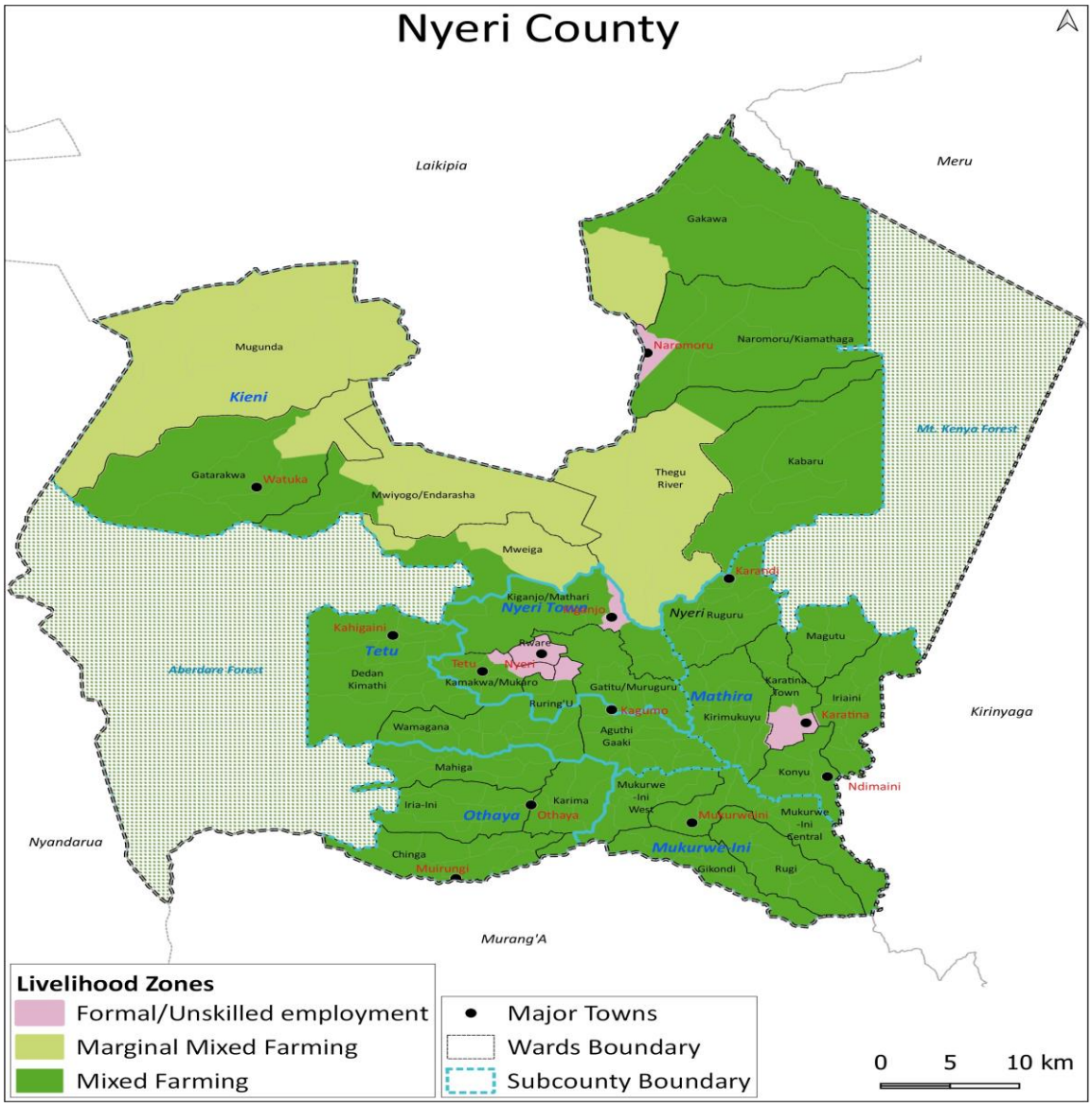
NYERI COUNTY (KIENI)

2023 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



A joint report by

The Technical County Steering Group, Nyeri (Kieni) County
and
Kenya Food Security Steering Group
February, 2024

EXECUTIVE SUMMARY

Multi-agency and multi-sectoral food security assessments are typically conducted bi-annually after the two main rainy seasons in Kieni; October-November-December (OND) short rains and March-April-May (MAM) long rains. The short rains assessment was coordinated by the National Drought Management Authority (NDMA) and involved the county departments of livestock, agriculture, water, education, health and nutrition and the Kenya National Bureau of Standards (Nairobi). The geographical scope was confined to the two sub-counties in Kieni namely: Kieni East and Kieni West and delineated to the mixed farming and marginal mixed farming livelihood zones only. The assessment's main objective was to conduct an unbiased, transparent and evidence-based analysis of the current food security situation to determine the just concluded short rains' impact on the five sectors mentioned above. It took in to consideration the aggregate impacts of the previous seasons to inform food and non-food interventions for the next six months. The short rains season's performance was good characterized by a timely onset, amounts of 126 -140 percent of rainfall, good temporal and even distribution and timely cessation in most areas in Kieni. Crop production performed well with production of maize and beans projected to increase by 300 and 326 percent respectively in comparison with their long-term average (LTA). However, production of Irish potatoes was estimated to reduce by 81.2 percent due to water logging as well as bacterial and fungal diseases occasioned by the above-average rains. Currently households did not have maize stocks since the previous seasons did not replenish them and harvesting was yet to be done. Pasture and browse were good in both livelihood zones and was likely to be available through to the onset of the next rainy season Body condition was better than normal for this time of the year for cattle, sheep and goats. Trekking distances were within seasonal ranges between 0.5 km and 3.0km in the mixed farming livelihood zone and 1.0 km to 4.0 km in the marginal mixed farming livelihood zone. Milk production was also within seasonal norms averaging 4.0km compared with 4.5 km normally in both livelihood zones. Market functions were normal with regard to commodity flow and physical access although food commodity prices were higher than their seasonal ranges. Most households were relying on markets for maize as it was yet to be harvested but households had access to beans, Irish potatoes, cabbages, carrots and onions that had been harvested. Maize prices were 38.8 percent higher than normal compared with Kshs 49 recorded in the 2019-2023 LTA. Sheep prices were also eight percent higher than normal in comparison with Kshs 3,823 recorded in the 2019-2023 LTA. Terms of trade (sheep to maize ratio) were 28 percent lower than normal to stand at 61 in comparison with 85 in the 2019-2023 LTA due to high prices of sheep. The season had a positive impact on open water sources and recharged their water levels to an appreciable extent. Rivers, the main water source relied upon by approximately 60 percent of the population were recharged up to 50 and 70 percent in the marginal mixed farming and mixed farming livelihood zones respectively. Distances to water sources for domestic use were within normal ranges of less than a kilometer. Waiting time at source was also within seasonal ranges at four and nine minutes in the mixed farming and marginal mixed farming livelihood zones respectively. Water consumption per person per day had also increased as a result of increased water availability to 70 and 50 litres per person per day (lpppd) in the mixed farming and marginal mixed farming livelihood zones respectively compared with 60 and 40 litres in the respective zones normally. Male and female adults were consuming at least three meals daily while children aged below five years were consuming at least five meals a day which was normal. The proportion of children at risk of malnutrition as determined by the mid-upper arm circumference (MUAC) was recorded at 1.8 percent which was more than double the normal proportion at this time of the year recorded as 0.7 percent in the 2019-2023 LTA. Dietary diversity was quite low as meals typically constituted carbohydrates, vegetables and sometimes pulses but very rarely animal proteins. The food consumption score averaged 29.1 having remained similar to that recorded in January 2023.The coping strategy index (rCSI) averaged 7.6 having reduced by 29.6 percent from 10.8 at a similar time last year. Households had therefore reduced the frequency and severity of consumption-based coping strategies which could have been occasioned by increased food availability. In conclusion, both livelihood zones were classified in Minimal IPC Phase 1.

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1.0 INTRODUCTION

1.1 County background

Kieni East and Kieni West Sub-counties are located in the northern part of Nyeri County. They border Nyandarua County and the Aberdare Forest to the West, Murang'a County to the South, Kirinyaga County and Mt. Kenya forest to the East, Laikipia County to the North and Meru County to the North-East. Both sub-counties cover a land mass of approximately 1,990 square kilometres with approximately 1,026 of these being arable.

Major economic activities in Kieni include crop production, horticultural production and livestock keeping. It has a projected population of 293,000 persons according to the Kenya National Bureau of Statistics population projections for 2024.

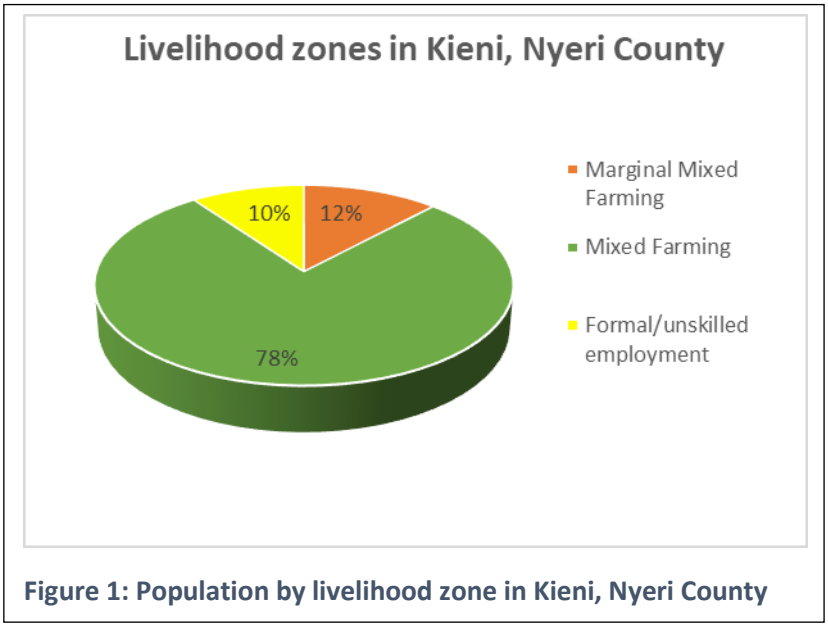

Figure 1: Population by livelihood zone in Kieni, Nyeri County

The main livelihood zones include Marginal Mixed Farming, mixed farming, formal/Unskilled employment (Figure 1). However, the assessment's scope was in the first two zones only. In Mixed farming Livelihood Zone, households depend on livestock production in small scale with improved breeds and crop production as main source of income and food. Better off, middle, poor and very poor households constitute 10, 40, 30 and 20 percent respectively.

In Marginal Mixed Farming, crop production is the major source of income and food. livestock production, pasture/fodder production, Poultry, and casual/waged-labour income, small Businesses/own business including crafts, non-farm production/brokerage services/ middlemen and boda boda transport are the other sources of income.

In the formal/Unskilled employment Casual jobs are a major contributor to household income and include employment in construction sites, boda boda transport, hotels/restaurants and boutiques.

1.2 Methodology and approach

The short rains assessment 2023 was conducted from 29th January 2024 to 9th February 2024. NDMA coordinated the technical County Steering Group (CSG) members from livestock, agriculture, nutrition, water and education and were joined by a representative of the Kenya Food Security Steering Group (KFSSG) from Kenya National Bureau of Standards (KNBS), Nairobi. Quantitative and qualitative methods were used to collect data. The exercise began with a virtual pre-assessment training session on 25th January 2024 followed by checklist administration from 29th January 2024 to 2nd February 2024. Members from the sub-county technical CSGs populated the checklists with data which were later entered in to the food security data base. The initial CSG meeting took place on the morning of 5th February 2023 with support from World Vision where sector representatives presented their consolidated checklists. Sources of this secondary data included sector reports, NDMA bulletins, Kenya

Health Information System (KHIS), Kenya Metrological Department (KMD) and Kenya National Bureau of Statistics (KNBS). This was later followed by a thorough check of the checklists to identify gaps to be filled during the transect drive. A transect drive was conducted in the two sub-counties to collect primary data on 6th February 2024 to 7th February 2024. A report-writing session was held on 8th February 2024 and a final debrief meeting was conducted on 9th February 2024 where preliminary findings of the assessment were presented and endorsed. Thereafter, a draft report of the findings was forwarded to the KFSSG for further analysis and review.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

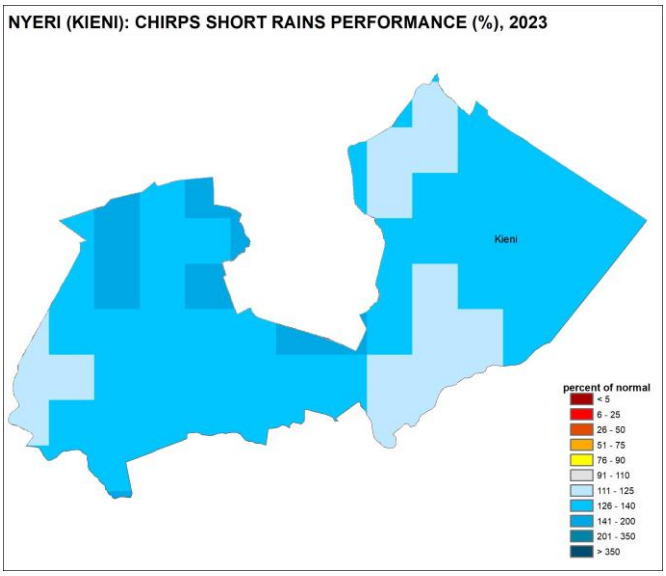

Figure 2: Spatial rainfall distribution in Kieni, Nyeri County

The onset of the short rains season occurred in the first dekad of October which was normal (Figure 3). Most parts in Kieni received significantly above-average rainfall ranging between 126 and 140 percent of normal. Significantly high rainfall was received in the first dekad of November. The spatial distribution of rainfall was even as all parts of the area recorded some rains (Figure 2). The temporal distribution was good as most dekads received some rainfall during the period between October and December 2023 (Figure 3). Cessation occurred in the third dekad of December although some off-season showers were recorded in January and February.

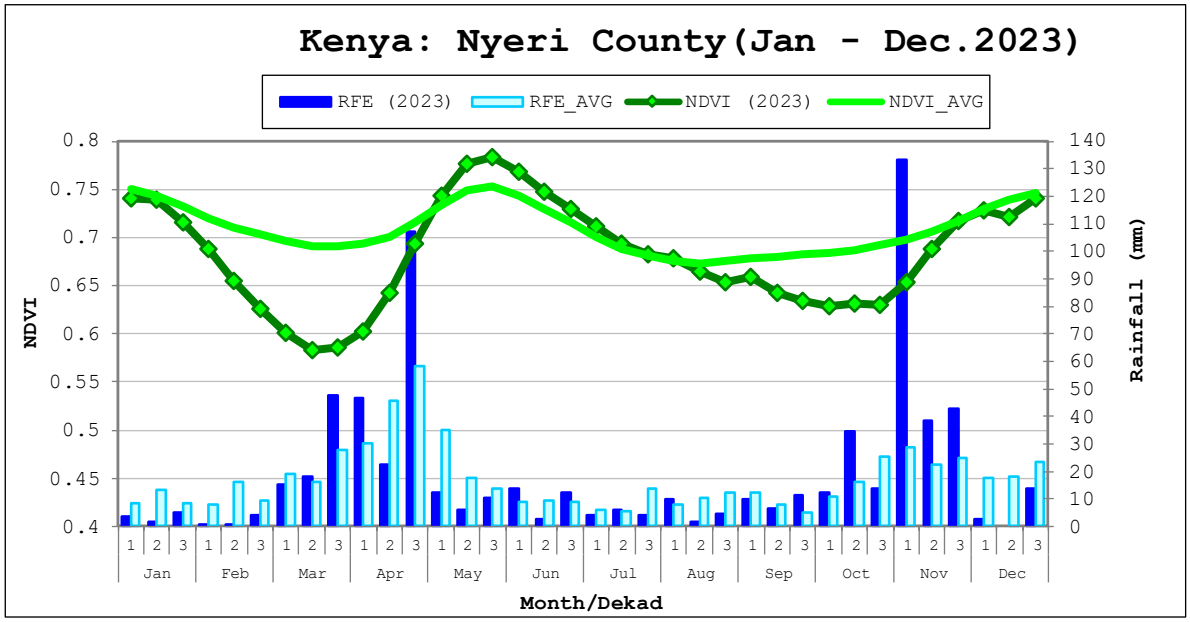

Figure 3: Temporal rainfall distribution

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

3.1.1 Crop Production

The short rains season is the most relied on for rain-fed crop production in Kieni. Typically, the main crops grown during this season include maize, beans and Irish potatoes. Other common crops include carrots, cabbages, onions and spinach under irrigated agriculture. Crop production contributes five and 20 percent to cash income in the marginal mixed farming and mixed farming livelihood zones respectively. Table 1 shows the contribution of the main food crops to both cash and income in Kieni, Nyeri County.

Table 1: Contribution of food crops to cash and income

Livelihood	Crop	Contribution (%)	
		Cash	Food
Mixed farming Marginal mixed farming	Maize	1	60
	Irish potatoes	22	15
	Beans	2	20

Rain-fed Crop Production

The acreage for all the three main crops under rain-fed crop production increased in comparison with their LTAs. (Table 2). Acreage under maize, beans and Irish potatoes increased by 68.7, 33.9 and 59.3 percent respectively. Farmers were compensating for the previous failed cropping seasons and took advantage of the good performance of the current season. The increased acreage also consequently increased production of maize and beans significantly compared with the LTA by 300 and 326 percent respectively. (Table 2). The good performance of the rainy season and the use of certified seeds also contributed to the increased production of the two crops. In addition, maize production was boosted by the use of subsidized fertilizer which was easily accessed by farmers near their locales. However, the enhanced rainfall amounts led to losses of Irish potatoes due to water logging and increased incidences of fungal and bacterial diseases (Table 3).

Table 2: Rain-fed crop production

Crop	Area planted during 2023 short rains season (Ha)	Long Term Average (LTA) area planted during the short rains season (Ha)	2023 short rains season production (90 kg bags) Projected	Long Term Average (LTA) production during the short rains season (90 kg bags)
Maize	3,920	2,323	31,360	7,840
Beans	2,200	1,643	49,500	11,604
Irish potatoes	4,440	2,788	13,320	73,260

Irrigated Crop Production

The acreage under cabbage decreased by 8.2 percent while that of carrots and onions increased by eight and 44 percent respectively in comparison with LTA (Table 3). The acreage under cabbage reduced because many farmers preferred to plant maize to take advantage of the enhanced rains and replenish stocks of the staple since they had not harvested for the previous five seasons. However, that of carrots and onions increased because the two were on high demand and fetching competitive prices. Reduced acreage

under cabbage also led to the consequent reduction in its production (Table 3). Although acreage under carrot had increased, its production was affected by water logging due to excessive rains. Onion production increased due to increased acreage.

Table 3: Irrigated crop production

Crop	Area planted during 2023 short rains season (Ha)	Long Term Average area planted during the short rains season (Ha)	2023 short rains season production (90 kg bags) Actual	Long Term Average production during the short rains season (90 kg bags)
Cabbage	739	805	33,255	64,400
Carrots	216	200	3,225	4,000
Onions	576	400	10,350	7,200

Farmers experienced several challenges in crop production during the season (Table 4). Cabbage, Irish potato and carrot production was affected by floods which also provided a conductive environment for fungal and bacterial infections in both livelihood zones. The cost of production also increased due to increased use of fungicides.

Table 4: Damage to food crops

Crop	Quantity of crop damage (ha)	% loss	HHs affected	Specific areas requiring interventions
Cabbages	320	43.3%	656	Kabaru, Munyu, Kairi, Mbiriri. Endarasha, Gatarakwa
Carrots	60	27.8 %	180	Kabaru, Munyu, Kairi, Mbiriri Endarasha, Gatarakwa
Irish potato	1776	40%	3,552	Kabaru, Munyu, Kairi, Mbiriri, Kamburaini, Ndiriti. Mwichuiri, Gitinga, Gatune, Burguret, Githima, Gatuanyaga, Lusoi, Chaka, Gatei, Maragima, Gode, Karundas, Kandara, Endarasha and Gatarakwa

3.1.2 Cereals stock

Farmers held nil maize stocks because they had not harvested for the last five consecutive seasons. Traders held 37.5 percent of normal maize stocks (Table 5) because they had not replenished their stock since the county had a crop failure the previous season and the on-farm crop was yet to be harvested (Table 2). They also were not keen to restock in large quantities because the price of the commodity was likely to fall due to the expected bumper harvest towards the end of March. Households held 166.7 percent of normal rice stocks (Table 5) because it was currently the preferred carbohydrate after maize which had not been harvested and Irish potatoes had also not done well this season (Table 3).

Table 5: Cereal stock availability

Commodity	Maize		Rice		Sorghum	
	Current	LTA	Current	LTA	Current	LTA
Farmers	0	7,840	20	12		0
Traders	1,937	3,100	2,275	4,000	0	0
Millers	600	1,700	0	0	0	0
Food assistance	0	483	0	300	0	0
NCPB	0	0	0	0	0	0
Total	**33,897**	**13,123**	**2,295**	**4,312**	**0**	**0**

3.1.3 Livestock Production

Introduction

Livestock production is a major food and income earner at household level in Kieni. The main livestock kept include cattle, meat/dairy goats and sheep. Other livestock kept on a small-scale include local poultry, bees and pigs. More than 70 percent of the population in both livelihood zones practice livestock production. It contributes 30-50 percent and 40-60 percent to cash income in the mixed farming (MF) and marginal mixed farming (MMF) livelihood zones respectively.

The short rains season under review impacted the sector positively following five consecutive failed seasons. The good performance of the season resulted in browse and pasture rejuvenation and recharge of water sources that made increased availability of rangeland resources.

Pasture and Browse

The current condition of pasture and browse was better than normal in both livelihood zones. The available pasture was estimated to last approximately 2-2.5 months through to mid-April in both zones compared with 1.5 months normally. The available browse was estimated to last 2-2.5 months which was normal in both zones (Table 6). Forage condition was likely to remain on a stable trend given that it was likely to last through to the period the long rains season will likely have begun in March facilitating further regeneration. There were no factors affecting access to either pasture or browse. However, both livelihood zones were affected by an invasive weed *notonia petrea* which affected pasture. The acreage affected could not be computed because the weed was not a continuous canopy but highly scattered. Farmers have been uprooting the weed which was not effective. No other actor had taken any measures to contain its spread.

Table 6: Pasture and browse condition:

Livelihood zone	Pasture				Browse			
	Condition		How long to last (Months)		Condition		How long to last (Months)	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
MF	Good	Fair	2 -2.5	1.5	None	Good	2 -2.5	2 -2.5
MMF	Good	Fair	2 -2.5	1.5	None	Good	2 -2.5	2 -2.5

Pasture/ fodder conservation situation

Pasture conservation was on-going in both the mixed farming and marginal mixed farming livelihood zones in Kieni West and Kieni East (Table 7). However, only 18,500 bales were currently being held against in 106 hay stores with a capacity of 50,200 bales. The conserved feed was estimated to last for one month only. Approximately 70 percent of the hay stores were located at farm level while 30 percent were found in shopping centres for commercial purposes. The practice was largely a preserve of elite farmers who sought the services of private service providers. The government's Agriculture Mechanization Services (AMS) centre in Naromoru Ward in Kieni East Sub-county was also offering the same service at highly subsidized prices. Other smaller actors in pasture conservation include a few self-help groups funded by the Small-Scale Irrigation and Value Addition Project (SIVAP) in Kieni East Sub-county. However, the groups were not very well established with the conserved hay being sold to members for their own consumption. Dairy cooperatives also stocked hay to improve access by their members. Another group had been sponsored by 2 Scale to preserve fodder in form of silage.

Table 7: Baled hay status

Sub-county	No. of Hay Stores	Storage Capacity (Total number of bales)	No. of Bales currently being held	How long is expected to last (months)	County demand	Average Weight per bale (in Kgs)
Kieni East	66	35200	9500	12	200-250	70% by farmers, 30% by stockists
Kieni West	40	15,000	9000	12	200-250	70% by farmers, 30% by stockists

Some farmers were supplementing their animals with commercial concentrates of high nutritive value including dairy meal, maize germ, pollard, layers mash, growers mash, chick mash and mineral licks. However, the cost of the supplementary feeds was high thus limiting utilization. Elite farmers were slowly adopting on-farm feed formulation. Several agro-dealers had also began dealing with commercial fodder production. Several factors limiting conservation and utilization of conserved pastures and other supplementary feeds included lack of proper storage facilities at household level. Available crop residues (maize stovers, wheat straws and bean straws) accounted for approximately 30 percent to livestock feed which is high compared to10% in normal times.

Livestock Productivity

Livestock body condition

Cattle, sheep and goat body condition are better than normal for this time of the year (Table 8). Availability of water, pasture and browse have contributed to this improvement occasioned by the good performance of the season. The current good condition is projected to last at least two months through to April because forage and water will likely to be available for at least that long. The long rains season is also projected to have begun by April which will result in additional rejuvenation of pasture and browse as well as recharge water sources. The sustained good body condition will likely result in improved food availability and access as milk production increases and livestock fetch better prices at market level.

Table 8: Livestock body condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
MF	BSC 4	BSC 3	BSC 4	BSC 3	BSC 4	BSC 3	-	-
MMF	BSC 4	BSC 3 – BSC 2	BSC 4	BSC 3 – BSC 2	BSC 4	BSC 3	-	-

Birth rate and Tropical Livestock Units (TLUs)

Kidding, lambing and calving rates were on an increasing trend as livestock have begun to recover from the prolonged drought condition. The increased rates could be attributed to improved livestock body condition. Kidding and lambing rates among the small stock are projected to increase in the next three months while calving rates will be expected to have increased by the end of the year.

Table 9: Tropical Livestock Units

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
MF	0.5	0.5	2.0	2.5
MMF	1.1	1.1	3.0	3.5

The average TLUs per household in poor income households was normal for this time of the year. However, those in medium-income households were lower than normal (Table 9). The TLUs were generally lower than the last good year. The reduction could have been occasioned by destocking at household level that took place during the prolonged drought period. However, they are projected to increase when kidding, lambing and calving rates increase in the next three to 12 months.

Milk availability

Cattle were the main producers of milk in Kieni. Milk production, consumption and prices per litre were within seasonal ranges in (Table 10). The trend was likely to remain stable in the next three months as pasture and water was likely to remain available at least through to April when the long rains season will likely to have begun. With the sustained availability of pastoral resources, milk production, consumption and prices were likely to retain a normal trend.

Table 10: Milk availability, prices and consumption

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Kshs)/Litre	
	Current	LTA	Current	LTA	Current	LTA
MF	4.0	4.5	1	1	35-38	40
MMF	4.0	4.5	0.5	½	35-38	40

Water for Livestock

The main current sources of water for livestock include rivers, water pans, dams and streams which are the normal sources in both livelihood zones. The current return trekking distances

from grazing areas to water sources were within seasonal norms (Table 11). Trekking distances were projected to remain within seasonal ranges because forage was likely to last through to the onset of the long rains season when rejuvenation will likely occur. Water in the current water sources was projected to last at least two months through to April compared with at least one month normally (Table 11). The rains had sufficiently recharged water sources lengthening the duration the collected water was likely to last. There were no major factors limiting access to water in both livelihood zones. Minor factors included siltation and invasion of water algae.

Table 11: Water availability

Livelihood zone	Sources		Return average distances (km)		Expected duration to last (months) for each source	
	Current	Normal	Current	Normal	Current	Normal
MF	Rivers, water pans, dams and streams	Rivers, water pans, dams and streams	0.5 – 3.0	1-3.5	2.5	1 ½
MMF	Rivers, water pans, dams and streams	Rivers, water pans, dams and streams	1- 4	1.0 -5	2	1

Watering frequency

There were no variations in watering frequency across both livelihood zones (Table 12). All livestock were watered once daily. However, for livestock being reared under intensive production system such as zero grazing had access to water throughout the day. Watering frequency was likely to remain the same for the next three months given that availability of water was projected until the onset of the next rainy season (Table 11).

Table 12: Watering frequency (no. of days per week)

Livelihood zone	Cattle		Camels		Goats		Sheep	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
MF	7	7	-	-	7	7	7	7
MMF	7	7	-	-	7	7	7	7

Migration

There were no cases of migration of livestock from neighboring counties which was not normal for this time of the year. This could be attributed to likely good performance of the season in neighboring counties.

Livestock Diseases and Mortalities

Livestock diseases

Anaplasmosis, mastitis and East Coast Fever (ECF) were the endemic diseases recorded in both livelihood zones. New Castle Disease was also reported but cases had declined due to

the wet season which was not a conducive environment for it. More farmers were also embracing poultry vaccination as a control measure. Lumpy Skin Disease was also report particularly among farmers who did not their animals for vaccination in November last year. The vaccination program also covered other diseases including Black Quarter, Anthrax, Contagious Caprine Pleuro-Pneumonia, Sheep and Goat Pox and rabies in dogs. Approximately 29,000 cattle were vaccinated with emphasis being in identified hotspots including Maragima and Lusoi in Thegu Ward, Ichuga, Mureru and Gatuanyaga in Gakawa Ward and Muchwiri, Kamburaini and Ndiriti in Naromoru/ Kiamathaga Ward in Kieni East Sub-county and in all wards of Kieni West Sub-county. Livestock mortality rates among all livestock were normal (Table 13).

Table 13: Estimated livestock mortality rates

Sub-county	**Livestock species**	**Total county Population per species**	**Reported Livestock deaths per species**	**Mortality rate (%)** **(=** number of reported deaths per species/ total population per species x 100)	**Remarks**
Kieni West	Cattle	63620	70	0.001%	Normal
	Goats	47070	50	0.001%	Normal
	Sheep	103160	150	0.0014	Normal
	Donkeys	500	0	0%	Normal

3.2 Access

3.2.1 Market operations

There were no market disruptions during the assessment and neither are any expected in the next six months. The main food markets in the mixed farming livelihood zones include Chaka, and Naromoru while those in the marginal mixed farming livelihood zones include Kiawara and Mweiga. The commodities readily available in these markets were maize, beans, cowpeas, vegetables, potatoes and rice with key staples being maize, potatoes and beans. Maize in both livelihood zones was currently being sourced from Nakuru and Nyandarua Counties because the commodity was not available locally due to previous failed seasons and the current season's crop had not been harvested. Approximately 75-85 percent was being sourced externally and more than 90 percent were relying on markets for the commodity. However, in the next three months, most will rely on their own production because harvesting will have been completed. Potatoes were currently being sourced from food markets in Kieni including Chaka, Naromoru, Endarasha, Mugunda and Gatarakwa being obtained from the on-going harvests. However less than twenty percent was available in the markets due to crop losses occasioned by rotting and blight as a result of excessive rains this season. Beans were also being sourced from the same markets from the on-going harvests and although they were equally affected by excessive rains, their yields were better because farmers had adopted certified seeds (hybrid *Nyota*). Currently less than 10 percent were relying on markets for beans and potatoes because harvests were on-going which was normal in both livelihood zones. The trend was likely to remain the same as harvests will be available. county did not have designated livestock markets with the main actors in livestock trade being middlemen and butchers. Livestock were sold at farm gate level or from neighbouring counties for slaughter.

Market Prices

Maize price

The current price of maize was recorded at Kshs 68 which was 38.8 percent higher than normal in comparison with Kshs 49 recorded in the 2019-2023 LTA. It was also nine percent lower than Kshs 75 recorded during this time in 2023. (Figure 4). Kieni has had five consecutive cropping season that failed to replenish household stocks hence increasing demand for the commodity since it was a staple for the region. The current season had performed better than the previous short rains season hence the decrease in price. Maize prices are likely going to decrease in the next three months as harvesting is concluded towards the end of March for which a bumper harvest is envisaged (Table 2).

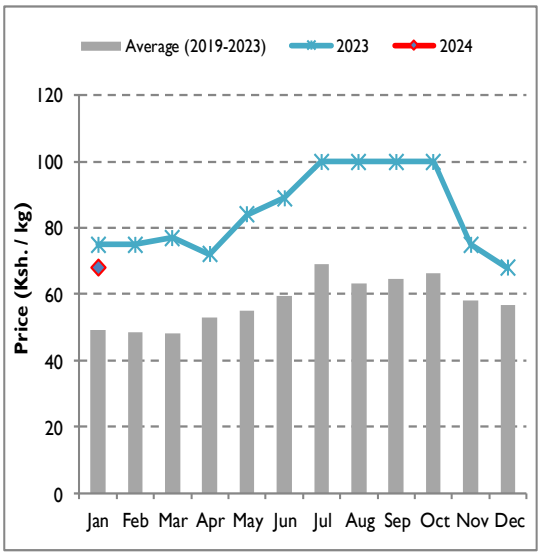

Figure 4: Maize prices in Kieni, Nyeri County

Sheep price

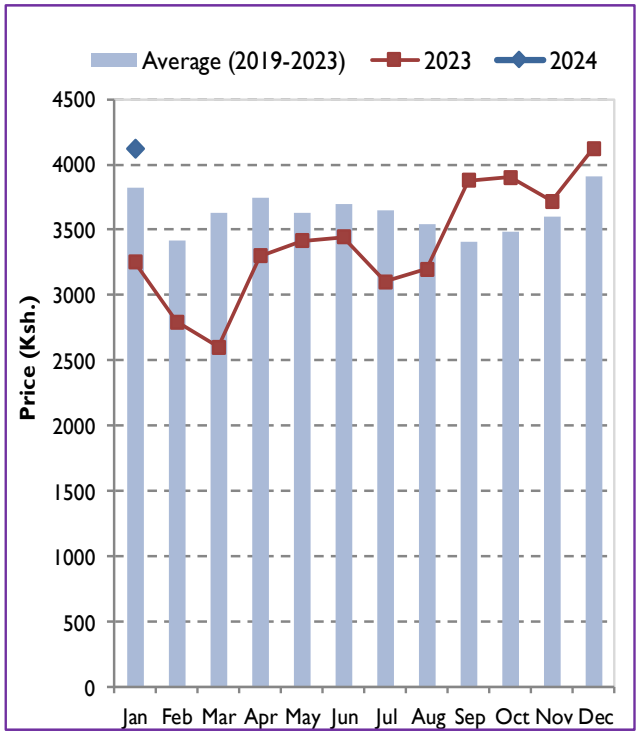

Figure 5: Sheep prices in Kieni, Nyeri County

The current price for medium-sized three-year old sheep was Kshs 4,125 having increased by an eight percent margin in comparison with the normal price of Kshs 3,823 recorded in the 2019-2023 LTA. The price was also 26.9 percent higher than Kshs 3,250 recorded at a similar time last year (Figure 5). Pasture was currently readily available in addition to reduced distances to watering points that improved sheep's body condition which could have contributed to better market prices during this assessment. Prices are likely to continue being above average for at least three months because pasture was estimated to remain available through to April (Table 6) when the long rains season will have begun further rejuvenating pasture. Body condition will therefore likely remain good.

3.2.2 Terms of trade

The current terms of trade were recorded at 61 having decreased by a 28 percent margin in comparison with 85 in the 2019-2023 LTA and by 38.6 percent margin compared with a similar time in January 2023 which stood at 44 (Figure 6). Although sheep prices had increased, maize prices had increased quite significantly resulting in the decrease in ToT. The decrease implied that households were able to purchase a smaller quantity than normal of maize from the proceeds of sheep sales and also compared with January 2023. Therefore, households had a lower purchasing power than normal and also compared to a similar time last year. However, this trend was likely to be reversed as maize prices decline and sheep prices remain above average in the next three months.

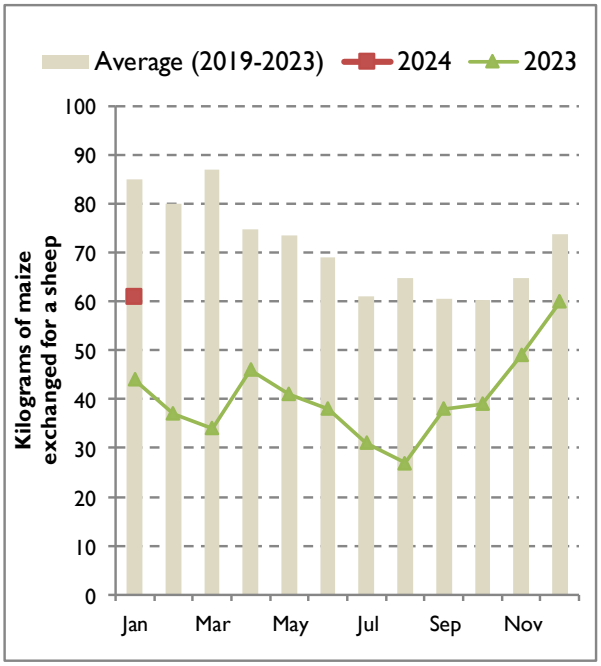

Figure 6: Terms of trade in Kieni, Nyeri County

3.2.4 Water access and availability for domestic use

Water availability

The main water sources for domestic use in Kieni include rivers, boreholes, pans and dams. The current season had a positive impact on open water sources which were the normal sources for this time of the year. The water recharge levels in rivers was 50 percent in the marginal mixed farming livelihood zone and 70 percent in the mixed farming livelihood zone, compared to their typical levels of 40 and 60 percent respectively. Similarly, water levels in dams and pans were higher than usual, ranging from 20-40 percent in the marginal mixed farming livelihood zone to 60-80 percent in the mixed Farming livelihood zone compared with a normal of 0-10 percent and 40 – 60 percent in the respective livelihood zones. Kiguru Dam in Mweiga Ward required desilting to enhance water retention. Boreholes were relatively full at approximately 80% across both zones.

Despite upstream over-abstraction of rivers such as including Ewasonyiro, Kamuiga, and Kariminu in Kieni West Sub-county, and Wathigitu and Rongai in Kieni East Sub-county, there had been improvements in water levels, particularly in the marginal mixed farming livelihood zone. Most water infrastructure were operational, with 11 out of 17 dams and 20 out of 40 boreholes in Kieni East, and 12 out of 18 dams and 20 out of 28 boreholes in Kieni West functional. Rivers were flowing with all being operational in both livelihood zones. However, some boreholes are non-operational, with ongoing implementation and rehabilitation efforts.

Specific actions are needed for certain boreholes, such as installing solar panels for Kabati borehole and replacing equipment for Ngano Thayo. Numerous boreholes in Kieni East lack necessary equipment, including piping for Nyange Primary borehole. In Kieni West, areas with dense human populations, such as Kiawara, Gikomo, Lachuta, Kanyiriri, Kinyaiti Dam site, Muthuini, and Endarasha, experience limited water supply. Similarly, in Kieni East,

Thungari, Ragati, Lusoi, Kaaga borehole, and Baraka Estate face water scarcity due to high human concentration.

The projected water availability in dams and pans was three months up to May in the marginal mixed farming livelihood zone and four months up to June in the mixed farming livelihood zone, compared to the usual two and nine months respectively. Rivers in both livelihood zones were expected to last three months in comparison with the normal two months or less. Boreholes, however, typically remain available throughout the year at 80% capacity in both livelihood zones. Certain areas including Birisha, Ngano Thayu, and Thegu Ward had fewer water points because they lacked connections to piped water systems. This limitation stemmed from insufficient funding for expanding coverage areas.

Water access and utilization

Distance to water sources

The current return distance to water for household consumption was within normal ranges in both livelihood zones (Table 14). The current season had increased water availability near households so they didn't need to walk long distances to access water.

Table 14:Water access and utilization for domestic use

Sub-county	Livelihood zone	Return Distance to Water for Domestic Use (Km)		Cost of Water at Source (Kshs. Per 20litres)		Waiting Time at Water Source (Minutes)		Average Water Consumption (Litres/person/day)	
		Normal	Current	Normal	Current	Normal	Current	Normal	Current
Kieni West & Kieni East	Mixed farming livelihood zone	0.5	0.4	5	5-10	4	<4	60	70
	Marginal mixed farming livelihood zone	1	1	10	15-20	9	<9	40	50

Waiting time at the source

The waiting time at source was within normal ranges averaging less than four and nine minutes respectively (Table 14). Increased water availability had resulted in most sources being recharged with water hence the minimal deviation from normal.

Cost of water

The average cost of water per 20-litre jerrican was slightly higher than normal for this time of the year in both livelihood zones (Table 14). The increase in cost could be attributed to high transportation costs due to increased fuel prices. Households in areas such as Kiawara, Lachuta, Nairutia areas in Mugunda Ward, and Endarasha in Endarasha/Mwiyogo Ward heavily rely on water vendors for their domestic water needs.

Water consumption

The current average water consumption per person per day was slightly above average by 16.7 and 25 percent in the mixed farming and marginal mixed farming livelihood zones respectively (Table 14). The increased water availability and increased access to water through reduced waiting time enabled households to increase consumption thus improving hand hygiene. This could be the reason diarrhoeal diseases in children aged below five years

had reduced in comparison to a similar time in 2022 (Figure 11) when water was less than available leading to lower consumption.

3.2.5 Food Consumption

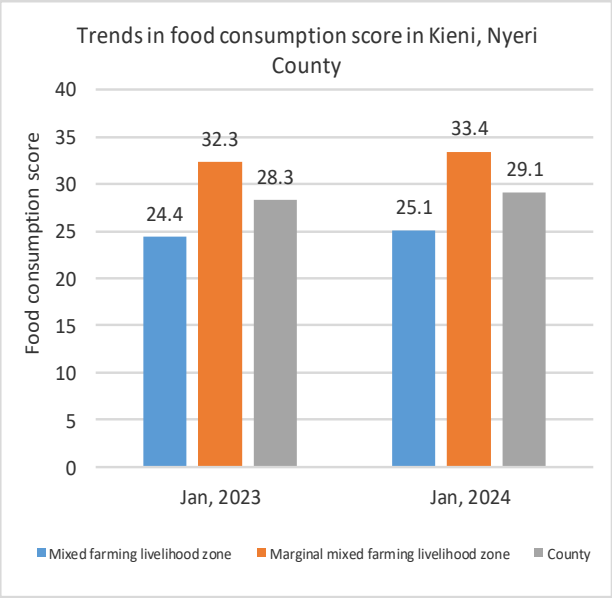

Figure 7: Trends in food consumption score

The food consumption score in Kieni averaged 29.1 during the assessment having remained stable in comparison with 28.3 at a similar time last year implying a stable trend in the score. A similar trend was recorded at livelihood zone level. The mixed farming livelihood zone recorded a score of 25.1 in January 2024 having maintained a stable trend compared with 24.4 in January 2023. The marginal mixed farming livelihood zone recorded a score of 33.4 during the assessment in comparison with 32.3 in January last year (Figure 7). The stability in the food consumption score at county and household levels implied that households had not significantly altered their food consumption score. It was worthwhile to note that very few households had recorded acceptable food consumption during this assessment and also at a similar time last year. This could be attributed to poor dietary diversity and low nutritive value of the foods consumed. During the assessment, households typically consumed *ugali* and vegetables daily, sometimes pulses but rarely consumed meat, fruits, eggs or dairy foods. This meal composition was almost always the same regardless of the performance of the season. Figure 8 shows the stability in food consumption patterns across the poor, borderline and acceptable categories at livelihood zone and county level.

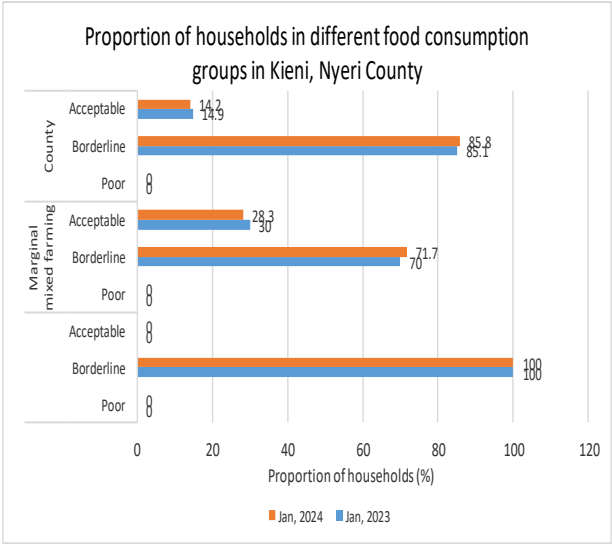

Figure 8: Proportion of households in different food consumption groups

3.2.6 Coping strategy

The reduced coping strategy index (rCSI) stood at 7.6 having reduced in comparison with a previous time last year (Figure 9). A similar trend had also been recorded at livelihood zone level. In addition, the proportion of households engaging specific consumption-based coping strategies had also reduced compared to January last year (Figure 10). The reduction implied that households had reduced the frequency and severity of engaging these strategies which could have been occasioned by the availability of some food crops such as beans, green

maize, cabbage and Irish potatoes from the on-going harvests. These crops had not done well during the short rains season last year hence the higher coping strategy index then.

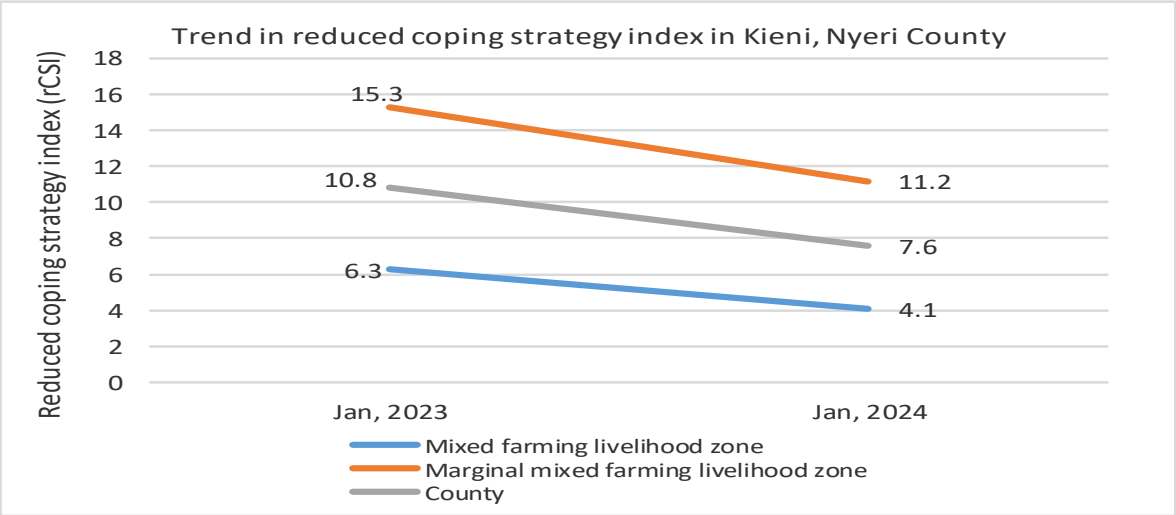

Figure 9: Trend in reduced coping strategy index (rCSI) in Kieni, Nyeri County

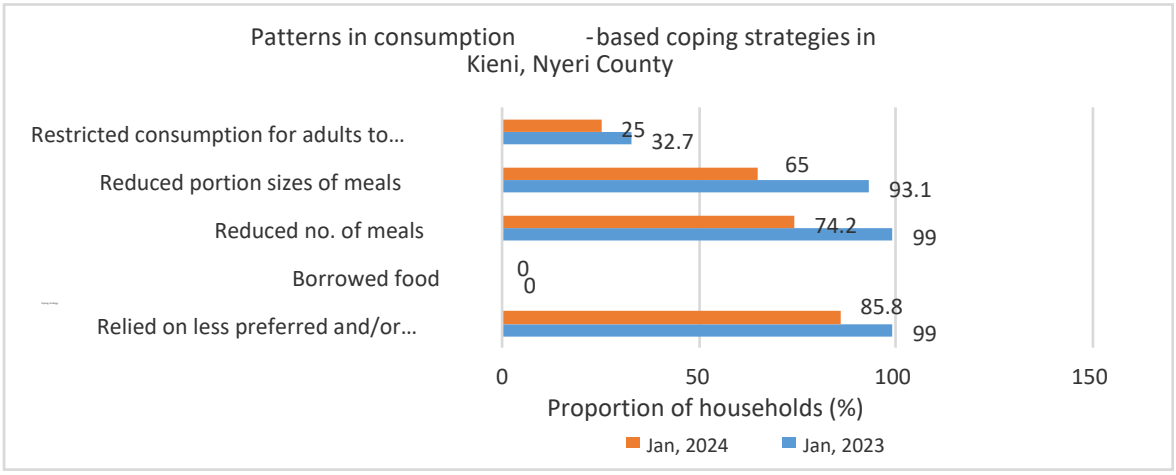

Figure 10: Patterns in consumption-based coping strategies in Kieni, Nyeri County

3.3 Utilization

3.3.1 Morbidity and mortality patterns

The most prevalent diseases in children aged below five years included upper respiratory tract infections (URTI), diarrhoea and diseases of the skin which had decreased by 21, 5.9 and 3.7 percent respectively during the period July to December 2023 in comparison with a similar period in 2022 (Figure 11). The decline in prevalence could be attributed to increased health education conducted by community health extension workers and community health promoters as well as improved hand hygiene due to increased water consumption (Table 14). On the other hand, URTI and diseases of the skin were equally prevalent in the general population whose prevalence had decreased by 20.9 and 9.3 percent respectively. Arthritis was also prevalent in this age cohort although it had increased by a 9.3 percent margin

(Figure 12) due to prevailing cold conditions during the period July to December 2023. The average distance to the nearest health facility was between 1.5 and two kilometres.

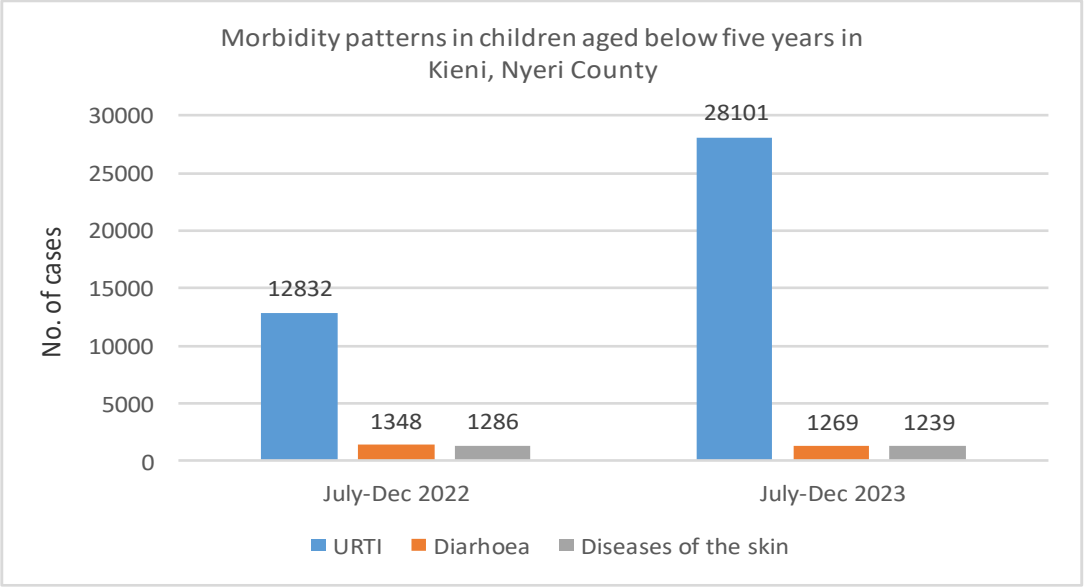

Figure 11: Morbidity patterns in children aged below five years

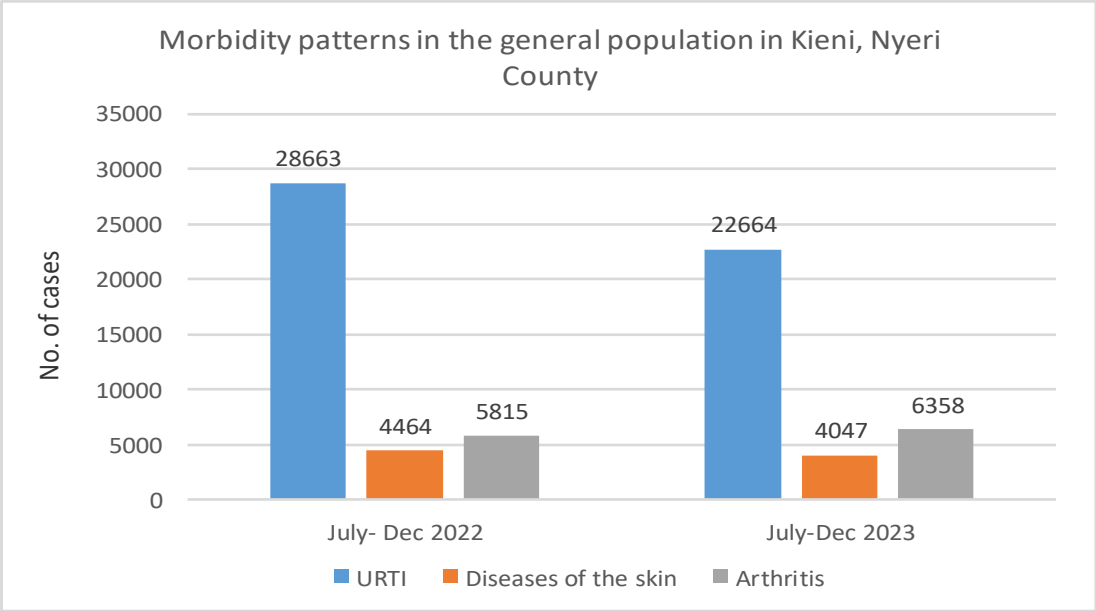

Figure 12: Morbidity trends in the general population

3.3.2 Immunization and Vitamin A supplementation

The fully immunized child (FIC) coverage for the county from July - December 2023 averaged 78 percent having remained relatively stable in comparison with 76 percent during a similar period in 2022 (Table 15). However, the coverage was below the national target of 80 percent due to scheduling of immunization days and time that is done once per week in some facilities hence leading to defaulting.

Table 15: Coverage of Fully Immunized Child (FIC)

Year	Percentage of fully immunized children in the county Source DHISMOH 710 Vaccines and Immunizations
July – December 2022	1. OPV 1 ____78% 2. OPV 3 ____74% 3. Measles ___76%
July – December 2023	1. OPV 1 ____77% 2. OPV 3 ____80% 3. Measles __ 78%

The coverage for vitamin A supplementation for children aged 6-11 months remained relatively stable (Table 16) although it was below the national target of 80 percent. This could be attributed to the low number of eligible children in this age cohort. The coverage of children aged 12-59 months decreased slightly by a 6.5 percent margin (Table 16). The decline could be attributed to the fact that supplementation was conducted at a time when some schools had closed. Some school heads also declined to have their children supplemented.

Table 16: Vitamin A supplementation

Year	Children 6-11 months		Children 12 to 59 months		Children 6-11 months	Children 12 to 59months
	Received vitamin A supplementation Source> DHIS MOH 710 Vaccines and Immunizations	**Total Population (6-11 months)**	**Received vitamin A supplementation Source> DHIS MOH 710 Vaccines and Immunizations**	**Total Population (12-59 months)**	**Proportion of children Received Vit A supplementation in the last 6 months Source: Nutrition Survey (If available)**	**Proportion of children Received Vit A supplementation in the last 6 months Source: Nutrition Survey (If available)**
July – December 2022	1647(64%)	2281	15091(92%)	16997	none	None
July – December 2023	1445(62%)	2329	15204(86%)	17725	none	none

3.3.3 Nutritional status and dietary diversity

Dietary Diversity

Male and female adults were consuming at least three meals a day while children aged below five years were consuming at least four meals daily which was normal. The meal composition for adults was comprised *ugali*, beans and cabbage while that of under-fives was similar to the adults in addition to rice, beans, potatoes and porridge. Majority of the mothers were practicing exclusive breastfeeding for the first 6 months and thereafter simultaneously breastfed and give porridge and soft foods on the onset of complementary feeding.

Nutritional status

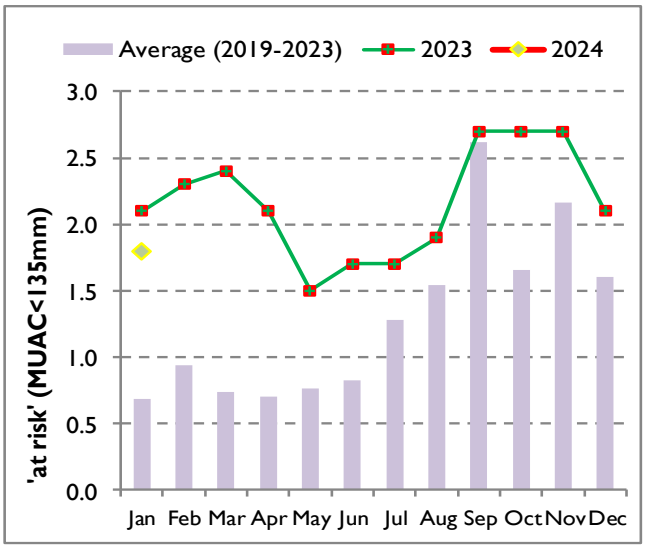

Figure 13: Proportion of children at risk of malnutrition

The current proportion of children with MUAC below 135mm is at 1.8 percent which was more than double the normal prevalence estimated at 0.7 percent (Figure 13). The deterioration in comparison with normal times could be occasioned by the lack of food stocks at household level (Table 5) following five consecutive failed cropping seasons as well as high food commodity prices (Figure 4). Food availability and access was therefore compromised as a result. However, with some crops having been harvested and others expected to be harvested by next month, the situation is likely to be reversed as when food stocks will have been replenished.

3.3.4 Sanitation and Hygiene

Rivers, boreholes and pans/dams were the main sources of water for domestic consumption. Water was mostly captured through roof catchment and stored in large storage tanks or plastic containers such as jerricans. The main method of water treatment was boiling practiced by approximately 43 percent of the population. An estimated 13 percent had used water treatment chemicals after receiving approximately 60,000 aqua tabs from KEMSA, but ordinarily they would not treat water before consumption. Possible sources of water contamination included collapsed pit latrines, storm water from peri-urban markets such as Chaka and Mweiga and overflowing cesspools and septic tanks. This could be a major contributing factor to the reason the prevalence of diarrhoeal diseases ranked high in the area. Latrine coverage averaged 99.7% with 95.7% using own latrines and 4.7% share latrines. This is due to the Community Led Total Sanitation (CLTS) program that advocates for use of proper human waste disposal. Majority of households also use refuse pits to dispose household waste.

3.4 Trends of key food security indicators

Table 17: Food security trends in Kieni, Nyeri County

Indicator	Long rains assessment, Jul 2023	Short rains assessment, Feb 2024
% of maize stocks held by households (mixed farming and marginal mixed farming zones)	0 percent of LTA	0 percent of LTA
Livestock body condition	Cattle: Fair Sheep: Fair Goats: Fair	Good; better than normal for all livestock
Average return trekking distance (for HHs in kilometres)	MF: 1.5-2.0 km MMF: 2.5-3.0 km	MF: 0.4 km MMF: 1.0km
Water consumption (litres per person per day)	MF: 40lpppd MMF: 30lpppd	MF: 70 lpppd MMF: 50 lpppd

Indicator	Long rains assessment, Jul 2023	Short rains assessment, Feb 2024
Price of maize (Kshs per kg)	100	68
Terms of trade (MF and MMF livelihood zones)	28	61
Coping strategy index	10.8 (Jan 2023)	7.6
Food consumption score	28.3 (Jan 2023)	29.1

3.5 Education

3.5.1 Enrolment

The enrolment of learners in pre-primary reduced by a slight margin of 4.9 percent in Term 1 2024 in comparison with Term 3 2023 (Table 18). Learners had not fully settled at the beginning of the new academic year. Learners whose parents practiced farming in forest land granted to them to plant trees had also moved along with their parents and were yet to begin the school year. Enrolment in primary schools had also decreased by a 13.3 percent margin (Table 18) occasioned by inter-county transfers as well as the change in the education system from 8-4-4 to the competency-based curriculum leaving only six classes in primary schools. Enrolment in junior secondary schools had almost doubled (Table 18) in Term 1 2024 compared with Term 3 2023. Parents had transferred pupils from private schools to public ones due to the high cost of education in the former. There were also two classes in junior secondary this term compared with one last year. Enrolment in secondary schools had reduced this term in comparison with last time by 6.2 percent margin (Table 18. Some students were engaging in activities in child labour including *boda boda* and onion farming for income while others were yet to report for learning. There were no drop-outs at pre-primary and primary level which could be attributed to adherence to100 percent transition policy by the government. In addition, the Ministry of Interior was collaborating with local leaders '*wazee wa nyumba kumi*' to also enforce the policy. There were minimal cases of drop-outs in secondary school but when students dropped out the main reasons included indiscipline, engagement in income-generating activities such as hawking of onions and child pregnancies for girls.

Table 18: Enrolment in Kieni, Nyeri County

Level	Term III 2023			Term I 2024		
	№ Boys	№ Girls	Total	№ Boys	№ Girls	Total
Pre-Primary	2473	2500	4973	2441	2288	4729
Primary	11422	10826	22248	9491	9797	19288
Junior School	1872	1865	3737	3705	3565	7270
Secondary	7650	7967	15617	6644	8004	14648

3.5.2 Effects of Short rains (FLOODING) in schools

The above-average rains caused some damage in some schools in Kieni East Sub-county. The roofs of some structures were blown away in Gatuaba and Mlima Kenya Primary Schools. A total of 470 pupils (200 boys and 270 girls) were affected. Four pit latrines sank in Mlima Kenya and Mbiriri Primary Schools while flooding of the school compound was experienced in Mureru Primary School affecting a total of 252 pupils (150 boys and 102 girls).

3.5.3 School Feeding

The Community-Supported School Meals Program was well supported by parents in all the secondary schools in the two sub-counties. The food was well stored and the cleanliness of the food stores was maintained. There were no other school meals programs in both sub-counties in all the primary schools. Learners carried food to school although it was reported that majority were going hungry due to lack of food at household level. All ECDE centres did not have a feeding program. There were 61 primary schools and all Junior Schools and day secondary schools that were under the school feeding programme supported by the parents through a lunch programme. The total of 10896 (5119 boys and 5777 girls) learners in primary and secondary schools were under the school feeding programme through a cash transfer from the Ministry of Education. Meanwhile, 16,574 boys and 17,877 girls in primary and secondary schools were not in any school-feeding programme.

Schools had developed school-based programmes to promote food security and climate change such as planting trees which provide a sense of accomplishment (Table 19). Students also learn values of their action and develop a sense of stewardship for the environment.

Table 19: School-based programs that promote food security and climate change action

County/Sub-county	Programme/Activity	Number of schools involved				Sponsor
		Pre-Primary	Primary	Junior School	Secondary	
Kieni West	Tree planting	53	53	48	31	Kenya Forest Service
Kieni West	Water harvesting	20	20	20	17	World Vision
Kieni east	Tree planting		16		15	School

3.5.4 Inter Sectoral links

Impact of the Season on School Health and Nutrition

The season had no significant impact on the learners' health. A total number of 155 primary and secondary schools had no water treatment measures and will need water harvesting and storage facilities such as gutters and water tanks (98 primary and 57 secondary).

Sanitation and Hygiene

The status of water, sanitation, and hygiene in most of the schools was good. Most of the primary, junior and secondary schools had enough latrines for their current enrolment. However, 24 ECD schools, 24 primary schools and 10 secondary schools require additional latrines to meet the recommended ratio. All schools have water harvesting facilities with most of them having piped water which is in most cases available at least once or twice a week. Hand-washing facilities were available in all public schools albeit with challenges of water rationing on some days, forcing learners to carry water to school. All girls in 98 public primary schools received sanitary towels.

Child Protection

In primary schools, issues relating to child hawking which mostly affected boys and cases of sexual abuse which mostly affected girls were reported. In secondary schools, there were reported cases of child labour and sexual abuse which affected both girls and boys. The government had issued sanitary towels to girls from grade 6 to 8 this term.

4.0 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumptions

- Food commodity prices are likely to decrease due to on-going harvests projected to be above average for some staples such as maize and beans.
- Rangeland conditions are likely to remain in good condition through to April as they were adequately rejuvenated during the season.
- Harvests of maize, beans and onions are projected to be above-average this season and will replenish household stocks as well as increase income from sales.
- According to FEWS NET, Agricultural wage labor opportunities and crop sales will likely be average to above average in the marginal agricultural areas, supported by the anticipated above-average short rains harvests in February, and average labor opportunities during the forecast average March to May long rains cropping season.
- Livestock productivity is expected to remain average to above average throughout the scenario period maintaining a high sale value and providing milk for consumption and sale, supported by expected average to above-average rangeland resources through June.
- High fuel prices will likely continue to drive high prices of staple food and non-food items, constraining household purchasing power, particularly for very poor and poor households.
- Based on expectations for ENSO Neutral conditions, the June to September long rains rainfall season in unimodal Kenya is assumed to be average. However, notable uncertainty exists given the long lead time and the absence of available forecasts.

4.2 Food security Outlook for the next six months

Food security Outlook for February- March-April

The on-going harvests of staples such as maize and beans will replenish food stocks at household level thus improve food availability through to April. Food access is also projected to improve as income-generating crops such as carrots and onions continue being harvested. Harvesting will increase opportunities for agricultural waged labour further boosting household incomes. This will also coincide with the reduction of food commodity prices as harvesting continues thus decreasing reliance on market purchases. The demand for agricultural waged labour will likely also increase for the March-April-May long rains season as households engage in on-farm activities such as land preparation, planting and weeding which result in additional income. With increased incomes, households will be able to clear any debts accrued from previous seasons that performed well while also enabling them to meet their non-food needs. Livestock production is also likely to perform well given that pastoral resources will likely remain available through the scenario period until the onset of the next season. Milk availability is therefore likely to increase resulting in increased sales. With increased food availability and access, households will be able to meet essential food and non-food obligations without engaging in irreversible coping strategies as well as improve nutritional status. Area-level outcomes for both livelihood zones are therefore likely to be in Mimimal (IPC Phase 1).

Food security Outlook for May-June-July

Some households will still hold some stocks from the above-average short rains season harvest therefore food availability will still be ensured during this period. For households who may have exhausted their stocks, the long rains season will have begun availing increased opportunities for agricultural waged labour thus ensuring food access. Food commodity prices will have reduced as the short rains' harvests will still be available at

market level. Therefore, although reliance on market purchases may increase during this period, food access will be assured. The long rains season will also ensure sustained availability of pastoral resources including pasture, browse and water resulting in increased milk production. Milk sales will increase further ensuring food access for livestock keepers. Food access and availability will therefore likely remain largely uncompromised during the scenario period and households will not have engage atypical coping strategies to meet essential food and non-food needs. Nutrition outcomes are also unlikely to deteriorate. Both livelihood zones are therefore likely to remain in Minimal (IPC Phase 1).

5.0 CONCLUSION AND INTERVENTIONS

5.1 Conclusion

5.1.1 Phase classification

Kieni is classified in Minimal Phase (IPC Phase 1) in both the mixed farming and marginal mixed farming livelihood zones.

5.1.2 Summary of Findings

Most parts of the county received above-average rains ranging between 126 and 140 percent of normal. Maize and bean production were projected to increase by 300 and 326 percent of respectively in comparison with their LTAs. However, Irish potato production reduced by over 80 percent due to water logging and bacterial and fungal diseases as a result of excessive rainfall. Currently households hold no maize stocks due to previous failed seasons and the current on-farm crop had not been harvested. Rangeland resources were available and in good condition in both livelihood zones. Pasture, browse and water were estimated to last through to the onset of the long rains season in May. Milk production was within seasonal norms. Maize prices were 38.8 percent above normal at Kshs 68. However, the price was projected to fall when harvesting begins next month. Sheep prices were slightly higher than normal by an eight percent margin to stand at Kshs 4,125. However, terms of trade were lower than normal by a 28 percent margin to stand at 61 which could be attributed to high maize prices. Household purchasing power was therefore lower than average for this time of the year but likely to increase when harvesting of maize begins. The nutritional status of children had deteriorated compared with normal times as the proportion of children at risk of malnutrition averaged 1.8 percent, which was more than twice the normal proportion estimated at 0.7 percent in the 2019-2023 LTA. Below normal purchasing power compromised food access at a time food stocks were not available could be the reason malnutrition rates increased. The food consumption score averaged 29.1 during the assessment compared with 28.3 in January last year and had therefore not displayed any significant change. However, the score was quite low implying dietary diversity, food frequency and nutritional value of food were sub-optimal in Kieni. The reduced coping strategy index averaged 7.6 having reduced from 10.8 at a similar time last year implying households had reduced the frequency and severity of engaging in consumption-based coping mechanisms. The reduction could be occasioned by the consumption of some of the harvested crops including beans and cabbages.

5.1.3 Ward Ranking

	Ward	Rank	LRA 2023	SRA 2023	Main food security threat / contributing factors
1.	Mugunda	1	10-15	5-10	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.
2	Gakawa	2	5-10	5-10	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.
3	Thegu	3	0-5	0-5	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.
4	Mweiga	4	0-5	0-5	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.
5	Naromoru/Kiamathaga	5	0-5	0-5	- Use of uncertified seeds. - Use of slow maturing seed varieties.

					- Fungal and bacterial crop diseases.
6	Mwiyogo/Endarasha	6	0-5	0-5	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.
7	Gatarakwa	7	5-10	0-5	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.
8	Kabaru	8	0	0	- Use of uncertified seeds. - Use of slow maturing seed varieties. - Fungal and bacterial crop diseases.

5.2 Ongoing Interventions

Sub County	Ward	Intervention	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost (KSh.)	Time Frame
Agriculture							
Kieni East	All wards	Selling of subsidized fertilizer	6500	GoK County Government of Nyeri (CGN) NCPB	Increased maize production	GOK Funds	2022-2027
Kieni West	All wards	Selling of subsidized fertilizer	5000	GoK NCPB	Increased maize production		2022-2027
Livestock							
Both sub-counties		Vaccination against Lumpy Skin Disease (LSD) targeting 29,000 cattle, CCPP targeting 5,000 sheep and goats, Sheep and Goat Pox targeting 5,000 shoats.	5,000 households	CGN FAO	Improve immunity and prevent mortalities	1M	Oct-Dec 2023
Kieni West		Provision of breeding stock and hatching equipment for indigenous chicken value chain as an alternative livelihood	50 households	World Vision	Increase nutrition and income from poultry rearing	1.5M	One year
All sub-counties	All wards	Up scaling of fodder production and conservation	500 households	Farmers, 2 scale CGN	Increase	1M	2024-2025
Water							
Kieni East	Thegu	Pipeline construction for	2600HH	KCSAP	Increase water	16M	2024-2025

	Gakawa	Lower-Kakuret and Mureru Water Project			availability for both irrigation and domestic use.		
	Narumoru/Kiamathaga Kabaru	Borehole Equipping Kabati and Gatagate Water Project	750HH	NDMA, Tana Water Works Development Agency (TWWDA), CGN & Community	To increase water access and utilization	22M	2024-2025
	Narumoru/ Kiamathaga	Installation of filtration media for treatment works	2000HH	CGN	To improve access to water through separation of domestic water from irrigation water	0.5M	2024-2025
Kieni West	Mweiga Mugunda Endarasha	Completion of water projects; Simbara Bondeni phase II, Simbara Kamatongu, Muthuini, Honi 2, Birisha Dam and desilting of Kiguru Dam.	5100 H/H	CGN &TWWDA, National Irrigation Authority (NIA)	Increase water availability for both irrigation and domestic water	192M	2024-2025
	Gatarakwa	Completion of Distribution networks/pipelines; Kiahuria, Karage Bara, Birisha 2A Borehole	580 H/H	CGN	Increase water supply for both irrigation and domestic water	>6M	
	Endarasha	Completion and equipping of boreholes; Kanyiriri Borehole, Kinyaiti Dispensary Borehole and repair of Mahiga Cattle Dip Borehole	1300 H/H	CGN, TWWDA	Increase water supply for both irrigation and domestic water	> 18M	2024-2025
Health and Nutrition							

Kieni East and West	All wards	Vitamin A Supplementation of children aged 6-59 months	22,825	CGN	To improve immunity in children aged below five years	2M	2024-2025
	All wards	IYCN Interventions (EBF and timely introduction of complementary foods)	14,737	Ministry of Health (MoH) CGN	To improve nutrition status of under-fives	1.5M	2024-2025
	All wards	Iron Folate Supplementation among Pregnant Women	5155	Ministry of Health (MoH) CGN	To improve immunity in pregnant women	0.5M	2024-2025
	All wards	Deworming	22,825	Ministry of Health (MoH) CGN	To improve immunity in under-fives	2M	2024-2025
	All wards	Health education and awareness activities on nutrition, hygiene and sanitation practices	68,996	CGN	To promote good hygiene and nutrition	0.5M	2024-2025
Education							
Kieni East	All wards	Tree planting	23,043	CGN Ministry of Education	To mitigate future impacts of drought given Kieni is a drought-prone area	0.5M	2024-2025

5.3 Recommended Interventions

Sub County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Agriculture							
Kieni East and Kieni	All	Train farmers on post-harvest handling practices	1200	CGN	0.5M	Technical expertise	2024-2025

West		and technologies					
Livestock							
All sub-counties	Gakawa, Mugunda Naromoru/ Kiamathaga wards	Research on control and estimation of acreage of the invasive weed *notonea petera*	200 households	CGN	1.0 M	-	2024-2025
Water							
Kieni East and West	Rehabilitation of dormant boreholes	All Wards	26,000 households	NDMA, Kenya Defense Forces (KDF), National Water Harvesting Storage Authority, CGN, TWWDA, NIA	Increase water availability for domestic and irrigation purposes	160M	2024-2025
	Construction and desilting of dams	All Wards	26,000 households	NDMA, KDF, National Water Harvesting Storage Authority, CGN, TWWDA, NIA and other donors	Increase Irrigation water	200M	2024-2025
	Rehabilitation of water pipeline and networks	All Wards	26,000 households	NDMA, KDF, National Water Harvesting Storage Authority, CGN, TWWDA, NIA	Increase water access by separation of domestic water from irrigation water	100M	2024-2025
Health and Nutrition							

Kieni East and West	Conduct a nutrition survey	All wards	26,000 households	MoH CGN UNICEF World Vision	To obtain current and up-to-date nutrition and sanitation data for better planning	7M	
	Introduce Supplementary Feeding Program/Out-patient Therapeutic Program	All wards	26,000 households	MoH CGN UNICEF	To support malnutrition cases	5M	
	Health education and awareness on construction of improved sanitary facilities	All wards	26,000 households	MoH CGN UNICEF	To improve hygiene and sanitation practices	0.5M	
Education							
Kieni East	Construction and rehabilitation of infrastructure that were destroyed during the season e.g. pit latrines and roofs	Gatuaba primary-roof was blown off by wind, Mlima Kenya Primary 4 toilets sank and 2 classroom roofs blown off, Mbiriri primary 4 toilets sank	Gatuaba Pry School Mlima Kenya Pry School Mbiriri	MoE		0.5M	2024-2025