Republic of Kenya

THE 2022 SHORT RAINS SEASON ASSESSMENT REPORT

Kenya Food Security Steering Group (KFSSG)

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1.0 Scope of the 2022 Short Rains Assessment

Introduction

The Kenya Food and Nutrition Security Assessment (FNSA) is a multi-agency, multi-sectoral exercise led by the Government of Kenya, and is conducted in 23 arid and semi-arid (ASAL) counties. The assessment is carried out by the Kenya Food Security Steering Group (KFSSG) in collaboration with the respective County Steering Groups (CSGs). The KFSSG is a multi-agency body comprised of government departments, United Nations (UN) agencies, and Non-Governmental Organizations (NGOs) concerned with food and nutrition security. The multi-agency body is chaired by the National Drought Management Authority (NDMA) and co-chaired by the World Food Programme (WFP). Food security in the country is highly dependent on rainfall. Given that the rainfall seasons is Kenya are largely bimodal, the assessments are conducted bi-annually, after the short rains of October to December and after the long rains of March to May. The 2022 Short Rains Assessment was conducted between 11th January and 10th February 2023. Given the protracted drought, the assessment was expanded to include additional nine ASAL counties; Kiambu, Murang'a, Kirinyaga, Migori, Homabay, Siaya, Nakuru, Machakos, and Elgeyo Marakwet that had significant areas considered semi-arid.

Objective

The main objective of the assessment was to determine the impacts of the 2022 short rains on food and nutrition security in 32 counties. The assessment also considered the cumulative effects of previous seasons and impacts of other shocks and hazards on food security.

Coverage and Methodology

The food security analysis focused on acute food insecurity but also considered other chronic issues that had direct impacts on food security. The assessment was centered on the four pillars of food security namely: food availability, food access, utilization, and stability. The contributing factors and outcomes and their effects on the key sectors of agriculture, livestock, water, health and nutrition, education, peace and security, and markets and trade were also considered. The assessment also identified interventions to address the issues arising in each sector.

The assessment covered the 23 counties that comprise the ASAL region of Kenya, and whose population is generally the most food insecure given their high levels of poverty, high vulnerability to shock and hazards, and aridity and rainfall variability. The area covers approximately 80 percent of Kenya's landmass, and for the purposes of the assessment, is classified into various livelihood zones grouped into five clusters; Pastoral North-West, comprising Turkana, Samburu, and Marsabit; Pastoral North-East, comprising Wajir, Garissa, Isiolo, Tana River, and Mandera; South-East Marginal Agriculture, comprised of Kitui, Makueni, Tharaka Nithi, Embu, and Meru; Coastal Marginal Agriculture, comprising Kilifi, Kwale, Taita Taveta, and Lamu; and the Agro-pastoral cluster of Baringo, Narok, Kajiado, West Pokot, Laikipia and the northern part of Nyeri county (Kieni sub-county). The main livelihood activities in these clusters are Pastoralism, Agro-pastoralism, Mixed Farming, Marginal Mixed Farming, and some Irrigated Cropping, and these form the unit of analysis. In addition, Kiambu, Muranga, Kirinyaga, Migori, Homabay, Siaya, Nakuru, Machakos, and Elgeyo Marakwet counties were included in the assessment as they had significant areas that are considered semi-arid and were facing the impacts of the protracted drought.

The assessment involved the collection of both primary and secondary data. The principal sources were: (i) the NDMA's drought early warning and monitoring system; (ii) data collected from the relevant sectors at county and sub-county level; (iii) community interviews and market interviews using focus group discussions and trader interviews; (iv) secondary data from nutrition surveys (SMART surveys); (v) field observations during transect drives; and (vi) agro-climatic data from FEWS NET.

The Acute Integrated Food Security Phase Classification (IPC Version 3) protocols were used for the analysis. The IPC is a standard global tool for classifying the severity of food insecurity and ensures that best practices are being applied. IPC Acute Malnutrition analysis was also carried out to understand both the food and non-food causes of malnutrition

2.0 Drivers of Food and Nutrition Security
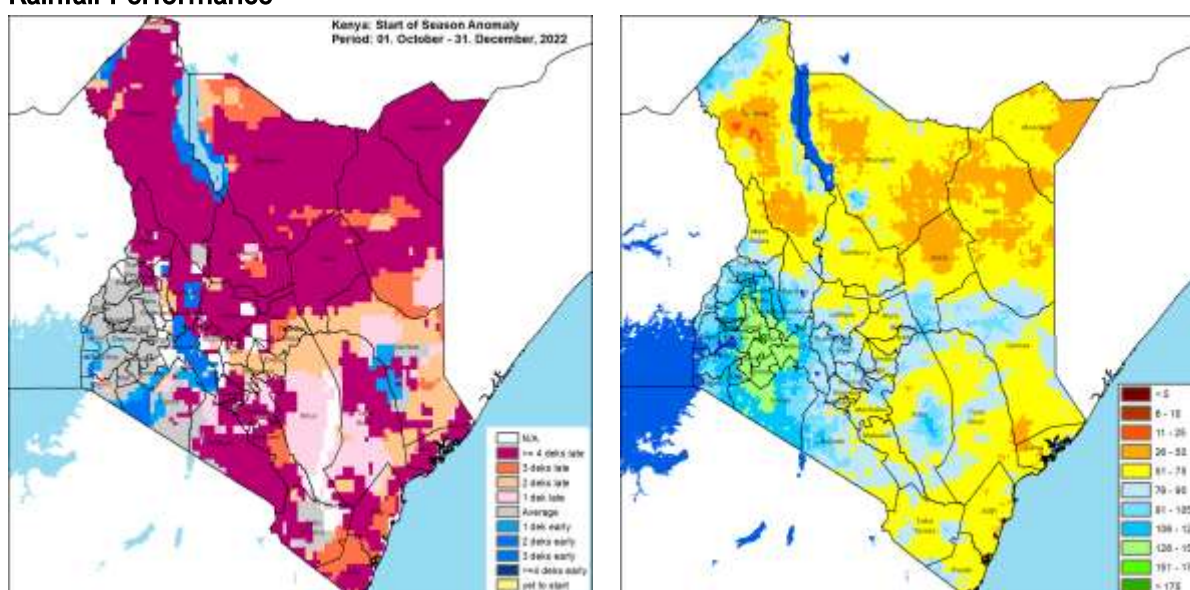
Rainfall Performance

Figure 1: Rainfall onset and seasonal performance

The 2022 October – December short rains, were characterized by late onset (Figure 1) which was 1 – 3 dekads late across the south-eastern and localized parts of the northeast and north-western parts of the country. However, the onset was normal in western and south-western Kenya and localized parts of the country. The rains were poorly distributed in space and time and were below average [1]across most of the country ranging from 75 percent of normal and below, near average ranging between 76 – 125 percent in western, central and parts of the southeast and northwest Kenya. However, across the Rift Valley, the rains were above average ranging from 126 – 150 percent of average.

Below average crop production
In the ASAL areas, crop production was significantly below average primarily driven by the poor rainfall performance in addition to other drivers such as Fall armyworm (FAW) infestations, the high fuel and fertilizer prices that constrained crop production activities especially for the poor

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[1] Below 75% of the LTA – Below Average/Normal (Depressed) rainfall
Between 75% and 125% of the LTA - Near Average/Normal rainfall
Above 125% of the LTA – Above-Average/Average (Enhanced) rainfall.

households. The crops planted during the season were mainly maize, cowpeas, green grams, beans and Irish potatoes and the area planted for the various crops was ranged from within average to 32 percent below average across the clusters with the exception of the coastal marginal agriculture cluster where the area planted for green grams was 70 percent above the average driven by better rains, availability of seeds, and free land ploughing in Lamu. In general, crop production however driven by below average acreage planted and other aforementioned factors was 18 – 79 percent below the LTA significantly reducing household food availability, access and consumption.

Livestock productivity, diseases and mortality

Livestock productivity was currently on a declining trend driven by below average forage and water resource levels which has driven migration of 40 – 80 percent of the total livestock in pastoral counties out of their resident livelihood zones to neighbouring counties and across national borders to neighbouring countries like Somalia, Ethiopia, South Sudan, Uganda and Tanzania. Due to below average forage and water availability, livestock body conditions were generally fair to poor for grazers except in the pastoral northwest cluster where they were poor to very poor and fair to good for browsers across the pastoral areas while in the coastal and southeast marginal agriculture areas, the body conditions ranged from poor to good compared to a normal of good to very good. Declining livestock productivity is driving a decline in milk production which is 50 – 70 percent below average across the pastoral areas apart from the pastoral northwest where it is negligible compared to 2-5 litres per household per day. In the marginal agricultural areas, milk production is 15 – 40 percent below the average.

Apart from the regular occurrences of endemic and notifiable livestock disease, livestock disease outbreaks were reported across the different clusters. An unidentified camel disease outbreak was reported in Garissa County during the short rains season affecting production and marketability of livestock. There was an outbreak of Anthrax, resulting in 1000 camel deaths in Wajir County. In the southeast marginal agriculture cluster, 59 cases of rabies associated with dog bites were reported in Kitui.

From the beginning of October 2022 livestock mortalities were reported across the pastoral and marginal mixed faming zones. The mortalities reported were 203,198 cattle, 584,250 goats, 615,407 sheep and 83,456 camels across Marsabit, Turkana and Samburu counties. Equally, the counties of Kajiado, Laikipia and Nyeri recorded a total of 475,363 livestock deaths due to the ongoing drought (270,354 cattle, 141,620 sheep and 63,983 goats. Livestock mortality was driven by starvation, dehydration and disease as a result of the drought.

High staple food prices

High staple food prices persist driven by the below-average harvests in the country and across the East Africa region in addition to rising prices in the regional surplus-producing countries of Uganda, Tanzania, and Ethiopia where the ASALs source for supplies when their stocks diminish. Maize and bean prices generally remained significantly higher than 2021 and the five-year average due to the high costs of production and marketing such as fuel and fertilizer brought about by Russia and Ukraine conflict.

Conflict and Insecurity

Banditry attacks were reported in Baringo, Laikipia and West Pokot counties resulting in fatalities, injuries and an unknown number of livestock stolen. Tension persists and household's

livelihood activities remain constrained. In Laikipia, Kirima and Laikipia north sub counties experienced insecurities occasioned by cattle rustling while Laikipia West and Laikipia East experienced both human wildlife conflicts and resource-based conflicts. Incidences of resource-based conflicts have been reported between in-migrating herders and local farmers in Kitui, Meru and Makueni counties which so far have resulted in approximately 10 human fatalities. Similar incidences were also reported along the borders of Meru National Park and in Makueni County where there were in - migrating cattle from Kajiado County. In Kilifi similar cases were reported in Ganze, Magarini and Kaloleni Sub Counties and parts of Malindi Sub County due influx of cattle and camels from Garissa County with similar incidences reported in areas of Pangani, Lumshi, Witu and Mkunumbi in Lamu County and in the areas of Mackinnon Road, Samburu/Chengoni, Mwavumbo, Mwereni and Puma Ward in Kwale County. In addition to these incidences, security operations in Lamu have adversely affected market operations and livelihood activities driving significant price increases. Human-wildlife conflicts were reported in Meru North where more than 247 acres of crops were estimated to have been destroyed by wild animals and over 300 farms were destroyed by elephants in Kitui where livestock owners also lost over 61 heads of livestock to predation by hyenas and wild dogs. Human-wildlife conflicts were equally reported in Lamu and in Kilifi in areas bordering the Tsavo National Park.

Crop Pests and Diseases
Infestations of fall army worms occurred in maize in Makueni and Kitui affecting about 2,000 acres of maize crop during the vegetative stages driving poor crop performance.

3.0 Summary of Key findings
The food security situation has deteriorated across ASAL counties. The population facing acute food insecurity and consequently requiring humanitarian assistance increased significantly to 4.4 (Figure 2) million and who are classified in crisis and emergency (IPC Phase 3 and 4). The increase from 3.5 million people identified during the 2022 long rains' assessment denotes an overall deterioration in food security situation across the 23 ASAL counties and is projected to further worsen during the long rains season owing to the forecasted below normal rains further
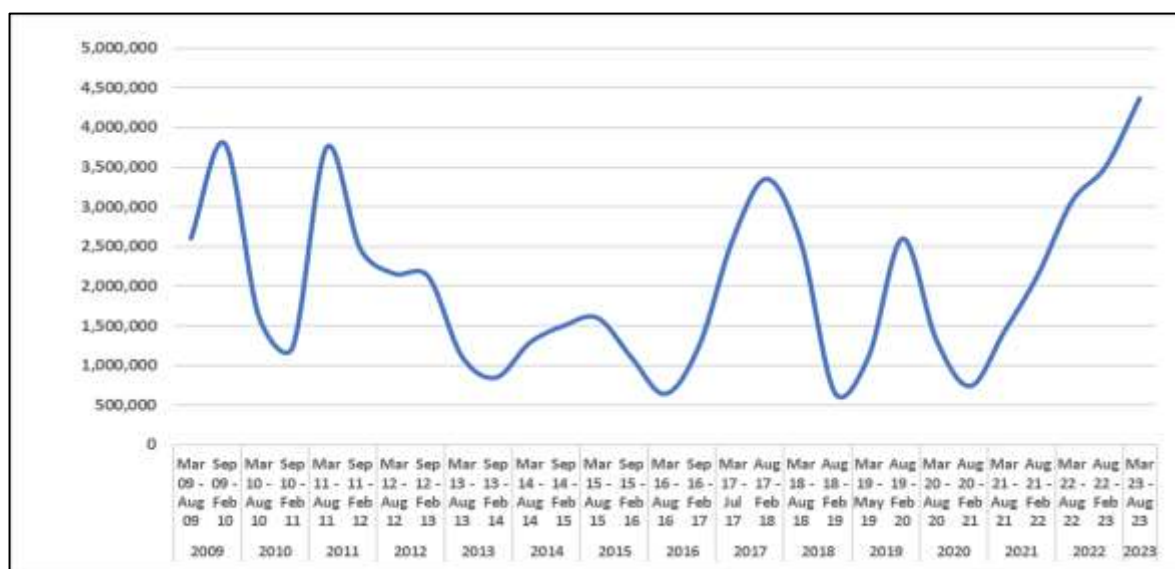

Figure 2: Trends in food insecure populations

exacerbating drought conditions with the population facing acute food insecurity hitting 5.4 million by June 2023.

The pastoral and agro-pastoral counties reported deterioration in both environmental and productive indicators. Pasture and browse are at an all-time low with most of pastoral counties recording severe to extreme vegetation deficit except parts of Turkana, Garissa and Tana River counties that had fair to poor forage conditions. The available pasture is expected to last for less than 1 month with the warmer than normal conditions and over concentration of livestock escalating the depreciation. Return trekking distances increased to 15 – 35 kms compared to normal of 2 – 10kms further impacting negatively on productivity in both pastoral and agro pastoral livelihood zones.

Over 90 percent of surface water sources have dried up following poor recharge across all counties. The watering frequency for all species decreased with cattle, sheep and goats watered 2 – 3 days a week across the livelihood zones compared to 4 – 7days a week normally. Camels were watered once per week compared to 2 – 3 days week normally. Livestock body condition for cattle and sheep is poor to very poor while that of goat and camel is fair to poor across the counties. Consequently, milk is hardly available with reduction estimated at 80 – 90 percent compared to normal. However, Tana River reported the least decline at 50 percent. Further, milk prices increased owing to decline in milk availability and was retailing at 50 - 90 percent above normal in most of the pastoral counties.

Increasing staple food prices against low livestock prices resulted in negative impact on pastoralists purchasing power as shown in Figure 3. Current terms of trade across the pastoral counties worsened and are ranging 24 – 55 percent below the long-term average. Turkana had the highest decline with a sale of medium size goat able to purchase 15 kg of maize while Tana
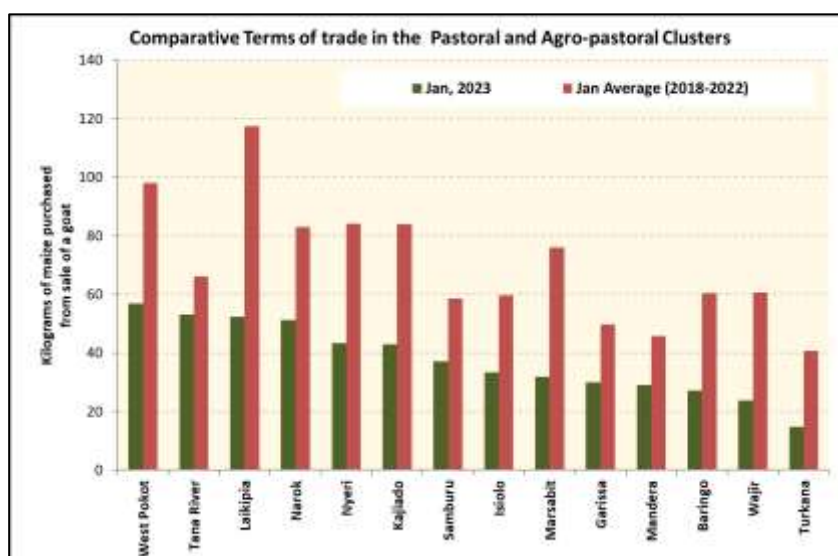
Figure 3: Comparative terms of trade

River had the least decline a sale of goat able to purchase 53 kilograms. Owing to prevailing drought condition, significant livestock mortalities have been reported across the counties. Marsabit reported the highest livestock mortality of 41 percent. Migration was reported in all counties with an average of 60 – 80 percent of all livestock species migrating within and across counties in search of pasture.

In the marginal agricultural counties, the season was characterised by erratic rainfall and received 50 – 75 percent of normal and this had significant negative impact on household food security. Maize production was below normal across the marginal counties. In the south-east marginal, especially Kitui and Makueni, maize production decreased by 60 – 70 percent.

However, green grams and cowpeas production was 94 and 75 percent of long term respectively. Maize production in Kwale and Kilifi reduced by 70 – 80 percent attributed to late onset and poor distribution hence reduction in area planted. Moreover, green grams and cowpeas production declined by 65 and 56 percent respectively. As a result of the poor production, maize prices remained high and on increasing trend and expected to remain so in the coming months. It is projected that household food security will continue to deteriorate with the forecasted normal to below normal long rains season.

4.0 Categories of Food Insecure Populations

The October to December 2022 Short Rains Assessment data was analysed using the Integrated Food Security Phase Classification (IPC), version 3.0 for both acute food insecurity and acute malnutrition. IPC for acute food insecurity identifies areas and populations with food gaps and deprivation that threatens lives or livelihoods, regardless of the causes, context and duration. This classifies households into five severity phases (*Phase 1: None or Minimal, Phase 2: Stressed, Phase 3: Crisis, Phase 4: Emergency and Phase 5: Catastrophe*). Households classified in Crisis (IPC Phase 3) or worse are considered to have urgent need for humanitarian assistance in order to protect livelihoods and reduce food consumption gaps, save lives and
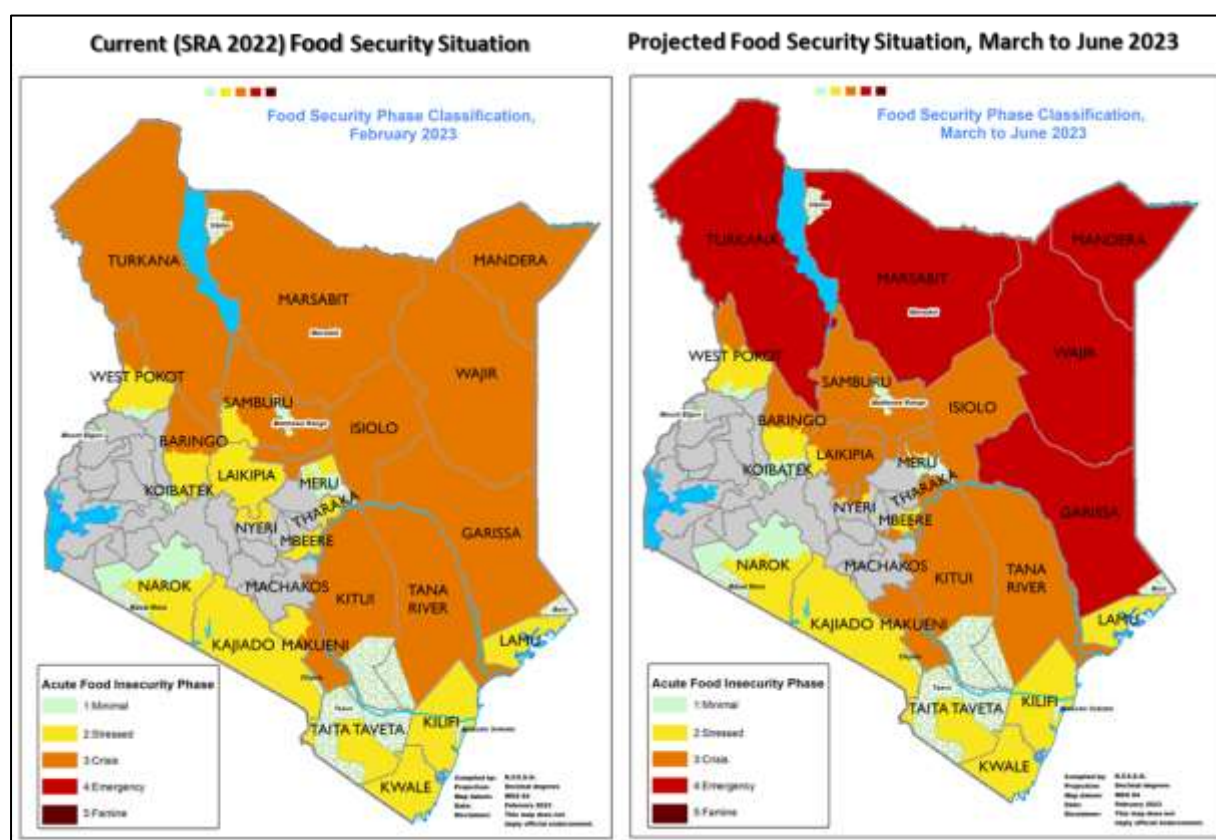

Figure 4: Current and projected food security situation

livelihoods. IPC Phase three[2] or Crisis conditions are equally as serious and critical as households that are classified in IPC Phase four[3] (Emergency).

Prolonged drought conditions have prevailed and the country continues to experience a worsening food and nutrition insecurity situation. The deteriorating conditions is mainly attributed to the extremes of weather that have been experienced across various livelihood zones after five consecutive below average rainy seasons. The number of food insecure population in need of humanitarian assistance was established to have increased from 3.5 million people in July 2022 after the long rains to the current 4.4 million people.

A further 495,362 food-insecure people were identified in 9 traditionally non-ASAL counties assessed. These counties are Machakos, Homa Bay, Migori, Siaya, Elgeyo Marakwet, Kiambu, Nakuru, Kirinyaga and Murang'a.

Out of the 4.4 million people, approximately 3.6 million are in Crisis (IPC Phase 3) while the remaining 800,000 are in Emergency (IPC Phase 4). The Counties of Turkana, Marsabit, Mandera, Wajir and Garissa have the highest proportions (55%) of their populations in Crisis (IPC Phase 3) and above.

This population of people in need is projected to gradually increase to about 5.4 million people by June 2023. During this period, the population in Crisis and above is expected to increase from 4.4 million people to about 5.4 million people by June. The population in Emergency (IPC Phase 4) may increase further to approximately 1.2 million people with Turkana, Marsabit Mandera, Wajir and Garissa counties likely to get into an Emergency (IPC Phase 4). However, the situation will highly depend on the performance of the March to May long rains season and continuation of humanitarian assistance much of which is coming to an end in February.

Most parts of the arid pastoral northwest and northeast counties are facing Crisis (IPC Phase 3) food insecurity outcomes, including the southeast marginal agricultural counties of Kitui and Makueni (Figure 4). The coastal marginal agricultural counties and agro-pastoral counties are classified in IPC Phase 2 and are experiencing Stressed food security outcomes.

Table 1: Food Insecure Populations by County, February 2023

	County population (KNBS 2023 projected Population)	Population in need of assistance after the 2021 LRA	Population in need of assistance after the 2021 SRA	Population in need of assistance after the 2022 LRA	Population in need of assistance after the 2022 SRA
Turkana	1,022,773	370,800	370,800	463,500	511,400
Wajir	870,636	195,300	273,400	351,600	478,900
Mandera	959,236	173,500	303,700	390,400	527,600
Garissa	927,031	168,300	210,400	378,600	509,900
Marsabit	515,292	160,900	229,900	206,900	283,400
Samburu	348,298	46,500	108,600	139,600	156,700

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[2] **IPC Phase 3** (Crisis), Households either Have food consumption gaps that are reflected by high or above-usual acute malnutrition or are marginally able to meet minimum food needs but only by depleting essential livelihood assets or through crisis.

[3] **IPC Phase 4** (Emergency), Households either have large food consumption gaps which are reflected in very high acute malnutrition and excess mortality; or can mitigate large food consumption gaps but only by employing emergency livelihood strategies and asset liquidation.

	County population (KNBS 2023 projected Population)	Population in need of assistance after the 2021 LRA	Population in need of assistance after the 2021 SRA	Population in need of assistance after the 2022 LRA	Population in need of assistance after the 2022 SRA
Laikipia	561,223	25,900	51,900	129,600	84,200
West Pokot	676,326	31,100	31,100	31,100	33,800
Tana River	352,549	63,200	79,000	94,800	158,600
Isiolo	315,937	107,200	80,400	134,000	110,600
Kajiado	1,268,261	55,900	111,784	55,900	190,200
Baringo	733,333	133,400	233,400	139,700	220,000
Narok	1,284,000	57,900	57,900	57,900	128,400
Sub-total, Pastoral	9,834,895	1,589,900	2,142,284	2,573,600	3,377,900
Makueni	1,042,300	98,800	98,800	197,500	208,500
Kwale	944,464	86,700	130,000	86,700	94,400
Kilifi	1,577,335	145,400	218,100	72,700	78,900
Kitui	1,229,790	113,600	227,200	284,000	307,400
Taita Taveta	363,990	17,000	34,100	34,100	54,600
Embu (Mbeere)	280,979	27,200	13,600	40,900	28,100
Tharaka-Nithi (Tharaka)	177,709	6,700	13,300	26,700	17,800
Meru (North)	794,476	38,200	152,900	153,000	158,900
Nyeri (Kieni)	205,139	9,900	19,800	29,800	30,800
Lamu	167,332	14,400	21,600	14,400	16,700
Sub-total, Marginal Agriculture	6,783,514	543,500	907,800	939,800	996,100
Total	16,618,409	2,133,400	3,050,084	3,513,400	4,389,800

Table 2: Estimated food insecure populations in non-ASAL Counties assessed

County	Current Population Affected	Percentage Affected	Hot Spots
Machakos	116,949	8%	Mavoko (Kinanie), Masinga (Kivaa, Kithyoko, Ekalakala, Masinga central), Kalama, Kathiani (Ngelani, Mitamboni), Machakos (Mumbuni, Katheka kai), Matungulu (Chelani), Mwala (Kibaoni, Muthetheni, Wamunyu), Yatta (Matuu, Katangi, Ndalani, Kithimani, Ikombe) and parts of Kagundo east
Homa Bay	42,106	3%	Rachuonyo North and Suba North
Migori	27,303	2%	Kuria East and Nyatike
Siaya	35,045	3%	Bondo and Rarienda
Elgeyo Marakwet	43,406	9%	Marakwet East and West, Keiyo North and South
Kiambu	39,844	2%	Bibirioni, Ndeiya, Karai and Nachu
Nakuru	121,703	5%	Rongai, Molo, Subukia, Bahati, Njoro, Kuresoi North and South, Naivasha and Gilgil
Kirinyaga	23,489	4%	Mwea East Mwea West (Murinduko, Kangai, Nyangati, Thiba, Wamumu, Mwea, Tebere)
Muranga	45,516	4%	Kiharu, Gatanga, Maragwa and Kandara
Total	495,362	4%	

5.0 National Nutrition Situation Summary

Integrated Phase Classification for Acute Malnutrition (IPC AMN) analysis conducted in February 2023 showed elevated levels of malnutrition in most arid counties. Laisamis in Marsabit County and Turkana South have reported extremely critical situation (IPC AMN Phase 5 - GAM WHz ≥30 percent). Samburu, Mandera, Garissa, Isiolo, Turkana West, Turkana Central, Turkana North, Tiaty Sub-County in Baringo, North Horr and Moyale sub-counties in Marsabit County are in critical phase (IPC AMN Phase 4 - GAM WHz 15 to 29.9 percent) while West Pokot, Laikipia, Tana River and Wajir are in serious phase (IPC AMC Phase 3 - GAM WHz 10 to 14.9 percent. Saku in Marsabit County, Kajiado, Kwale, Kilifi, Mbeere and Meru North are in alert phase (IPC AMN Phase 2 – GAM WHz 5 to 9.9 percent).
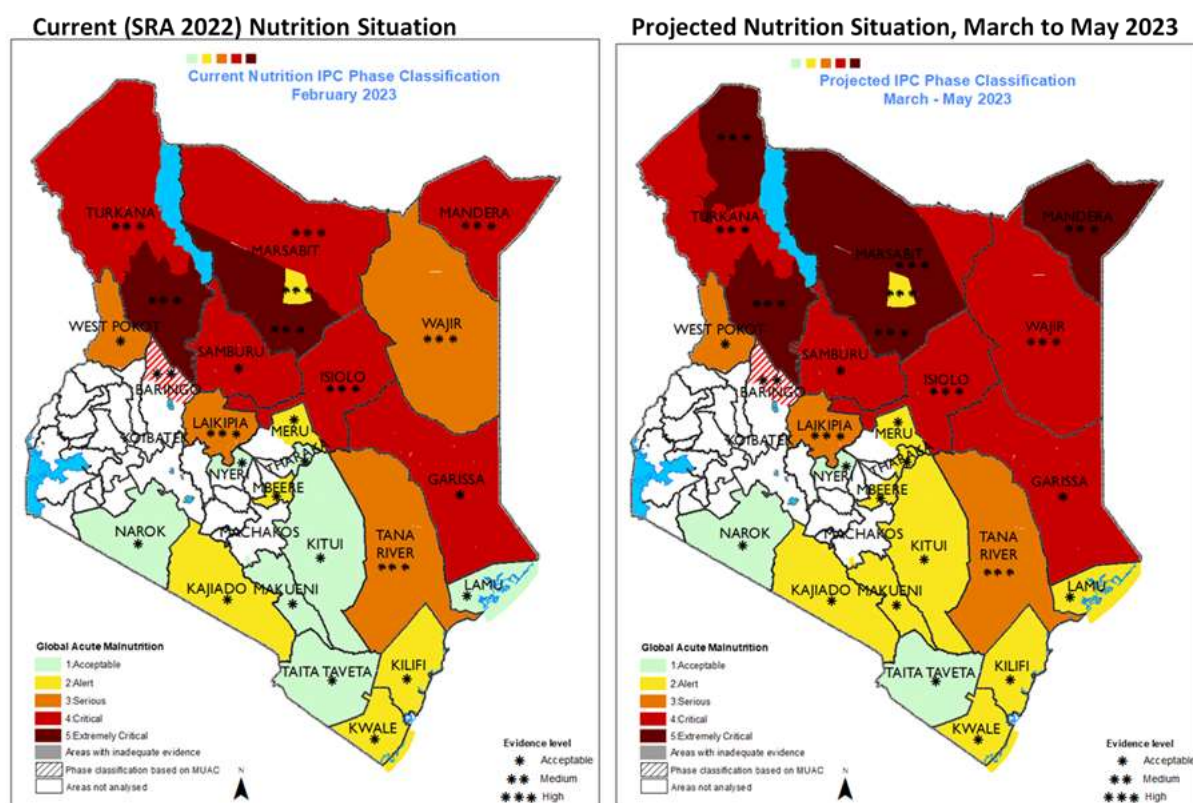

Figure 5: Current and projected nutrition situation

Nutrition situation is further expected to deteriorate during the projection period (March to May 2023) except in West Pokot and Tana River counties (Figure 5). Mandera and Wajir counties, North Horr, and Turkana North sub-counties will deteriorate to higher IPC AMN phase while the rest of the analysis areas will deteriorate within the same phase - for example, Isiolo is expected to deteriorate within the critical phase. The deteriorating nutrition situation is mainly attributed to worsening food insecurity situation characterized by low milk availability, increasing food prices, unfavourable terms of trade and insufficient water. Other contributing factors include poor infant and young child feeding practices, high disease burden and sub-optimal coverage of multisectoral interventions. Recurrent and multiple shocks hinder recovery from malnutrition.

Due to prolonged drought, the nutrition status of children and women have worsened. Consequently, **970,214** children aged 6 to 59 months and **142,179** pregnant and breastfeeding mothers are currently malnourished compared to **884,464** children aged 6-59 months and

115,724 women reported in July 2022 (Table 3). These women and children are in urgent need of life-saving treatment for malnutrition. The most affected counties are Turkana, Marsabit, Mandera, Isiolo, Garissa, Baringo & Samburu with malnutrition levels above emergency level (GAM≥15%). Other affected counties are Wajir, West Pokot, Laikipia, Kajiado, Kilifi and Kwale counties.

Area	Global Acute Malnutrition 6 to 59 months		Moderate Acute Malnutrition 6 to 59 months		Severe Acute Malnutrition 6 to 59 months		Pregnant and lactating women	
	Total Caseload	Target	Total Caseload	Target	Total Caseload	Target	Total Caseload	Target
ASAL	677,901	381,048	509,512	254,756	168,389	126,292	138,855	138,855
Urban	87,091	51,053	57,063	28,531	30,029	22,522	3,324	3,324
Non-ASAL	205,222	113,648	161,073	80,537	44,149	33,111	-	-
TOTAL	970,214	545,749	727,648	363,824	242,567	181,925	142,179	142,179

Table 3: Estimated Caseloads and Targets of Children 6-59 months and Pregnant & Lactating Women Requiring Treatment for Acute Malnutrition

Impacts of humanitarian assistance on health and nutrition sector

The deteriorating nutrition situation is mainly attributed to worsening food insecurity situation with decreasing milk availability and increasing food prices that are driven by low supply and high demand of commodities across markets. Other drivers include poor childcare practices, high morbidity, poor WASH practices and sub-optimal coverage of multisectoral interventions. Ongoing response actions such as emergency cash transfer, mass screening, scale up of integrated health and nutrition outreaches have slowed down the effects of the drought. The nutrition situation is expected to worsen further in the next 3 months as drought conditions worsen. To halt the rapid deterioration, continued multi-sector response is required in the next six months.

Key proposed response actions

- Further scale up of mass screening, mapping of areas with high malnutrition burden.
- Scale up of integrated health and nutrition outreaches
- Implement blanket supplementary feeding in the most affected areas to cushion children and women from acute malnutrition given the projected worsening of an already precarious situation.
- Heighten resource mobilization to improve nutrition supply pipeline for commodities to manage moderate acute malnutrition.
- Heighten coordination and implementation of updated contingency and nutrition response plans at national and county levels.
- Intensify response monitoring, nutrition and health surveillance.
- Further scale up of multi-sectoral interventions to address the immediate needs with complementary actions to build resilience of communities.
- Strengthen multisectoral approach to address the nutrition situation in collaboration with national and County Governments
- Scale up response in Semi-Arid counties
- Advocate for counties to finance data and surveillance activities to allow for comprehensive nutrition situation analysis
- Use innovative approaches to increase access to services in high insecurity areas

Factors to monitor

- Performance of the upcoming March – May long rains season and its effect on food security and nutrition situation.
- Monitor morbidities, disease outbreak and WASH situation
- Monitor security situation in vulnerable communities to avert resource-based conflict are likely to escalate with worsening drought situation.
- Rising number of food insecure population across the ASALs
- Deteriorating nutrition situation
- High staple food prices
- Repeated poor crop production in the ASALs
- Livestock productivity, health and sale values
- High inflation rate and cost of living
- Impacts and effectiveness of humanitarian assistance

6.0 Crop Production Prospects

According to the Ministry of Agriculture, the national maize production is expected to be about 35.4 million 90-kilogram bags equivalent to 3.19 million metric tonnes (MMT) equivalent to 10 - 15 percent below the five-year average attributed to below average rains and high prices of fertilizers and fuel that constrained cropping activities resulting in below average cropping area achieved and below average production.

In the ASALs, crop production is usually significant in the Agro-pastoral (West Pokot, Baringo, Kajiado, Narok, Laikipia, Nyeri), Southeast marginal agricultural (Meru (Meru North), Embu (Mbeere) Tharaka Nithi (Tharaka), Makueni, Kitui) and Coastal marginal agricultural (Lamu, Kilifi, Kwale, Taita Taveta) clusters.

In the coast marginal agriculture cluster, the main crops grown in the cluster under rain-fed production- were maize, cowpeas and green grams and the area planted achieved was 76 and 83 percent of LTA for maize and cowpeas driven by poor rainfall performance particularly in Kilifi and Taita Taveta and inadequate availability of seeds in Kwale and generally high prices of fertilizer, seeds and pesticides. However, the area planted for green grams was 70 percent above the LTA driven by better rains, availability of seeds from the previous season, and free land ploughing in Lamu. Production for cow peas, green grams and maize was 56, 65 and 79 percent respectively below the LTA attributed mainly to below average area planted and poor rainfall performance.

In the southeast marginal agriculture cluster, the area under maize and green gram was 92 and 93 percent of the LTA while that of cowpeas was within the LTA attributed to increased availability of certified seeds for maize, sorghum, green grams and beans in Makueni provided by the county government. The production of green grams, cow peas and maize were 18, 24 and 49 percent below the LTA attributed mainly to poor rainfall performance African and Fall Army Worm infestations in Kitui and Makueni, and destruction of crop by elephants in Kitui. In the Agro-pastoral cluster, the main crops grown were maize, beans and Irish potatoes and the area planted under the respective crops were 96, 86 and 68 percent of the LTA respectively while the production was 57, 36 and 56 percent below the LTA. The below average production is attributed to poor performance of the rains and limited use of high-priced fertilizer, FAW infestations in Nyeri (Kieni) and damage of crops by wildlife in Laikipia that resulted in 40 – 80 percent crop losses in the Mixed Farming Livelihood Zones.

7.0 Food and Livestock Price Trends

Maize prices across most markets across the Country continued rising atypically through December 2022. These unseasonal price trends were attributed to the below-average harvests in the country and rising prices in the regional surplus-producing countries of Uganda, Tanzania, and Ethiopia. Maize prices generally remained significantly higher than 2021 and the five-year average due to the high costs of production and marketing brought about by Russia and Ukraine conflict-related high global fertilizer prices, and a sustained increase in fuel prices, the strengthening of the USD against local currencies, increasing the costs of imports, and high international prices of maize, purchased to compensate for local production shortfalls. Maize prices across the urban reference markets in Nairobi, Mombasa, Kisumu and Eldoret ranged from 4,600 – 5,700 KES per 90 kilogram bag and were 54 – 84 percent above average except
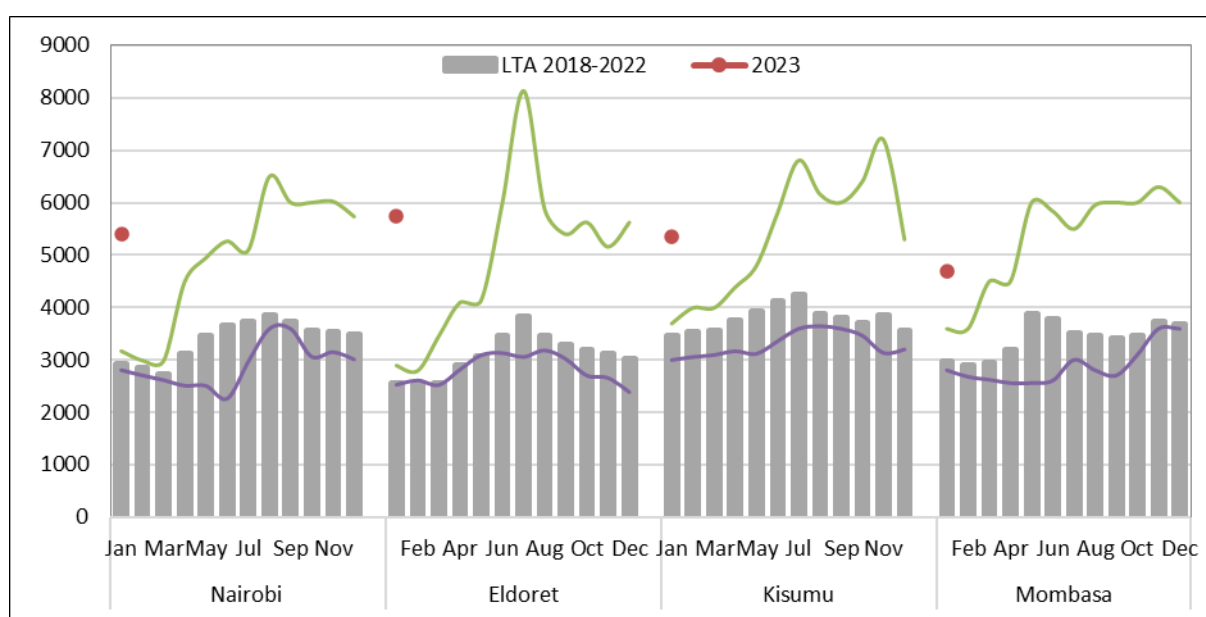

Figure 5: Wholesale maize prices in major urban markets

in Eldoret where they were twice the five-year averages with farmers opting to sell their produce in the markets and not the National Cereals Produce Board (NCPB) due to more attractive prices both at farmgate (~4,000 KES/90 kilogram bag) and in the markets (upwards of 4,600 KES/90-kilogram bag). In the marginal agricultural areas, the retail maize prices were 65-80 KES/kg which was around 54-99 percent above the five-year average. In the pastoral areas, the maize retail prices were 37-49 percent above average in Mandera and Garissa and 60-98 percent above average in the rest of the markets. The prices of maize were highest in the pastoral areas ranging between 87-110 KES/kg.

Dry bean prices in the urban reference markets of Nairobi, Mombasa, Eldoret and Kisumu remained on an increasing trend driven by a decline in local and regional production for consecutive poor seasons and below average production in surplus-producing Uganda. Wholesale dry bean prices ranged from 11,200 – 14,000 KES and were 25 – 68 percent higher than 2021 prices and 37 – 59 percent above the five-year averages across the urban reference markets.

In the Pastoral and Agro-pastoral counties, goat prices showed slight variations and were within average in Kajiado, but 8 – 24 percent above average in Isiolo, Narok, Samburu, Narok, West Pokot and Tana River. Across the rest of the counties, goat prices were 6 – 43 percent below average of the driven by deteriorating body conditions as forage and water resources continued their gradual decline following consecutive below average seasons.
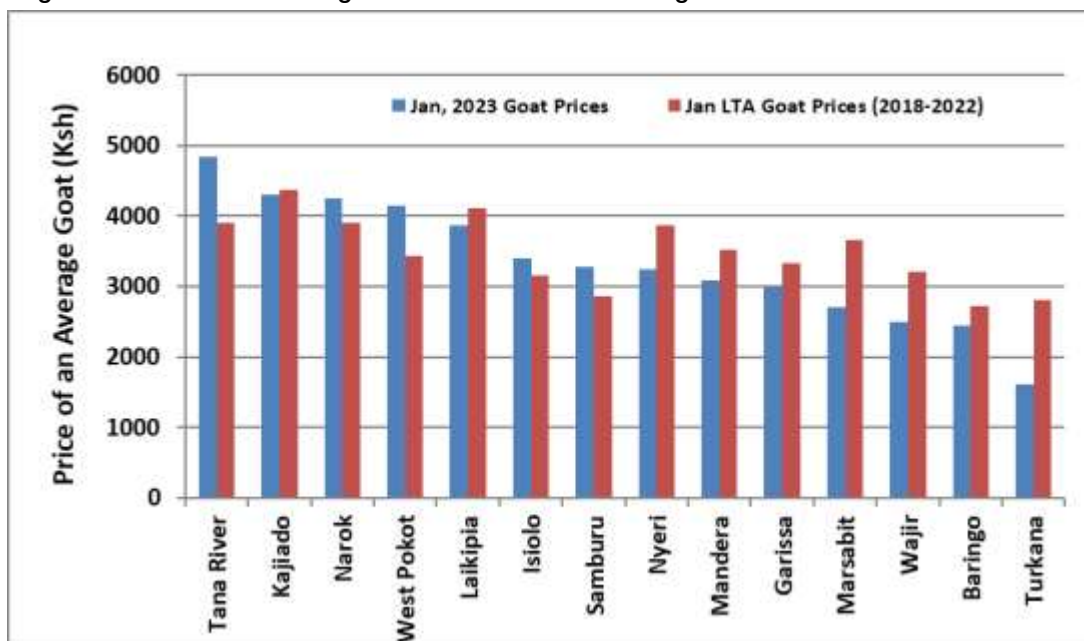

Figure 6: Comparative goat prices across pastoral and agro-pastoral counties

8.0 Food Security Prognosis

8.1 Assumptions

The March to August projection period is based on the following assumptions:
- According to the preliminary KMD forecast, in addition to WMO and NMME ensemble forecasts, and based on historical analogs of waning *La Nina* events, the 2023 March to May long rains will likely be below average in northern and eastern parts of Kenya. The Indian Ocean Dipole is forecast to remain at neutral conditions for at least through May 2022. The land surface temperatures are forecast to be above average.
- The below-average long rains are likely to drive short-lived improvements in forage and water resources in the pastoral areas between April and May. However, a rapid decline and an earlier-than-normal depletion of these resources are expected from late June onwards, maintaining unseasonably high return distances to watering points for households and livestock.
- Atypical internal livestock movements within the counties in search of pastures, browse, and water and migrations into other counties in the marginal agricultural counties and neighboring Ethiopia and Somalia are expected through August. Given the expected low availability of rangeland resources, livestock that had migrated earlier are unlikely to return to the wet season grazing areas.
- Across the ASALs, livestock birth rates will be below average due to the low conception rates following the weakened state of the animals. At the same time, livestock productivity will be unseasonably low, driving low household milk availability.

- Household incomes in the pastoral areas will be below average throughout the scenario period driven by low livestock sale values due to unseasonably low body conditions and low milk sales. In the marginal agricultural areas, below-average incomes will be driven by limited crop sales following the below-average short rains production coupled with below-average agricultural-related waged labor demand for the long rains cropping season. To bridge the income gaps, poor households are likely to rely on atypical income sources such as the sale of firewood and charcoal, remittances, casual labor opportunities, and at atypically high levels. However, the limited expandability of such income sources will continue to constrain household purchasing capacities and access to food, and the ability to meet non-food needs.

- According to FEWS NET technical price projections, wholesale maize prices in Nairobi urban area will vary between KES. 4800 and 6400 per 90 kg bag and will be around 40-80 percent above the five-year, average driven by an unusually high nationwide demand and an expected below-average supply. The prices of maize are expected to follow seasonal trends, moderated by the anticipated waiver of duty on maize imports that will improve the supply. However, cross-border volumes will not be adequate to cover the deficits arising from the below-average local stocks and unusually high demand but are likely to drive prices to below the 2022 prices. The high transport costs, the high-priced imports, high fertilizer prices, inflation, and anticipated below-average long rains production will, however, continue to drive above-average prices throughout the scenario period.

- With the typical July-September lean season expected to begin earlier than normal, in June, and be more severe, incidences of conflicts over grazing and watering rights and tribal skirmishes are expected. Such conflict-related stocks are likely to disrupt livelihood activities, including access to markets and humanitarian assistance.

- Based on the projected deterioration in household food security, reduced milk availability and constrained household income, the prevalence of acute malnutrition is likely to persists through August and at extremely Critical levels (GAM ≥30%) in parts of Turkana (Turkana North and South sub-counties), Marsabit (Laisamis and North Horr sub-counties) and Mandera; Critical levels (GAM 15-29.9%) in Garissa, Wajir, Samburu, Isiolo counties, part of Turkana (East and West sub-counties) and Tiaty Sub County in Baringo County. In Tana River, Laikipia and West Pokot counties, the nutrition situation will remain at Serious levels (GAM 10 – 14.9%) while it will remain acceptable (GAM <5%) in Narok, Taita Taveta, Nyeri (Kieni Sub County) and Alert (GAM <5-9.9%) in Kajiado, Makueni, Kitui, Kwale, Kilifi, Lamu and parts of Embu (Mbeere Sub-County), Meru (Meru North Sub-County), Tharaka Nithi (Tharaka Sub-County).

- Due to the previous positive impacts of the humanitarian assistance programs by the national and county governments, and donor agencies, it is likely that the assistance will continue given that the multi-seasonal drought is likely to continue during the projection period.

8.2 Likely Food Security Outcomes

8.2.1 Pastoral areas

The availability of forage and water resources will remain unseasonably low throughout the projection period, a cumulative effect of previous successive below average seasons. Livestock trekking distances to grazing areas and watering points will remain atypically high throughout and will continue to drive unseasonably low livestock body conditions and productivity and below average livestock sale values. Short-lived improvements are expected during the forecast below average 2023 March to May long rains, followed by a rapid depletion thereafter.

The typical July to September lean season is expected to start early, in June, and is likely to be more severe. Consequently, livestock that had migrated during the previous below average seasons are unlikely to move back to the traditional wet season grazing areas, while migrations into atypical areas of the marginal agricultural counties such as Meru (Meru North), Tharaka Nithi (Tharaka), Kitui, Taita Taveta and Makueni and cross-border movements into neighboring Ethiopia and Somalia are expected to intensify. In addition, internal livestock movements within the counties in search of forage and water will be unusually high.

The atypical livestock movements and migrations are likely to trigger conflicts with host communities over grazing rights and access to watering facilities that are likely to result in both livestock and human deaths, and displacements. At the beginning of the long rains, an above average livestock mortality rate is expected from pneumonic diseases such as Contagious Caprine Pleuro-Pneumonia (CCPP) and Contagious Bovine Pleuro-Pneumonia (CBPP) due to the poor body conditions. Livestock birth rates are also expected to be below average following the low conception rates during the previous below average seasons.

The expected high livestock mortality rates, low birth rates, and normal livestock sales will continue to maintain below average household livestock holdings. Household milk availability will remain significantly low due to the unusually low body conditions and low birth rates. Consequently, below average incomes from livestock and milk sales will continue to limit household purchasing capacities and access to food throughout the projection period. To bridge the income gaps, households are likely to intensify their reliance on atypical sources such the sale of firewood and charcoal, remittances, and casual labor opportunities. However, the limited expandability of such income sources will continue to constrain household purchasing capacities and access to food, and the ability to meet non-food needs. As a result, poor households are likely to continue employing consumption-coping strategies indicative of Stressed (IPC Phase 2) and Crisis (IPC Phase 3) such as limiting the number of meals consumed per day, borrowing food from friends and relatives and minimizing consumption by adults for children to feed.

Due to the limited household food availability and constrained access to food, the prevalence of acute malnutrition will worsen to Critical (GAM 15-29.9%) in Wajir and persist remain in the same phase in Garissa, Isiolo, Samburu, parts of Marsabit (Moyale Sub-County), Turkana (East and West sub-counties) and Tiaty Sub County in Baringo County through to August. However, the nutrition situation in additional areas such as Mandera County, parts of Turkana (Turkana North Sub-County) and Marsabit (North Horr) is likely to deteriorate to Extreme Critical levels (GAM ≥30%) a similar situation persisting in parts of Turkana (Turkana South Sub- County) and Marsabit (Laisamis Sub-County).

With the severity of food insecurity expected to increase, Emergency (IPC Phase 4) outcomes are expected in Turkana, Marsabit, Mandera, Wajir and Garissa while Crisis (IPC Phase 3) outcomes will persist in Samburu, Isiolo, and Tana River. However, in the event of planned, funded and likely humanitarian assistance in Turkana, Marsabit, Mandera, Wajir, and Garissa that is well targeted in the form of cash transfers and direct food aid, or a combination of both, will improve these targeted household's capacities to cope resulting in them being at least one phase better.

8.2.2 Marginal Agricultural areas

The below average 2022 short rains production is expected to deplete earlier than normal, in March/April compared to June/July, and with the lack of carry over-stocks from the previous below average long rains season, household dependence on markets will remain atypically high. Household incomes from crop sales are expected to be significantly below average and are likely to limit access to seeds, fertilizers, and other inputs for the March to May long rains cropping season, resulting in below average acreage under food crops.

With the long rains forecast to be below average, the demand for agricultural waged labor for activities such as weeding and harvesting is likely to be below average given that the expected large soil moisture deficits will result in poor crop development. Consequently, the long rains production will be below average, limiting household food availability and maintaining unusually high market dependence through to the end of the projection period. Household incomes from the sale of the long rains crops will also be below average.

With staple food prices expected to remain at above average levels, the below average incomes will continue to limit household purchasing capacities and access to food throughout. To narrow the income deficits, households are likely to increase their reliance on other atypical income sources such as sale of firewood and charcoal, and non-agricultural waged casual labor opportunities, but the incomes will be limited by increased competition.

Consequently, majority of poor households will employ consumption-coping strategies indicative of Stressed (IPC Phase 2) and Crisis (IPC Phase 3) such as limiting the number of meals consumed per day, borrowing food from friends and relatives and minimizing consumption by adults for children to feed. In Meru (Meru North), Kitui and Makueni, poor households are likely to employ livelihood coping strategies indicative of Crisis (IPC Phase 3) such as consumption of immature food crops, minimizing expenses on inputs such as fertilizers, and reducing expenses on health and education.

The below average household food and milk availability, and constrained purchasing capacities and access to food will continue to constrain food consumption, increasing the prevalence of acute malnutrition among children under five years. Across the marginal agricultural areas, Stressed (IPC Phase 2) area-level outcomes will prevail despite the slight improvements in household food availability during the long rains harvests. However, Crisis (IPC Phase 3) outcomes are expected in Meru (Meru North), Kitui, and Makueni, following successive below average production seasons.

9.0 Options for Response
Table 3: Ongoing intervention

	Interventions	Counties	Cost
Water	Water trucking Purchase of fast-moving spare parts Distribution of storage tanks Rehabilitation and repair of strategic boreholes	Marsabit, Tana River, Mandera Turkana, Samburu, Wajir, Isiolo, Baringo, Laikipia, Garissa, Kitui, Taita, Narok, Kilifi, Kwale, Kajiado, Makueni, Embu, Meru, Tharaka Nithi, Nyeri, West Pokot,	350 million
Education	Water trucking for schools, School feeding programmes	Marsabit, Tana River, Mandera, Turkana, Samburu, Wajir, Isiolo, Baringo, Laikipia, Garissa, Kitui, Taita, Narok, Kilifi, Kwale, Kajiado, Makueni, Embu, Meru, Tharaka Nithi, Nyeri, West Pokot, Lamu,	230million
Socio-Protection (Food Aid)	Cash transfers Relief food	Marsabit, Tana River, Mandera, Turkana, Samburu, Wajir, Isiolo, Laikipia, Garissa, Kilifi, Kwale, Kajiado, Makueni, Meru, Tharaka Nithi, Nyeri, West Pokot	1.2 B
Livestock	Livestock off-take slaughters Supplementary feeds Destocking Vaccinations and treatments	Marsabit, Tana River, Mandera, Turkana, Samburu, Wajir, Isiolo, Baringo, Laikipia, Garissa, Kitui, Taita, Narok, Kajiado, Makueni, Meru, Nyeri,	350 million
Agriculture	Provision of drought tolerant crops, seeds and other farm inputs and land preparation support	Kitui, Embu, Kwale, Kilifi, Narok, Migori, Elgeyo Marakwet, Laikipia, West Pokot, Murang'a, Nyeri, Makueni, Meru, Tharaka Nithi,	400 million
Health and Nutrition	Availing nutrition commodities, mass screening and referrals	Marsabit, Tana River, Mandera Turkana, Samburu, Wajir, Isiolo, Baringo, Laikipia, Garissa, Kitui, Taita, Narok, Kilifi, Kwale, Kajiado, Makueni, Embu, Meru, Tharaka Nithi, Nyeri, West Pokot, Lamu,	200 million

Table 4: Priority Drought Response Interventions - March to May 2023

Sector	Priority Interventions	Description	Approx. cost (KSh. Billion)
Food Aid	Cash Transfers under HSNP	Cash transfer scale-ups	0.7
		Regular cash transfers	2.2
	Relief food/cash transfers	Relief food distribution and provision of cash transfers	3.6
Water	Water trucking	To communities and institutions	0.3
	Support to operation of boreholes	Repair and servicing of boreholes	0.2
		Fast-moving spare parts	0.2
		Borehole rapid response teams	0.1
		Solarisation of boreholes	1.2

		Water pumping subsidy (fuel/electricity bills)	0.1
	Desilting of water reservoirs	Desilting/expansion of reservoirs in arid counties	0.2
Livestock	Supplementary feeding	Livestock feeds	0.6
	Livestock off-take	Slaughter off-take	0.3
		Commercial off-take	0.2
	Supportive veterinary services	Vaccinations and treatments	0.2
Health & Nutrition	Public health and nutrition support	Mass screening and referrals	0.6
		Integrated health outreaches	0.2
		Provision of nutrition commodities	2.1
Education	Sustaining education access in the ASALs	Enhanced school meals programme	0.5
		School fees subsidy	0.4
Peace & Security	Support safe and peaceful access and migration	Inter-community peace dialogue/conflict resolution activities	0.2
Agriculture Sector	Drought recovery support	Provision of drought tolerant seeds & other farm inputs	0.4
		Land preparation support	0.1
Wildlife		Addressing human-wildlife conflicts	0.1
	Wildlife drought response	Translocation of wildlife, livestock drives, desilting of water pans & improvement of water infrastructure, and wildlife feeds.	0.35
		Wildlife fires	0.1
Forestry	Forest fire risk management	Forest fire risk management and maintenance of fire lines	0.1
Coordination	Drought response coordination	Coordination meetings & stakeholder mobilisation	0.1
		Total Budget	**15.35**

Table 5: Priority Drought Response Interventions - March to October 2023

Drought Response Plan - (Feb to October 2023)			
Sector	Priority Interventions	Description	Approx cost (Ksh. Billion)
Food Aid	Cash Transfers under HSNP	Cash transfer scale-ups	2.2
		Regular cash transfers	3.34
	Relief food/cash transfers	Relief food distribution and provision of cash transfers	18.46
Water	Water trucking	To communities and institutions	1.0
	Support to operation of boreholes	Repair and servicing of boreholes	0.5
		Fast-moving spare parts	0.5
		Borehole rapid response teams	0.4
		Solarisation of boreholes	3.6
		Water pumping subsidy (fuel/electricity bills)	0.4
	Desilting of water reservoirs	Desilting/expansion of 115 reservoirs in 23 counties	0.5
Livestock	Supplementary feeding	Livestock feeds	1.8
	Livestock off-take	Slaughter off-take	0.6
		Commercial off-take	0.5
	Supportive veterinary services	Vaccinations and treatments	0.8
Health & Nutrition	Public health and nutrition support	Mass screening and referrals	1.8
		Integrated health outreaches	0.6

		Provision of nutrition commodities	6.2
Education	Sustaining education access in the ASALs	Enhanced school meals programme	1.6
		School fees subsidy	1.2
Peace & Security	Support safe and peaceful access and migration	Inter-community peace dialogue/conflict resolution activities	0.6
Agriculture Sector	Drought recovery support	Provision of drought tolerant seeds & other farm inputs	0.5
		Land preparation support	0.4
Wildlife	Wildlife drought response	Addressing human-wildlife conflicts	0.08
		Translocation of wildlife, livestock drives, desilting of water pans & improvement of water infrastructure, wildlife feeds & other drought-related interventions	0.7
		Wildlife fires	0.2
Forestry	Forest fire risk management	Forest fire risk management and maintenance of fire lines	0.4
Coordination	Drought response coordination	Coordination meetings & stakeholder mobilisation	0.4
		Total Budget	**49.28**
NB: *Wildlife sector costs exclude routine activities*			

Conclusion

The successive five below average rainfall seasons stretching back as far as the October to December short rains of 2021 has resulted in significant negative impacts on household food security. The impact of the below average rainfall seasons has been felt more in the ASAL counties that are mostly dependent on rainfall for both crop and livestock production. There has been a progressive decline in livestock productivity in the pastoral areas as forage has been depleted by consumption and high ambient temperatures with little regeneration offered by the below average rains over successive seasons forcing the livestock to migrate vast distances degrading their body conditions and significantly reducing their sale value, milk and meat production and availability at household level, and conception and birth rates. Rain-fed crop production in the marginal agricultural areas has been consistently below average due to insufficient moisture to fulfil crop water requirements in addition to high-priced inputs such as seed, fertilizer and pesticides and high fuel prices that have increased production and marketing costs.

Below average crop and livestock production have reduced household food availability from own production and has negatively impacted food consumption increasing household hunger and malnutrition and has forced them to depend largely on high-priced staple foods from the markets. Households in the pastoral and marginal areas dependent on livestock and livestock products sales, crop sales and agricultural wage labour, have experienced a significant decline from these sources corresponding to the low production and are experiencing reduced purchasing power and access to food and non-food commodities.

Across the country, historically high staple food prices have persisted since early 2022 driven by a number of factors; Below average production locally and across the East African region particularly Tanzania and Uganda reducing supply volumes needed to plug the Country's national

deficits, high production and marketing costs caused by high fuel and fertilizer costs, persistent drought across the East Africa region increasing the demand and prices across the region, and macroeconomic factors such as high global fuel and food prices driven by the Russia – Ukraine conflict and a weakened local currency to the dollar increasing the price of importation of food commodities to offset supply deficits. Driven by low income and high food prices, households have been forced to cope by applying consumption-based coping strategies such as skipping meals and reducing portion sizes to stretch their limited supply of food while also applying livelihood-based coping strategies such as borrowing, depleting savings, reducing expenditure on medical expenses and in extreme cases, depletion of assets and destitution.

Depletion of forage and water resources has forced livestock herders to migrate and congregate in dry season grazing areas where the livestock already in a weakened state, are highly susceptible to death from diseases, dehydration, starvation and predation that will further deplete herd sizes. Conflict and insecurity remain a major driver of food insecurity and incidences have been reported where livestock herders have met and clashed and where livestock herders have trespassed into private property using atypical routes fueling destruction of property, injuries and fatalities that have impacted entire areas and are constraining livelihood activities, crippling market operations and humanitarian assistance activities.

Low food and milk consumption, access to water resources and increased disease incidences especially in children under five years of age has worsened the nutrition status to Critical and Extremely Critical area-levels and currently, over 970,000 children aged 6 to 59 months and 142,000 pregnant and breastfeeding mothers are malnourished and in urgent need of life-saving treatment for malnutrition. In areas of high food insecurity, humanitarian assistance in the form of both in-kind food and cash and of a transfer value that is of a significant proportion of the total food needs, properly targeting the population in need, has had a mitigating effect on worse food insecurity outcomes and counties like Turkana and Marsabit could have been in food insecurity phase worse without this assistance.

However, it is crucial that more funding is availed to support humanitarian assistance efforts and sectoral interventions to effectively mitigate the worsening acute food insecurity in the coming months keeping in mind the high likelihood of another below average rainfall season over the March to May long rains period.