Government of Kenya

THE 2019 LONG RAINS MID-SEASON FOOD AND NUTRITION SECURITY REVIEW REPORT

Kenya Food Security Steering Group (KFSSG)


May 2019
1.0 Summary of Food and Nutrition Security Conditions

1.1 Overall food and nutrition security situation

The overall food security situation in the ASAL counties deteriorated in the month of May 2019 with more households in crisis phase of IPC classification. The poor performance of the long rains has resulted into poor regeneration of forage and minimal recharge of surface water sources in pastoral livelihood zones. In marginal livelihood zones, crop condition is poor with expected drop in production of more than 60 percent and consequently more food insecure households.

The nutrition situation remains critical in pastoral counties of Turkana and Marsabit and expected to deteriorate across all pastoral livelihood zones owing to expected worsening of food security situation, water and sanitation practices. Agro – pastoral and marginal livelihood counties have shown an increase in children who have Mid Upper Arm Circumference (MUAC) of <135mm indicating a worsening nutrition situation. The worsening household food security and diminishing milk availability will further contribute to increase in malnutrition.

The below-normal rainfall performance coupled with poor temporal and uneven distribution has affected crop production in the agro-pastoral and marginal agriculture livelihood zones, with all areas reporting expected production of less than 40 percent.

Moreover, cereal prices have increased in all livelihood zones by 15 – 30 percent between April and May and are above the five-year average. However, markets are well provisioned with supplies from maize growing areas. Food consumption and dietary diversity have been affected with more households in the poor food consumption group compared to February 2019.
Livestock body condition is good to fair for browsers and grazers respectively across all areas but expected to deteriorate. Both intra and inter county migrations have been reported mainly in search of pasture in most of the pastoral counties and is earlier than expected. Fair to poor forage condition was observed in both pastoral and marginal agricultural livelihood areas. The late onset and poor temporal distribution resulted into inadequate regeneration of forage and is expected to last up to end of July. Consequently, milk production has declined to between 30 and 50 percent of the five-year average in pastoral counties. Similarly, milk consumption has declined by same margin. Terms of trade have remained favorable for pastoralists, given stable livestock prices and good livestock body condition, with households able to purchase more maize from the sale of a goat compared with the long-term average. However, the favorable terms of trade did not impact positively on household food security as there were limited livestock for sale.

Access to water remain a challenge across all the livelihood zones owing to poor recharge of surface water sources. Most of the water pans are dry and over 40 percent of the population in pastoral counties are currently relying on boreholes. Distances for both livestock and domestic water have increased and are between 50 and 100 percent of normal (7 – 9 km) in pastoral counties of Turkana, Samburu, Marsabit and Wajir. Water consumption has declined to 6 – 10 litres per person per day in most pastoral counties. The water situation is expected to worsen in the next one month as the remaining surface water sources dry up and further exerting pressure on boreholes.

According to the acute food insecurity IPC analysis and classification, the food security situation has worsened in May 2019 compared with February 2019. More households now face Stressed (IPC Phase 2) and crisis (IPC Phase 3) acute food insecurity levels. In the pastoral north-west (Turkana, Samburu & Marsabit) and north-east (Wajir, Garissa, Tana River & Isiolo) counties, more households are in both Crisis and Emergency (IPC Phase 3&4) food insecurity phase. In the south-eastern and coastal marginal agricultural areas, and agro-pastoral areas of West Pokot, Laikipia and Kajiado, populations are largely stressed (IPC phase 2) but have some households in crisis (IPC Phase 3). It is estimated that 1.6 million people are in Crisis and the number is expected to reach over 2 million by July 2019. The most affected counties are; Turkana, Marsabit, Baringo (East Pokot), Wajir, Garissa, Tana river and Isiolo.
1.2 Projected food security situation

1.2.1 Prognosis assumptions
The food security outcomes in the next four months (June – September 2019) will be determined by several factors. The assumptions being made are:

- According to the Greater horn of Africa consensus forecast (GHACOF) during the period June to September 2019, the Rift Valley and western parts of Kenya have a high probability of receiving average to above average rainfall while the north-western region is expected to receive mostly normal rains. The eastern part of Kenya is expected to remain typically dry during this period except for parts of Garissa and Lamu that have a 45 percent probability of experiencing below average rainfall.

- Temperature forecasts according to the GHACOF climate outlook point to a 45 percent probability of cooler than normal temperatures in the western region while normal temperatures are set to prevail in the greater Rift Valley region. However, there is a 45 percent probability that in the eastern part of the country, warmer than normal temperatures will prevail from June through September.

- According to analysis of key drivers and technical price projections, maize prices in the key reference market of Nairobi are expected to remain above average range from 8-12 percent above average from June to September and thereafter range from 13 – 16 above average from October 2019 to February 2020. This is driven by dwindling carryover stocks from the 2018 production season and anticipated below average cross-border imports from Uganda, Tanzania, and Zambia. Across the country in the pastoral zones, maize prices are
also projected to rise and remain above average mirroring the prices in source markets. In the southeast marginal areas, depletion of maize stocks and an expected poor long rains harvest, maize prices are expected to remain above average through September.

- Livestock prices in the pastoral areas boosted by April rains and dependent on forage availability are expected to remain above average through July and thereafter decline to average to below average levels through September. In Isiolo and Samburu counties however, prices are expected to deteriorate further and remain below average. However, in counties like Turkana, Marsabit, West Pokot and Baringo where July – September rains are expected, prices are expected to continue rising and remain above average.

- Given the deteriorating trend of the already below average forage and water resources, it is likely that atypical migration in terms of timing and routes is projected to continue within the pastoral areas and expected to continue to spill over into neighboring counties. As a result, resource-based conflict will continue in areas such as Meru North, Kitui, Samburu, Turkana, West Pokot, Marsabit, Tana River and Garissa as resources dwindle through September resulting in disruption of livelihood activities and loss of property and lives in severe cases.

- Through September, humanitarian assistance to populations in need is expected to increase to above average levels following the poor performance of the March – May long rains. County governments are in the process of generating drought response plans covering all the relevant sectors.

1.2.2 Prognosis (June – September)

Marginal agricultural areas
Food stocks will be depleted by late June across the marginal areas hence increasing household dependence on markets for staple food commodities which are already faced by rising prices. Due to depleted household stocks, dwindling national stocks, low cross-border imports and speculation driven by anticipated below average harvests, staple food prices are expected to remain above the five-year average levels through September. Due to significantly reduced income from crop – related activities, households will shift their focus to non-agricultural income sources like reliance on safety nets, remittances and petty trade and will employ coping strategies like spending their savings, borrowing money and purchasing food on credit. Household food availability and consumption will continue to decline as households intensify application of consumption coping strategies. Owing to the poor performance of the March – May long rains, the reduced crop acreage and current crop conditions will likely translate to below average harvests and similarly below agricultural wage labour opportunities and household income in June and August for the short cycle and main crop harvests respectively. It is likely that drought tolerant groups like sorghum, millet, green grams, cowpeas, or pigeon peas will perform better than maize, but overall household stocks are likely to last for only a month through September and be enough only for household consumption. Declining livestock productivity through the scenario period is expected to limit income from livestock and milk sales and milk as a food source whose decline will increase malnutrition in children under five years of age. As a result, access to food will likely be compromised at the household especially for the vulnerable households. A significant number of households are expected to have only minimally adequate food consumption but unable to afford
essential non-food expenditures and the marginal areas will maintain a Stressed (IPC Phase 2) classification.

**Pastoral areas**

In June, below average levels of forage and water resources will continue to drive atypical migration signalling an early start to the lean season. Increasing livestock trekking distances will continue to drive the decline in livestock productivity in terms of body conditions and milk production reducing livestock prices from July reducing milk and livestock sales and consequently reducing household income. Forecasted from current trends, staple food prices will remain above average through the scenario period reducing the terms of trade and household food access. With dwindling rangeland resources, resource-based conflict is expected to intensify throughout the period as livestock herders move further in search of forage and water and as high livestock numbers congregate in grazing and watering areas in search of the dwindling resources. Livestock are bound to be more vulnerable to disease outbreaks as they congregate in large numbers at the watering and grazing areas which may result in livestock deaths if not controlled. Low birth rates are expected, and this will reduce livestock related income earning opportunities like herding as livestock numbers will progressively decrease due to sales, successive droughts, diseases and predation by wild animals. Intensification of livelihood coping strategies such as sale of more animals than usual, purchase of food on credit, spending of savings, reduction of expenses on health, withdrawal of children from school and in some extreme cases sale of the last female animal. Non-livestock household income sources such as petty trade, remittances, charcoal and firewood sales will be relied on more to close household income gaps but will likely remain insufficient to do so. Decline of income and food sources will further increase food insecurity as Stressed (IPC Phase 2) outcomes persist in the majority of households while additional households deteriorate to Crisis (IPC Phase 3). Area classifications of Crisis (IPC Phase 3) will persist in parts of Turkana, Marsabit, Baringo, Isiolo, Wajir, Garissa and Tana River counties.

The key factors to monitor over the next four months include:

- Staple food prices
- Crop production prospects
- Trends of livestock health and productivity
- Likelihood of sustained conflict over rangeland resources
- Impacts of programmes and interventions

**1.3 National food supply situation and overall crop prospects**

According to the State Department of Agriculture (SDA) and the various County Departments of Agriculture (CDA), crop across the country was affected by the delayed, poorly distributed and cumulatively below average March to May long rains. The long rains crop is currently delayed and has been affected by moisture stress in the high and medium production areas of western Kenya and Rift Valley that produces a majority of the country’s production. Germinated maize crop was affected by moisture stress and necessitated replanting across parts of western Kenya and the North Rift, when the rains resumed in early May, the total acreage under maize crop reduced as some farmers opted to plant different crops like wheat while others could not replant maize due to lack of farm inputs and financial resources. Consistent rains from early May have helped drive the recovery of crops especially of the maize crop but the bean crop having been affected by both moisture stress and excess rains, is projected to perform poorly. Fall armyworm infestations were
reported in April and May and affected the maize crop that was in the emergent and vegetative stages but the recent rains have helped control the infestations and also drive the recovery of the previously infested crop. Improvements in crop conditions are anticipated especially in the western and Rift Valley parts of the country as rains are expected to continue over the June – August period however, given the current crop stage and conditions, it is expected that the harvests from the high and medium production areas will be approximately 10 – 20 percent below average and later than usual in October and face constraints brought about by the October - December short rains while still in the field. In the marginal agricultural and agro pastoral areas, due to the late, below average and poorly distributed rains, prevalence of crop pests and diseases and lack of inputs, the acreage achieved under crop was 39 percent below the average and the forecasted production is expected to be 45 percent below the average.

The Government of Kenya has plans to lift the duty on maize imports in July and allow importation of maize into the country in order to improve the supply of the commodity in the face of dwindling national stocks. Upon arrival, these stocks will help moderate prices nationally and stop the upward trajectory and if sustained change it to a downward trajectory preferably to within or below the five-year averages.

Food price trends
In the urban reference markets across the Country, maize prices have been on the rise since March. This has been brought about by dwindling local stocks, lower regional imports especially from Uganda and speculation caused by anticipation of below average local harvests caused by the poor March – May long rains performance. Between April and May, the wholesale maize prices across the markets rose by 15 – 23 percent as cross border imports and local stocks dwindle and anticipation of a below average long rains harvest. The prices are 8 – 12 percent above the five-year averages. Comparatively, prices range from 25 - 45 percent above those of 2018 driven by the recent price spike mostly driven by speculation from March. Maize prices have been following seasonal trends at depressed levels in 2019 until from April where they began to rise unseasonably driven by speculation in the market.

Dry bean prices remained stable in Eldoret but rose by 14 percent in Nairobi and Kisumu and by 37 percent in Mombasa due to dwindling cross-border imports from Uganda and Tanzania. Prices were seven percent above average in Nairobi that draws supply from both Uganda and Tanzania.
but prices were 15 -21 in the rest of the markets as supplies from Uganda and Tanzania dwindled preceding upcoming harvests in June. Prices continue to follow seasonal trends across the markets except in Kisumu where they are rising unseasonably due to dwindling stocks both locally and from Uganda.

In the next four months, the main price drivers are expected to be;

1. Regional cross-border imports including expected below average cross-border imports from Uganda and uncertainty of the export policies in Tanzania.
2. Likely below average local long rains harvests.
3. The threat or real importation of maize from regional and international sources like Zambia, Mexico and Ukraine.

1.4 Scope of the 2019 mid-season review
The food and nutrition assessment covered 23 Arid and Semi-Arid counties that are most vulnerable to drought in Kenya. It involved analysis of secondary data from various sectors including Agriculture, Livestock, Health and Nutrition, Markets and Water. Also, NDMA sentinel sites were used for the months of March to May.

The analysis was done by a team of multi-sectoral team of experts from government ministries and partners in a four-day analysis workshop which involved review of the short rains assessment report to guide on the situation as it was in February, analysis on the various contributing factors to food security including performance of the 2019 long rains and an analysis of various outcome indicators as at May 2019. The main outputs were a mid-season report and an updated IPC map all these projected to be varied through end of July.

Drivers of Food and Nutrition Security

2.1 Rainfall performance
The onset of the 2019 March to May long rains was delayed by more than four dekads in the pastoral and marginal agricultural areas with the exceptions of the southeastern marginal agricultural areas of Meru (Meru North), Embu (Mbeere),
Tharaka Nithi, Kitui and Makueni counties where onset was late by three to four dekads. Rainfall performance has been significantly below average throughout the season sustaining significant moisture deficits in the pastoral and marginal agricultural areas. Spatial and temporal distribution has also been poor. Following late-seasonal rainfall towards the end of May, cumulative seasonal totals are less than 80 percent of normal in the pastoral and marginal agricultural areas and 50 percent below normal in eastern pastoral areas of Tana River county and northeastern pastoral areas of western Garissa county and western Wajir county. Seasonal deficits are lesser in northwestern pastoral areas of Turkana and northern pastoral areas of western Marsabit.

2.2 High food prices
Staple food prices have been on an increasing trend since March, 2019 across the livelihood zones. Prices in key urban markets of Nairobi, Mombasa, Kisumu and Eldoret have increased by 15-23 percent between April and May. Similarly, prices have increased by 6-26 percent between April and May in the marginal agricultural areas and 7-18 percent in the pastoral areas. This is attributed to a decrease in supplies due to declining stocks held by various actors locally following below average 2018 short rain harvests and reduced imports from Tanzania and Uganda.

2.3 Crop Pests
Fall Army Worms attack in maize has been reported in Narok, Laikipia and West Pokot counties in an estimated 5 percent of cropped area. Coupled with poor rainfall performance and limited ability of poor households to procure control chemicals, harvests are likely to be significantly below average in these areas.

2.4 Conflicts and insecurity
Atypical livestock migration has resulted in resource-based conflicts over grazing rights and access to water resources in the northwestern pastoral areas to Turkana south and Turkana East sub-counties leading to livestock losses. Similarly, conflicts over access to grazing areas and access to water for livestock in the southeastern marginal agricultural areas of Meru (Meru North) county and northern areas of Kitui county have occurred, driven by livestock in-migration from Isiolo and Tana River counties respectively. In northern areas of Kitui County, at least one human life was lost in Ngomeni ward of Mwingi North Sub County. Conflicts have also limited access to the dry season grazing areas in the two counties.

2.5 Flooding
Sudden torrential rainfall downpours witnessed between March and April, caused flash floods in parts of the northern pastoral areas of Marsabit County (Logologo, Kargi, Burgabo and Elgade) and central Samburu County. In the latter, livestock deaths were reported. Flooding along River Tarach in the northwestern pastoral areas of Turkana County also led to livestock deaths in Kapua. Late-season rainfall in May, in the coastal marginal agricultural areas of Kilifi and Kwale counties led to destruction of crops.
3.0 Impacts of Drivers on Food and Nutrition Security

3.1 Crop production

Rain fed crop production

Delayed onset, poor distribution and erratic patterns of the long rains resulted in poor germination, wilting and drying of earlier planted maize, beans and green grams, and in some cases, rotting of seeds before emergence due to insufficient moisture. The high cost of certified seeds, fertilizers, labour and other inputs, limited replanting among a significant proportion of poor households. In the coastal marginal agricultural areas of Kilifi and the lower parts of Taita Taveta counties, farmers did not plant the main season crop due to the delayed rains. As a result, the current total area under crop production is estimated at 289,974 hectares compared to LTA of 470,340 hectares which is a 39 percent reduction.

The established crop in the south eastern and coastal cluster is currently at different stages of development from germination to knee high for the cereals except the earlier planted maize, while the leguminous crops such as beans, green grams and cow peas are between the emergence and four leaves stage across the marginal and coastal clusters. In the agro pastoral areas, the maize and beans are between vegetative and reproductive phase. Across the cluster, 30-40 percent of the earlier planted crop wilted due to water stress.

There were reported cases of Fall Army Worms attacks in earlier planted maize crop in Narok, Laikipia and West Pokot counties that affected about 5 percent of the areas planted. The late planted crops are in fairly good conditions in most parts of county due to improved rains towards the end of May however the earlier planted crops in the most parts counties such as

![Figure 7: Achieved area in the long rains](image)

![Figure 8: Production of Maize Under Rainfed Agriculture](image)
failed due to depressed rainfall. Short-cycle crops will be minimally available in June, while main harvests will be delayed until August and will mainly comprise the drought-tolerant sorghum, millet, green grams, cowpeas, or pigeon peas. The production is expected to be 55 percent of LTA following the below average acreage achieved and reduced production. In addition, although the replanted crop is in good conditions currently, it may not reach physiological maturity given the shortened season especially in the south eastern marginal cluster. The household maize stock in the marginal areas, is likely to be depleted by mid-June but the expected harvests are unlikely to be enough for both consumption and sales and will likely be exhausted within a month.

Markets and trade
The main food commodities traded in the markets included: maize, rice, beans and vegetables sourced from local production and imports across border from Tanzania and Uganda. However, majority of the households depend more on local market purchase to replenish their maize stocks.

Maize prices have been on an increasing trajectory from the Month of March across the country as shown in Figure 9 for selected markets in the marginal clusters. In the pastoral and agropastoral cluster, the prices were 9 – 20 percent below the average in Laikipia, Narok and Turkana due to presence of supplies from high and medium producing source markets but were within average in West Pokot, Baringo, Isiolo, Samburu and Tana River. Maize prices were however 6 – 19 percent above average in Marsabit, Kajiado, Wajir, Garissa and Mandera as supplies dwindled in the source markets of Ethiopia and Nairobi and demand increased with the ongoing drought. In the marginal clusters, the price of maize ranged from Ksh 37-51 per kilogram. The prices are 25 percent below average in Taita Taveta due to supplies from cross border supplies from Tanzania and were within the five-year averages in Makuani, Kwale and Kilifi moderated by supplies from the cross border trade with Tanzania. Prices were 11 – 23 percent above average in Kitui, Nyeri and Tharaka as household stocks dwindled and also as a result of an acute shortage occasioned by traders hoarding the produce in anticipation of future better prices coupled with unstable external supply of maize from outside the county. In other parts of the cluster, the increase in maize prices were attributed to the low maize supply to the market, diminishing households’ stocks.
3.2 Livestock production

Livestock contributes about 80-90 and 20-60 percent to cash income in pastoral and agro pastoral respectively. The pasture conditions are fair to poor across the clusters as result of below average long rains. Pastures are expected to last until end of June compared with the normal three months to mid-August. Browse conditions are fair to good across the cluster and are expected to last until the end of July compared to 2-3 months. Resource based conflicts (In Turkana South, East and Kibish and Baringo) and prevalence of livestock diseases continued to hindered access to pastures. Livestock body condition was fair to good for browsers and fair for grazers in the pastoral areas while in the marginal and agro pastoral, the body conditions were fair to good for all livestock types. Birth Rates in the pastoral are below normal for all the livestock types. Milk production declined below the five-year average by 50 percent except in Embu, Lamu, Tharaka Nithi, Isiolo, Wajir and Taita Taveta which were above by 14-47 percent (Figure 10). Production of milk was near average in Garissa and Samburu. Consumption of milk was below the five-year average except in Isiolo, Makueni, Marsabit, Kilifi, Tharaka Nithi, Kitui and Lamu where consumption was above by 7-56 percent. Consumption was near average in Narok and Kwale.

![Figure 10: Milk Production Compared to Average](image)

Livestock trekking distances from grazing areas to watering points in Marsabit, Mandera, Tana River, West Pokot, Meru and Kwale were more than twice the average; Laikipia, Baringo and Samburu they were above average; Turkana, Isiolo, Narok, Kajiado, Makueni, Embu, Kitui, Kilifi,
Nyeri and Laikipia. The return trekking distance were below average in Wajir, Garissa, and Lamu, Taita Taveta (Figure 11).

There were outbreaks of Foot and Mouth Disease, Lumpy Skin Disease and Anthrax. In Marsabit Anthrax in sheep and goats resulted to 27 deaths. In Meru (Tigania East-Muthara ward) 38 cases with two deaths reported due to Anthrax as result of consumption of dead animal. Peste de Petit Ruminants (PPR) and Contagious Caprine Pleuro pneumonia (CCPP) was reported in pastoral and agropastoral areas. Blue Tongue was reported in Kajiado while Blackquarter was reported in Mandera. In Marsabit (Amballo), Pasteurellosis in cattle resulted to 16 cattle died, however the mortality rates are within normal ranges across the clusters.

There were intra county migrations in the clusters as pastures are depleted though livestock remained in dry grazing areas. Herders moved from Isiolo, Samburu, Garissa and Wajir towards dry grazing areas in Isiolo South (Hawaye in Sericho ward and Garbatulla and Kinna wards). In Turkana, livestock migrated towards the borders. In Wajir, livestock concentrated in Wara, Tulo Roba, Lakole, Harede, Qorof Harer and Burmayo areas. In Tana River, about 60 percent of livestock moved to Tana Delta, while high influx of livestock from North eastern moved toward Tana North. Out migration to Kitui was also reported. In Baringo, livestock herds moved from pastoral livelihood to Arabal, Paka Hills, Rugus, Kosechei and Mochongoi. In Laikipia, livestock moved from Chumvi area (Pastoral zone) to Ilgwesi (Pastoral zone) in Mukogodo East Ward in search of pasture. Out migration of cattle was witnessed at Ilgwesi (Pastoral zone) in Mukogodo East towards Mount Kenya Forest in search of pasture. The goat to maize terms of trade in May remained above averages except in Mandera, Nyeri and West Pokot. The ToT was near average in Turkana, Samburu and Baringo (Figure 3). The goat prices were 16-27 percent the five-year averages in Laikipia, Marsabit, Narok, Wajir, Mandera and Garissa. Goat prices were above 50 percent in Kajiado. Goat prices in Nyeri and West Pokot were below average. Goat prices were near average in Turkana, Samburu, Baringo and Isiolo ((Figure 4). The amount of maize purchased from a sale of goat were above 50 kilograms except in Turkana (36kg) and Baringo (45kg).

**Goat Prices**

Goat prices in general were on an improving trend from the month of April due to rainfall events in April and May that brought about by improvements in forage and water resources and an increase in demand due to the celebration of the Idd holiday concluding the fasting month of Ramadhan. The prices have remained above the long-term average prices in select counties for the period January to May as shown in Figure 12.

Goat prices across the agropastoral and pastoral clusters ranged between Ksh. 2,305 – 3,861 were mostly average to above average except in Tana River and West Pokot where they were 11 – 13 percent below the five-year averages due to below average forage and livestock body conditions due to below average rains. Prices were within average in Nyeri, Baringo, Wajir, Mandera, Turkana and Garissa with deterioration from higher prices in some counties was associated with worsening body condition coupled with poor forage condition and below normal recharge at open water sources. Prices in the rest of the counties remained above average attributed to reduced
volumes supplied to the markets as a result of diminished body condition they are however followin a declining trajectory and will likely continue to drop through the lean season.

The goat to maize terms of trade (ToT) in May ranged from 38 – 107 kilograms with Laikipia county registered the most favourable terms of trade where 107 kilograms of maize was purchased from the sale of a medium sized goat while Turkana had the least favourable terms of trade at 38 kilograms. and was mostly average to above the five-year averages in most counties in the pastoral and agro-pastoral clusters except in except in Nyeri, West Pokot, Wajir, Mandera, Tana River and Garissa where the terms of trade were 8 – 17 below the long-term averages as shown in Figure 13. The ToT was within the averages in Marsabit and Baringo and was 6 – 29 percent above average

![Figure 1. Goat price trends in selected counties](image1)

![Figure 2: Comparative Terms of Trade in the Pastoral and Agropastoral Clusters](image2)
in the rest of the counties. The generally reduced terms of trade in relation from March through to May was mainly attributed to the falling prices of goats due to worsening body condition coupled with high cereal prices. Majority of households thus have reduced purchasing power limiting their access to basic food items and other non-food necessities.

3.3 Water availability
The main water sources are boreholes, shallow wells and traditional river. Rivers, pans and dams remain among the major sources in the Agro-pastoral zone. The proportion of households relying on boreholes in the Pastoral and Marginal areas is increasing with above 40 percent of households currently depending on them. Prolonged pumping hours in the pastoral and Marginal areas has led to frequent breakdown of gensets.

Open water sources were poorly recharged towards the end of May with most sources holding less than 50 percent of their capacities which may last up to the end of June in the Pastoral areas and may last up to August months in the Marginal and Agro-pastoral areas. Most waters pans in the pastoral areas have dried up and water provision is being supplemented through water trucking. Return distances to water sources are on increasing trend in the Pastoral areas ranging from 7 to 9Km in Turkana, Marsabit, Samburu and Wajir compared to the LTA of 2-8Km. Highest return distances were recorded in Mandera and Isiolo ranging from 11 to 13Km against the LTA of 4-8Km. In the Marginal and most counties in the Agro-pastoral areas, distances average 3-8Km compared to the normal 3-5Km. However, distances to water sources remain within the seasonal norm in Laikipia and Nyeri (Kieni) counties and in the coastal marginal agricultural areas of Kilifi, Lamu and Taita Taveta as result of the good rains received during the month of May ranging between two and three kilometers.

Water consumption has declined with households in Turkana, Samburu, Isiolo, Baringo, Narok, West Pokot and Marsabit consuming 6 to 10 litres per person per day. Highest consumption was noted in Wajir, Garissa, Mandera, Kwale, Lamu and Nyeri ranging from 15 to 20 litres per person per day. The price of a 20-litre jerry can at source is within the normal range of two to five shillings across the Country with the exception of pastoral areas of Baringo, West Pokot and Kajiado where average cost has doubled to Ksh. 10 per 20 litres jerrycan.

3.4 Health and Nutrition
According to the Integrated Phase Classification for Acute Malnutrition (IPC AMN) conducted in February 2019, the nutrition situation varied widely with emergency levels of Global Acute Malnutrition (GAM) ≥15 percent being reported in Turkana, North Horr, Mandera East Pokot and North Horr (Phase 4; GAM WHZ 15.0 - 29.9 percent). Isiolo, Saku and Moyale were classified as alert (Phase 2; GAM WHZ ≥ 5 to 9.9 percent) while Laikipia, Kitui, Kajiado, Taita Taveta, Kilifi, Kwale and Lamu are at acceptable level (Phase 1; GAM WHZ <5 percent). The situation was projected to

Figure 14. National nutrition situation
remain stable except for Wajir-pastoral and Tana River during the projection period based on the information that was available at the time. The analysis further warned there was potential for fast deterioration if the rains performed poorly which would result to deterioration in food security situation. So far, the performance of the 2019 long rains has been poor and has impacted negatively on the food and nutrition security situation with reduced availability of milk at household level and increasing food prices being reported across the pastoral counties.

According to the sentinel data collected through the NDMA early warning system, an increasing trend of children with MUAC less than 135 mm has been reported in Meru North, Baringo, Samburu and Tana River. Further, Turkana, Tana River, Samburu, Wajir, Baringo, Lamu, and Meru North have reported proportions of children less than 135 mm which are higher than the May long term average (Figure 15). Stable trends were observed in the rest of the counties.

![Figure 15: Trends of Children at Risk of Malnutrition based on MUAC <135mm, Pastoral Areas](image)

The Nutrition situation is expected to continue deteriorating steadily given the cumulative effect of the below average performance of the 2019 long rains and the 2018 short rains. Concerted efforts to address the situation in Tana River county is urgently required as the County has performed poorly across almost all indicators. The Ministry of Health with support from partners will be conducting integrated nutrition SMART survey in the months of June and July in Mandera, Wajir, Garissa, Marsabit, Samburu, Turkana, West Pokot and Baringo (East Pokot and Marigat/Baringo North and will continue to closely monitor the nutrition situation across all the counties. Further, integrated phase classification for acute malnutrition will be conducted during the 2019 long rains assessment and will provide updated maps.

**Dietary intake**

The proportion of households having poor food consumption scores is of concern in the pastoral counties (Figure 16). Only 12 and 24 percent of households in Turkana and Tana River Counties reported acceptable food consumptions respectively with 36 and 29 percent of the households in these counties having poor food consumption scores respectively (Figure 16). In the south-east marginal counties, Embu and Kitui had the highest number of households with acceptable food consumption score at 85 and 77.7 percent. Meru north had the highest number of households at poor and borderline at 18.1 and 25.9 percent respectively. Meru north, Tharaka, Kwale and Lamu have majority of households with poor and borderline food consumption score an indication of
severe food insecurity. The highest mean coping strategy index was reported in the following counties: Tana River and Marsabit Counties 19, Meru North 17, Turkana 16, Baringo 15, Mandera 14 and Isiolo 11.

Morbidity
Upper Respiratory Tract Infections (URTI), diarrhoea, and confirmed malaria were generally on an upward trend in February and March for both the children under five years of age and the general population. The upward trend can be attributed to the prolonged dry season which has been experienced following the delay in the onset of the long rains. However, an improving trend though still high has been observed in the month of April and may be attributed to the rains received in the last two weeks of April in most areas. According to Ministry of Health disease outbreak report as of 20th May, measles outbreak has been reported in Kajiado county in Mosiro Ward in Kajiado West; a total of 57 cases with 4 confirmed have been reported and response is underway. Measles outbreak has also been reported in Garissa County where all the six cases reported were confirmed. Cholera outbreak has been reported in several counties since January 2019. So far, 655 cases with one death has been reported in Narok, 181 cases with four deaths in Narok County, 56 cases with two deaths in Wajir, 82 cases in Garissa with one death, Mandera 277 cases with one death, 278 cases with one death in Machakos, six and eleven cases with no deaths in Embu and Mombasa counties respectively. According to the report, the outbreak was still active in Kajiado, Garissa, Mandera and Wajir. Visceral Leishma outbreak was reported in Wajir (192 cases) and Marsabit (910 cases) counties and resulted in six and seven deaths in each of the counties respectively. Given the below average performance of the rains, WASH practices are likely to deteriorated. The declining trend is expected to continue and is likely to impact negatively on the already precarious situation where cholera outbreak and increasing trends of diarrhoea cases have been observed.

Integrated Management of Acute Malnutrition (IMAM) Program
Admission trends to the integrated management of acute malnutrition (IMAM) program in 2019 are lower than those reported in 2018. A total of 24,124 severely malnourished children (28.2 percent of the annual target of 85,455) and 40,690 moderately malnourished children (19 per cent of the annual target of 213,684) were admitted for treatment in January to April 2019. Increasing
admission trend has been observed may be attributed to activation of response activities such as outreaches following the alert of a looming nutrition emergency. The trend may also be attributed to an actual increase of cases at the community level due to deteriorating food and nutrition security situation. Similar trends are observed as those of 2017 which was a drought year and can be attributed to scale up of IMAM services to new facilities and improved supply chain management in 2018 and 2019.

Isiolo, Mandera and Marsabit have reached 50, 37 and 33 percent of the set targets for SAM program respectively while Samburu, Tana river and Garissa counties have reached the lowest proportion of the set target at 10, 14, and 17 percent respectively. On the other hand, poor performance toward set targets for MAM program has been reported across the agro-pastoral and pastoral clusters except in Turkana County (43 percent). A total of 611 outreaches have been mapped in the most vulnerable counties with 1030 outreach visits out of the planned 1665 visits conducted.
Sphere standards for proportions cured and defaulting have not been achieved in a number of counties for both the SAM and MAM program. This is attributed to long distances to health facilities, inconsistent schedule of outreach services, stock out of commodities for management of moderate acute malnutrition and gaps in quality of care. There is need for scale of outreaches coupled with adherence to the outreach schedule and; close monitoring, mentorship and supportive supervision during IMAM program implementation to improve performance.

Table 1: Programme Performance Indicators

<table>
<thead>
<tr>
<th></th>
<th>Moderate acute malnutrition</th>
<th>Severe acute malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cured %</td>
<td>Deaths %</td>
</tr>
<tr>
<td>Garissa</td>
<td>71</td>
<td>0.0</td>
</tr>
<tr>
<td>Isiolo</td>
<td>74</td>
<td>0.0</td>
</tr>
<tr>
<td>Mandera</td>
<td>90</td>
<td>0.0</td>
</tr>
<tr>
<td>Marsabit</td>
<td>63</td>
<td>0.0</td>
</tr>
<tr>
<td>Samburu</td>
<td>84</td>
<td>0.0</td>
</tr>
<tr>
<td>Tana River</td>
<td>75</td>
<td>0.9</td>
</tr>
<tr>
<td>Turkana</td>
<td>82</td>
<td>0.1</td>
</tr>
<tr>
<td>Wajir</td>
<td>93</td>
<td>0.0</td>
</tr>
<tr>
<td>Baringo</td>
<td>78</td>
<td>0.9</td>
</tr>
<tr>
<td>Kajiado</td>
<td>52</td>
<td>0.2</td>
</tr>
<tr>
<td>Laikipia</td>
<td>51</td>
<td>2.3</td>
</tr>
<tr>
<td>Narok</td>
<td>59</td>
<td>1.1</td>
</tr>
<tr>
<td>West Pokot</td>
<td>48</td>
<td>0.0</td>
</tr>
<tr>
<td>Baringo</td>
<td>78</td>
<td>0.9</td>
</tr>
<tr>
<td>Kajiado</td>
<td>52</td>
<td>0.2</td>
</tr>
<tr>
<td>Sphere standard</td>
<td>≥75</td>
<td>&lt;3</td>
</tr>
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</table>
Vitamin A Supplementation
Vitamin A supplementation among children 6 to 59 months is generally low across the counties with lower coverages observed among children 12 to 59 months. Malezi bora activities which have been ongoing in the month of May are likely to boost coverage.

![Figure 18: Vitamin A Supplementation](image)

### 4.0 Number of food insecure populations

#### Food Insecure Populations, June – July 2019

<table>
<thead>
<tr>
<th>County</th>
<th>County population (2016 projected)</th>
<th>Number of food insecure populations</th>
<th>June 2019</th>
<th>July 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkana</td>
<td>1,083,653</td>
<td></td>
<td>270,900</td>
<td>325,100</td>
</tr>
<tr>
<td>Wajir</td>
<td>458,900</td>
<td></td>
<td>82,600</td>
<td>82,600</td>
</tr>
<tr>
<td>Mandera</td>
<td>711,117</td>
<td></td>
<td>106,700</td>
<td>128,000</td>
</tr>
<tr>
<td>Garissa</td>
<td>431,950</td>
<td></td>
<td>108,000</td>
<td>129,600</td>
</tr>
<tr>
<td>Marsabit</td>
<td>315,936</td>
<td></td>
<td>79,000</td>
<td>94,800</td>
</tr>
<tr>
<td>Samburu</td>
<td>283,780</td>
<td></td>
<td>42,600</td>
<td>51,100</td>
</tr>
<tr>
<td>Laikipia</td>
<td>505,712</td>
<td></td>
<td>25,300</td>
<td>50,600</td>
</tr>
<tr>
<td>West Pokot</td>
<td>649,418</td>
<td></td>
<td>97,400</td>
<td>97,400</td>
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<tr>
<td>Tana River</td>
<td>303,047</td>
<td></td>
<td>75,800</td>
<td>90,900</td>
</tr>
<tr>
<td>Isiolo</td>
<td>155,465</td>
<td></td>
<td>26,400</td>
<td>28,000</td>
</tr>
<tr>
<td>Kajiado</td>
<td>870,721</td>
<td></td>
<td>43,500</td>
<td>87,100</td>
</tr>
<tr>
<td>Baringo</td>
<td>703,697</td>
<td></td>
<td>105,600</td>
<td>126,700</td>
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<tr>
<td>Narok</td>
<td>1,077,719</td>
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<td>0</td>
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<tr>
<td><strong>Sub-total, Pastoral</strong></td>
<td><strong>7,551,115</strong></td>
<td><strong>1,063,800</strong></td>
<td><strong>1,291,900</strong></td>
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<tr>
<td>Makueni</td>
<td>959,022</td>
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<td>95,900</td>
<td>143,900</td>
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<tr>
<td>Kwale</td>
<td>820,199</td>
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<td>82,000</td>
<td>82,000</td>
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<tr>
<td>Kilifi</td>
<td>1,399,975</td>
<td></td>
<td>70,000</td>
<td>140,000</td>
</tr>
<tr>
<td>Kitui</td>
<td>1,097,687</td>
<td></td>
<td>109,800</td>
<td>164,700</td>
</tr>
<tr>
<td>Taita Taveta</td>
<td>358,173</td>
<td></td>
<td>17,900</td>
<td>17,900</td>
</tr>
<tr>
<td>Embu (Mbeere)</td>
<td>219,220</td>
<td></td>
<td>22,000</td>
<td>22,000</td>
</tr>
<tr>
<td>Tharaka-Nithi (Tharaka)</td>
<td>141,061</td>
<td>39,600</td>
<td>39,600</td>
<td></td>
</tr>
<tr>
<td>Meru (North)</td>
<td>775,982</td>
<td></td>
<td>77,600</td>
<td>116,400</td>
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<tr>
<td>Nyeri (Kieni)</td>
<td>175,812</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Lamu</td>
<td>128,144</td>
<td></td>
<td>12,800</td>
<td>12,800</td>
</tr>
<tr>
<td><strong>Sub-total, Marginal Agricultural</strong></td>
<td><strong>6,075,275</strong></td>
<td><strong>527,600</strong></td>
<td><strong>739,300</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13,626,390</strong></td>
<td></td>
<td><strong>1,591,400</strong></td>
<td><strong>2,031,200</strong></td>
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</tbody>
</table>