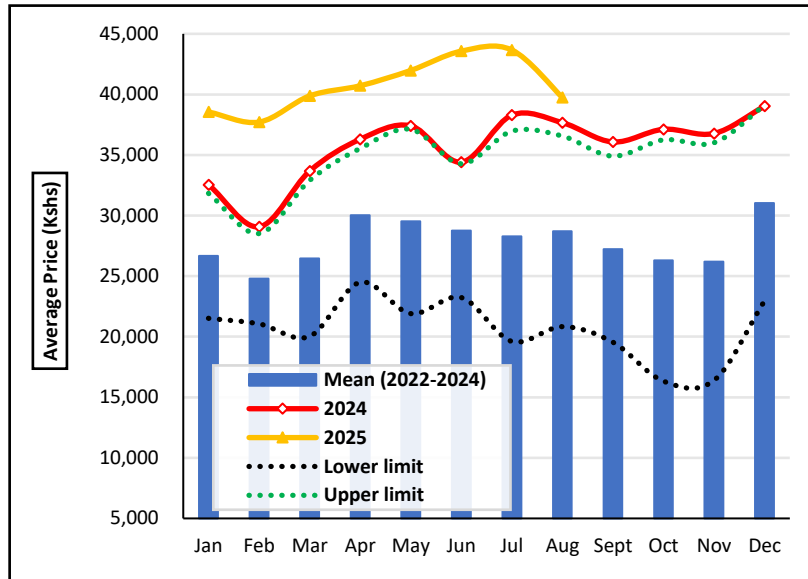


Figure 11: Cattle Prices

#### 4.1.2 Goat Prices

- Goat prices remained relatively stable in August, averaging Kshs 6,895 compared to Kshs 6,976 in July, reflecting a balanced demand and supply situation in the livestock market.
- However, significant variations were noted across livelihood zones, with goats in the Mixed Farming zone fetching higher prices at an average of Kshs 7,608, while those in the Marginal Mixed Farming zone sold for Kshs 5,944, largely due to differences in breed quality, feeding practices, and market accessibility.
- Overall, the August average price was 38 percent above the three-year average, underscoring a sustained upward trend supported by favorable market conditions, consistent buyer demand, and improved animal health, which collectively enhanced livestock value and farmer incomes (Figure 12).

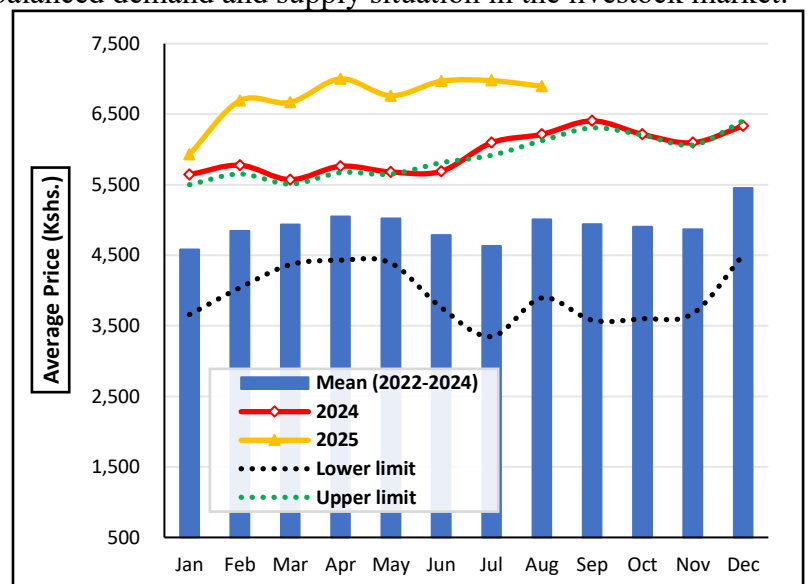


Figure 12: Goat Prices

## 4.2 CROP PRICES

### 4.2.1 Maize

- Maize prices remained stable in August, averaging Ksh.56 per kilogram compared to Ksh.55 in July.
- Prices varied across zones, with higher rates in the Marginal Mixed Farming zone (Ksh.60) than in the Mixed Farming zone (Ksh.53), mainly due to supply-demand dynamics and transport costs.
- Overall, the average price was 10 percent below the three-year average, supported by steady inflows from surplus-producing areas and improved market integration (Figure 13).

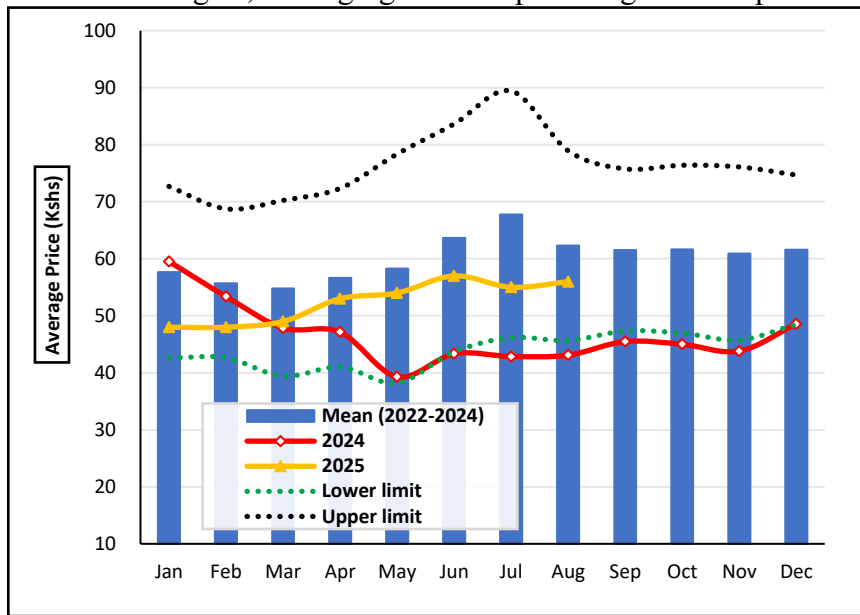


Figure 13: Maize Prices

### 4.2.2 Beans

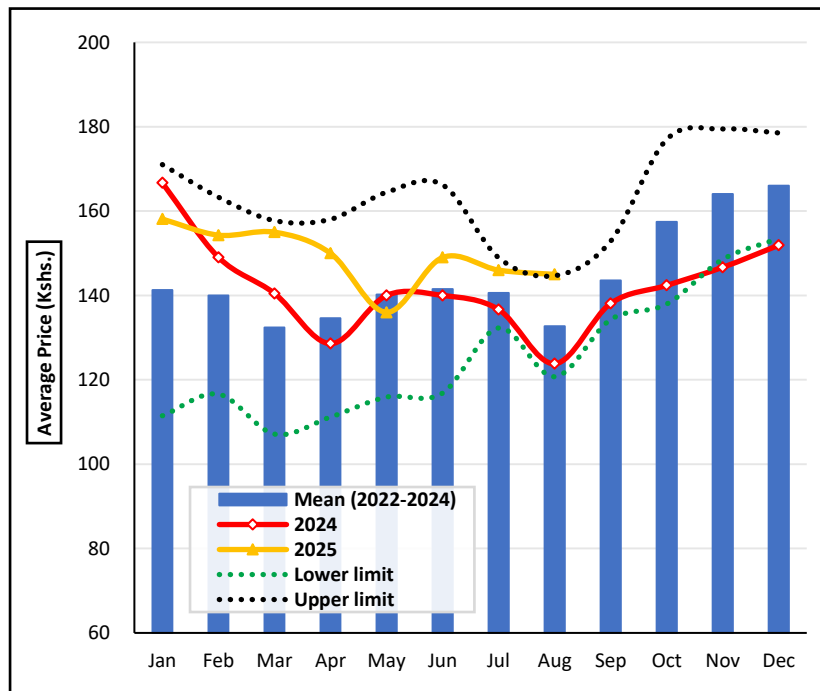


Figure 14: Beans Prices

- Bean prices remained relatively stable in August, averaging Ksh.145 per kilogram compared to Ksh.146 in July.
- Prices were highest in the Marginal Mixed Farming zone at Ksh.176 and lowest in the Mixed Farming zone at Ksh.123, reflecting differences in supply and market access.
- Overall, the average price was nine percent above the three-year average, signaling a moderate upward trend that may affect household affordability if sustained (Figure 14).

### 4.3 Livestock Price Ratio/Terms of Trade

- The goat-to-maize terms of trade (ToT) declined slightly in August, dropping by three percent to 123 kilograms of maize per goat from 127 kilograms in July.
- Nonetheless, the ToT remained well above normal, standing 38 percent above the three-year average, which points to favorable market conditions and improved household food access compared to recent years (Figure 15).
- Across livelihood zones, Mixed Farming households recorded the most favorable exchange rate at 144 kilograms of maize per goat, while those in the Marginal Mixed Farming zone accessed only about 99 kilograms, reflecting persistent challenges of limited market access, weaker bargaining power, and localized economic constraints.

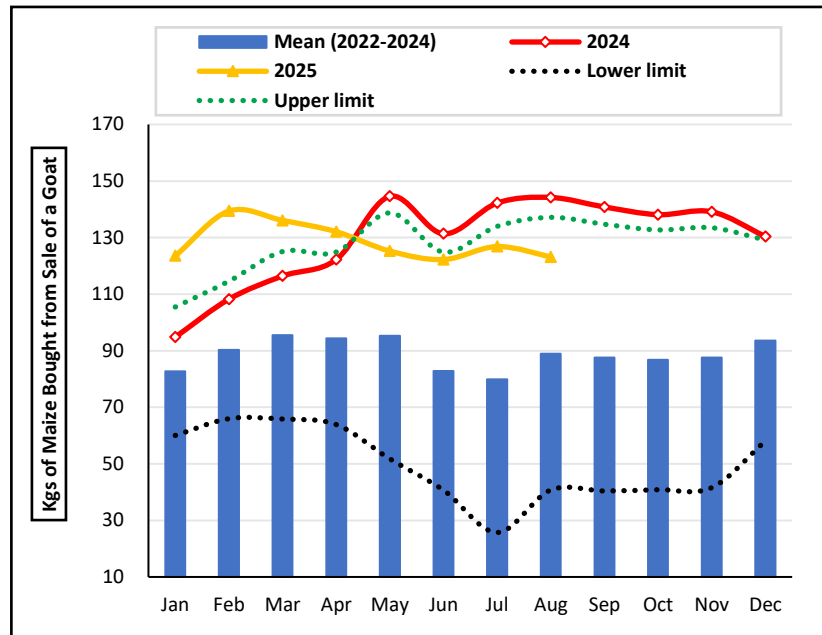


Figure 15: Terms of Trade

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 MILK CONSUMPTION

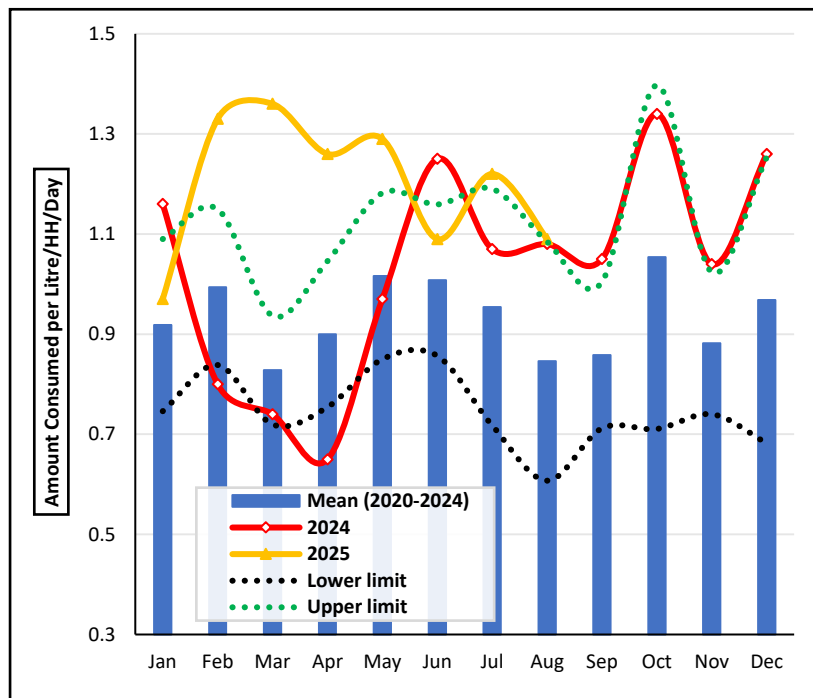


Figure 16: Milk Consumption

trends (Figure 16). This positive performance is largely attributed to stable milk production, supported by adequate livestock feed and water availability, which has helped sustain household nutritional intake.

- Household milk consumption in August remained relatively stable, averaging 1.1 litres per day compared to 1.2 litres in July.
- Consumption patterns varied across livelihood zones, with households in the Mixed Farming zone recording slightly higher intake at 1.2 litres per day, while those in the Marginal Mixed Farming zone averaged 1.0 litre.
- Overall, milk consumption was 29 percent above the long-term average, indicating a significant improvement from historical

## 5.2 FOOD CONSUMPTION SCORE

- The county’s food consumption situation showed a slight deterioration in August, with the mean Food Consumption Score (FCS) declining from 48.8 in July to 46.3, reflecting marginally reduced household access to food and dietary quality.
- Overall, 81 percent of households were classified in the acceptable FCS category, while 19 percent fell within the borderline range, with no cases reported under poor consumption.

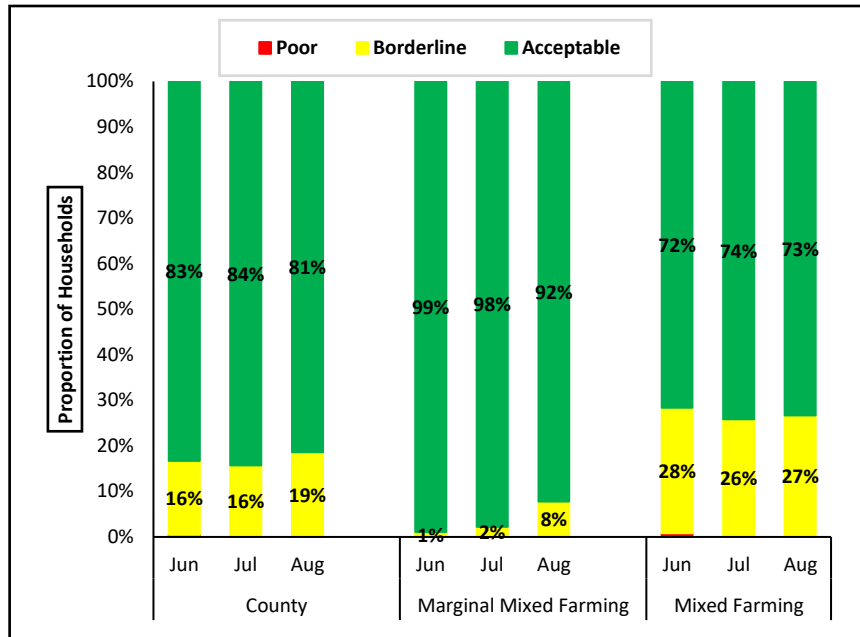


Figure 17: Food Consumption Score (FCS)

- The Marginal Mixed Farming zone recorded stronger outcomes with 92 percent of households in the acceptable category, compared to 73 percent in the Mixed Farming zone (Figure 17).
- Despite these relatively positive results, dietary diversity remained limited, with diets dominated by cereals, oils, and sugars, while vegetables, pulses, and fruits were consumed less frequently and protein-rich foods such as meat, eggs, fish, and milk remained rare.

## 5.3 HEALTH AND NUTRITION STATUS

### 5.3.1 Nutrition Status

- The nutrition status of children under five years showed a slight deterioration in August, with 5.3 percent classified at risk of malnutrition compared to 4.9 percent in July, though the level remained below the long-term average of 6.5 percent (Figure 18).
- Overall, 0.4 percent of children were moderately malnourished, with no severe cases reported.
- Spatial disparities were evident, as the Marginal Mixed Farming zone recorded a higher risk

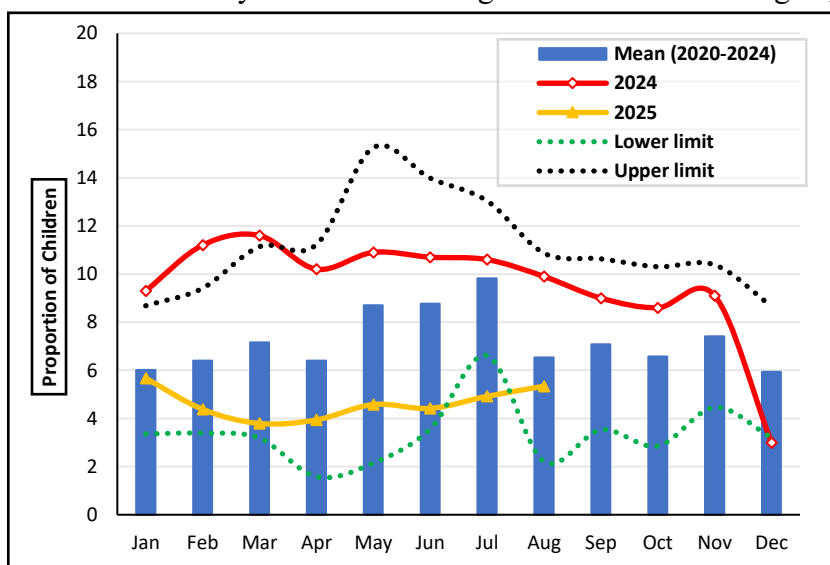


Figure 18: Children at Risk of Malnutrition

(8.3 percent) compared to 3.2 percent in the Mixed Farming zone, reflecting localized differences in food access, care practices, and health service utilization.

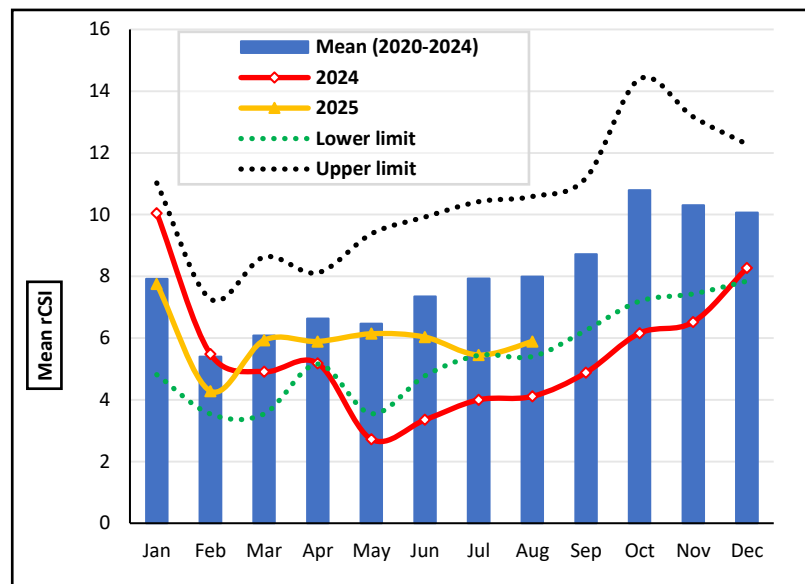
### 5.3.2 Health

- The prevalence of suspected illnesses among children under five years showed an increase in August, with diarrhea cases rising to 1.2 percent from 0.2 percent in July, while fever with breathing difficulties also rose slightly to 2.7 percent from 1.9 percent.
- Notably, fever with chills suspected to be malaria recorded the highest increase, more than tripling from 2.1 percent in July to 7.4 percent in August. These trends indicate a worsening health situation for children under five years, likely linked to seasonal disease patterns and varying access to health and sanitation services.

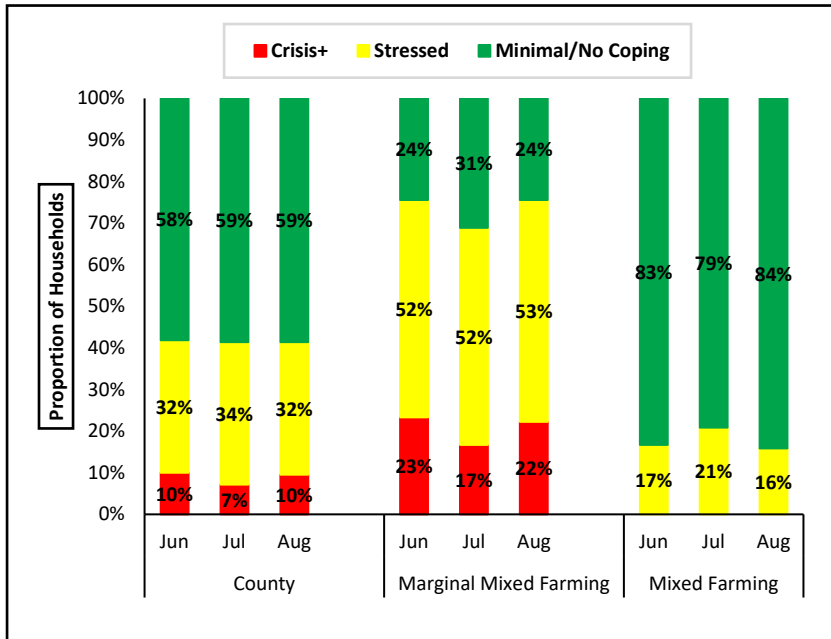
## 5.4 COPING STRATEGIES

### 5.4.1 Food Based Coping

- The county’s food security situation remained relatively stable in August, with the Reduced Coping Strategy Index (rCSI) increasing slightly to 5.9 from 5.5 in July, but still 26 percent below the long-term average of 8.0, indicating gradual improvement in household food access (Figure 19).
- However, significant disparities persisted across zones, as the Marginal Mixed Farming zone recorded a higher rCSI of 11.9 compared to 1.4 in the Mixed Farming zone, reflecting greater food stress.



**Figure 19: Reduced Coping Strategy Index (rCSI)**



**Figure 20: Households Employing Food Based Coping Mechanisms**

Overall, 10 percent of households employed severe consumption-based coping strategies, up from seven percent in July, with the situation most critical in the Marginal Mixed Farming zone where 22 percent of households resorted to such measures (Figure 20).

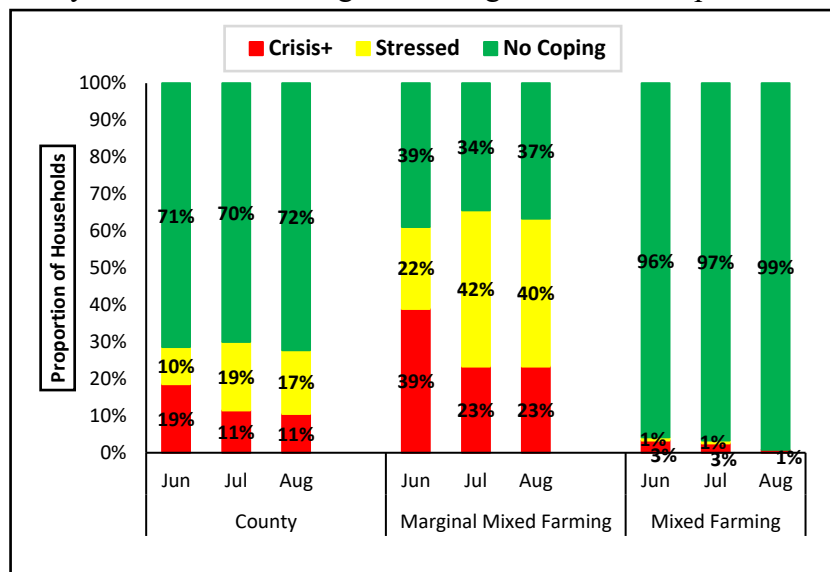
Common coping mechanisms included consuming less preferred foods (40%), reducing meal portions (35%), reducing the number of daily meals (12%), and borrowing food (10%).

### 5.4.2 Livelihood Coping

Household economic stability remained unchanged in August, with 11 percent of households engaging in severe livelihood coping strategies, the same as in July.

Zone disparities persisted, as 23 percent of households in the Marginal Mixed Farming zone resorted to Crisis or Emergency strategies compared to just one percent in the Mixed Farming zone (Figure 21).

Coping measures mainly included depleting savings, borrowing money, and, in extreme cases, begging, reflecting persistent socio-economic vulnerabilities and weak safety nets in the more food-insecure areas.



**Figure 21: Households Employing Livelihood Coping Strategies**

## 6.0 EMERGING ISSUES

### 6.1 Insecurity/Conflict/Human Displacement

The county remained peaceful and stable in August, with no incidents of insecurity, conflict, or human displacement reported, creating a favorable environment for household livelihoods and market activities.

## 6.2 Migration

- No livestock migration was reported in August, reflecting stable grazing conditions and sufficient availability of pasture and water resources across the county.

## 7.0 FOOD SECURITY PROGNOSIS.

- Food security conditions are expected to deteriorate over the next 1-2 months as the prolonged dry season intensifies.
- The Kenya Meteorological Department projects predominantly sunny and dry weather in September, with little or no rainfall, while VIIRS forecasts indicate a decline in vegetation greenness to moderate and severe deficit levels across sub-counties.
- The outlook points to further depletion of pasture and browse by October, leading to weakening livestock body condition, reduced milk production, and increased pressure on water resources.
- Household maize stocks, though seasonally improved, remain below average and will be depleted earlier than normal, forcing greater reliance on markets. While staple food prices are stable and terms of trade remain favorable, localized price spikes are likely as supplies tighten.
- Nutrition outcomes are expected to worsen moderately, with reduced milk availability, poor dietary diversity, and rising disease prevalence, pushing more households, particularly in Marginal Mixed Farming zones, to adopt negative coping strategies.
- Consequently, the risk of malnutrition among children under five is likely to rise until the onset of the short rains improves forage and food availability.

## 8.0 CURRENT INTERVENTION MEASURES

### 8.1 NON-FOOD INTERVENTIONS

Intervention	Target	Lead Actors	Time Frame
Dissemination of Agro-weather advisories	All households	Kenya Meteorological Department	Continuous
Promotion of water harvesting technologies	All 30 wards	Makueni County Government (MCG) and partners	Continuous
Integrated pest management strategies—such as pheromone traps, food baits, and solarization bags	All 30 wards	MCG and partners	Continuous
Pasture and fodder production and conservation	All 30 wards	MCG and partners	Continuous
De-risking, Inclusion and Value Enhancement (DRIVE) livestock insurance project	20 wards	State Department of Livestock, MCG and partners	5 years from 2024
Supplementary feeding program	Children under 5 years, pregnant, & lactating women	Ministry of Health & UNICEF	Continuous

## 9.0 RECOMMENDATIONS

- **Food and safety nets Sector:** Scale up targeted food assistance and cash transfer programs in areas with deteriorating coping strategies, while promoting alternative livelihoods and climate-smart agriculture to strengthen household resilience.
- **Agriculture Sector:** Distribute drought-tolerant seeds and strengthen pest control, post-harvest handling, value chains, and market linkages to boost food availability and farmer incomes.
- **Livestock Sector:** Promote pasture and fodder conservation, feed supplementation, vaccination, and disease surveillance while expanding value-addition to sustain herd health and improve market returns.
- **Water Sector:** Expand community-level water harvesting and storage infrastructure, while ensuring timely repair and maintenance of supply systems to ease pressure on groundwater sources.
- **Health and Nutrition Sector:** Scale up nutrition screening and treatment with vitamin supplementation, promote dietary diversification through kitchen gardens and small livestock, and reinforce disease prevention, hygiene, and safe water practices.
- **Education Sector:** Sustain and expand school feeding programs while improving access to safe water and sanitation in learning institutions to support attendance and nutrition.
- **Coordination Sector:** Enhance surveillance of key indicators with timely early warning dissemination, while strengthening inter-agency coordination and implementing climate-smart, nutrition, and drought-risk policies with regular monitoring and community feedback.