National Drought Management Authority

NAROK COUNTY

DROUGHT EARLY WARNING BULLETIN FOR APRIL 2019

A Vision 2030 Flagship Project

APRIL EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicators

Rainfall

- The first and second decad of April was relatively dry coupled with high temperatures. Moderate to heavy downpours were experienced in the third decad of the month depicting a delayed onset of the long rains season.

Vegetation condition:

- The county is experiencing moderate vegetation deficit as depicted by the vegetation condition index (VCI)

Socio Economic Indicators (Impact Indicators)

Production indicators:

- Most crops which were planted early were experiencing moisture stress. However, with the onset of the long rains season, the situation is likely to improve.
- Livestock body condition is fair to good in all livelihood zones.
- Milk production is stable but below the normal range compared to the long-term average.

Access indicators:

- Terms of trade have drastically declined in the county thus affecting the Pastoralist's purchasing power.
- Milk consumption ranged from fair to good in all the livelihood zones.
- Water access for both human and livestock consumption is fair in all the livelihood zones,
- Distances to water sources are almost normal.

Utilization Indicators:

- Cases of malnutrition are rising but still below normal range as indicated by percent of mid upper arm circumference (MUAC).
- Most households were within acceptable food consumption scores and employed normal coping strategies in accessing food.

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
AGRO PASTORAL	ALert	IMPROVING
MIXED FARMING)	NORMAL	STABLE
PASTORAL	Alert	IMPROVING
COUNTY	ALert	IMPROVING
Biophysical Indicators	**Value**	**Normal Range/Value**
VCI-3Month	31.75	>35
Forage condition	Fair	Good
Production indicators	**Value**	**Normal**
Crop Condition (Maize)	Fair-poor	Normal
Livestock Body Condition	Fair-Good	Good
Milk Production in litres	2.3	>5
Livestock Migration Pattern	Normal	Normal
Livestock deaths (Drought related))	No death	No death
Access Indicators	**Value**	**Normal**
Terms of Trade (ToT)	74.4	>100
Milk Consumption in litres	1.5	>4
Return distance to water sources in km	4.1	<5
Cost of water at source in Kshs (20 litres)	2-5	<5
Utilization indicators	**Value**	**Normal**
Nutrition Status, MUAC (% at risk of	6.3	<10

▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation			▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase			▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept)			▪ Short rains ▪ Planting/weeding		
Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The county remained relatively dry during the first and second decad of the month coupled by high temperatures.
- The county experienced onset of the long rains season in the third decad of the month. This is a delayed onset compared to normal seasons in the past. The onset was expected to have taken place by mid of March.
- Both spatial and temporal distribution was good as the rains were received in all the livelihoods of the county.

1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

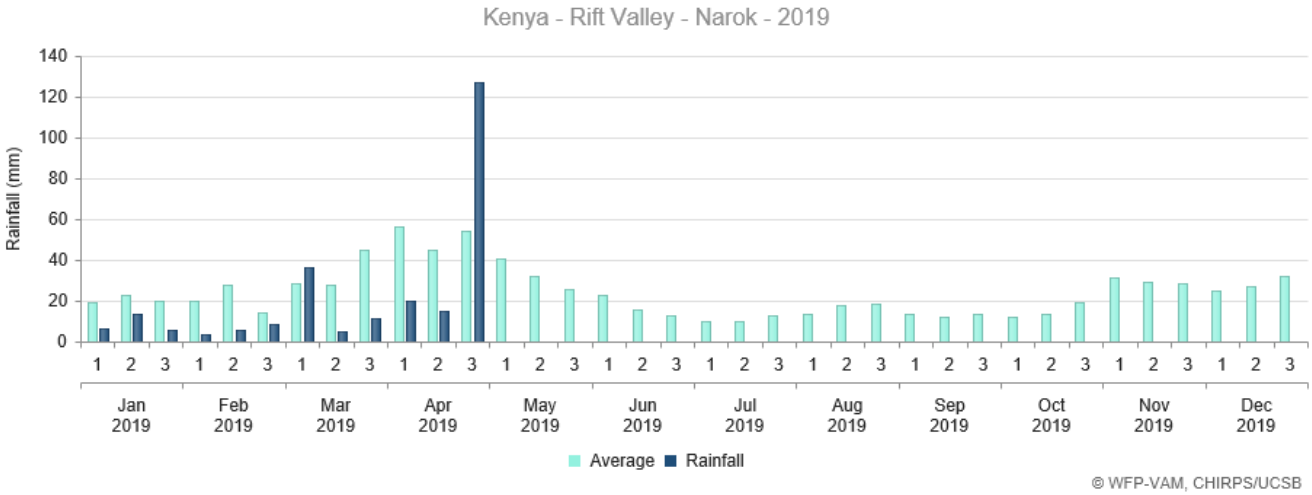
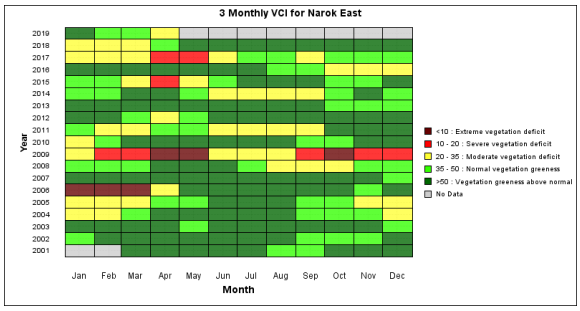


Figure 1: Rainfall performance-Narok County

- The above satellite image (Figure 1) highlights the general performance of the rains in the county for the month of April, 2019 in comparison with the long-term averages.
- The current rainfall performance was below normal during the first two decads of the month compared to the expected seasonal range. However, during the third decad, the rains received were above normal compared to the long term mean.

2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION



The vegetation greenness as depicted by the vegetation condition index (VCI) shows moderate vegetation deficit across the county (Figure 2) in respect to historical minimum and maximum VCI values. The deteriorating greenness is due to depressed rainfall season for the last three months.

Figure 2: VCI: Narok County

Four of the six sub counties i.e. Narok North, Narok South, Narok West and Narok East have moderate vegetation deficit with Narok East having the least VCI value of 20 as show in Figure 3.

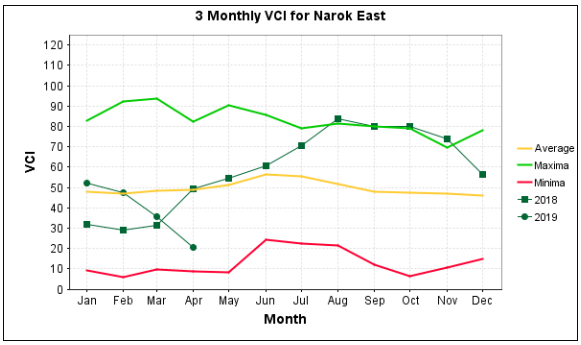


Figure 3: VCI: Narok East Sub County

2.1.1 Field observations

2.1.1.1 Pasture

- The pasture quantity and quality in mixed farming and agro-pastoral livelihood zones were fair. In the pastoral livelihood zone, pasture conditions ranged from fair to poor. Deteriorating pasture conditions is being witnessed in Mosiro ward in Narok East sub county, Koyiaki ward in Narok West Sub County and Naroosura ward in Narok south sub county. However, pasture regeneration is expected to take place following the onset of the rains in the last week of April.
- The available pasture is likely to last for more than two months in mixed farming and agro-pastoral livelihood zones and more than a month in the pastoral livelihood zone. The current pasture situation is below the normal range.

2.1.1.2 Browse

- The quality and quantity of browse in all the livelihood zones ranged from fair to good same as last months. The available browse is expected to last for more than three months in mixed farming livelihood zone while in pastoral livelihood zone, it is likely to last for more than a month. The current browse situation is within the normal range.

2.2 Water resources

2.2.1 Sources

- The main sources of water for livestock and human consumption in the county were rivers, pans/dams, boreholes, traditional river wells and shallow wells as shown by Figure 4.
- The quantity and quality of water ranged from fair-good in the mixed farming and agro-pastoral livelihood zones with the pastoral livelihood zone having fair quality. Pans and dams were the most used sources.
- The current water sources are expected to last for three months in mixed farming and agro-pastoral livelihood zones. In pastoral livelihood zone, the water is likely to last for two to three months. Most water sources are 50% to 70% recharged owing to the rains received in the third decad of the month under review.
- The current situation is within the normal range at this time of the year.

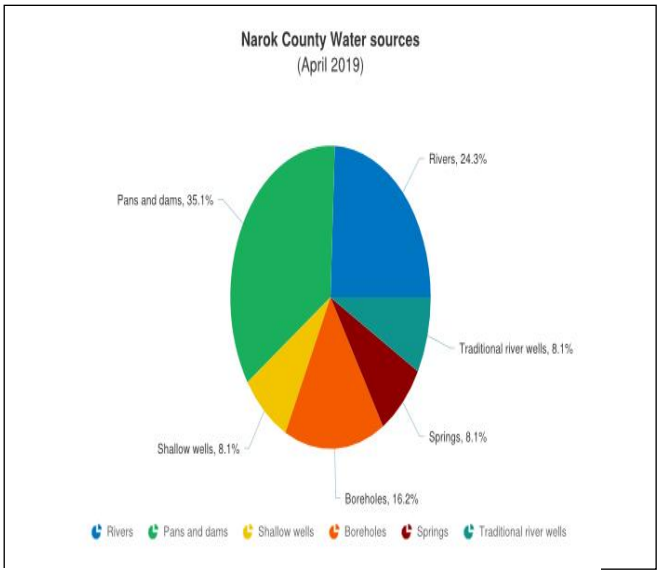


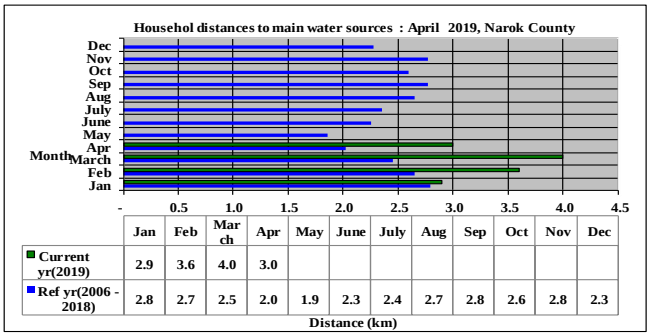
Figure 4: Water sources

2.2.2 Household access and Utilization

The average distance to watering points for households reduced by twenty five percent compared to the previous month.

Pastoral livelihood zone recorded the longest average distance at five kilometres while the shortest average distance was recorded in mixed farming livelihood zone at one kilometre.

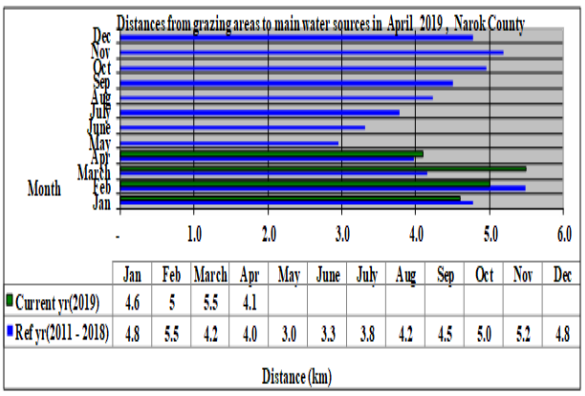
The current trekking distances to water points was above the normal range compared to the long term means as shown by Figure 5.



	Jan	Feb	March	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Current yr(2019)	2.9	3.6	4.0	3.0								
Ref yr(2006 - 2018)	2.8	2.7	2.5	2.0	1.9	2.3	2.4	2.7	2.8	2.6	2.8	2.3

Figure 5: Water access by households

2.2.3 Livestock access



	Jan	Feb	March	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Current yr(2019)	4.6	5	5.5	4.1								
Ref yr(2011 - 2018)	4.8	5.5	4.2	4.0	3.0	3.3	3.8	4.2	4.5	5.0	5.2	4.8

Figure 6: Water access by livestock

The average distance to main water sources from grazing areas decreased by twenty five percent compared to the previous month. Pastoral livelihood zone recorded the longest distance of 5.6 km while the shortest distance was recorded in the mixed farming livelihood zone at 1.7 km. The current average trekking distance is within the normal range at this time of the year as shown in Figure 6.

3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

- The cattle body condition ranged from fair to good across all the livelihood zones. The body condition for sheep and goats remained good across all the livelihood zones. With the onset of the long rains, the livestock body condition is expected to improve.
- The current livestock body condition is normal at this time of the year.

3.1.2 Livestock Diseases

- The county encountered suspected cases of foot & mouth diseases which is on the increase particularly in Narok East, Narok West and Narok South Sub Counties. Other cases being reported include lumpy skin disease, blue tongue disease, CCPP and CBPP diseases.

3.1.3 Milk Production

- The average milk produced per household per day reduced by seventeen percent compared to the previous month as shown by Figure 7.
- Milk production is 1- 1.5 litres in the pastoral areas, 1-4 litres in agro-pastoral areas and 1-5 litres in the mixed farming zone.
- Milk production is likely to improve due to expected pasture regeneration and reduced distances to water points due to onset of the rainfall season.
- The current milk production levels are below the normal range.

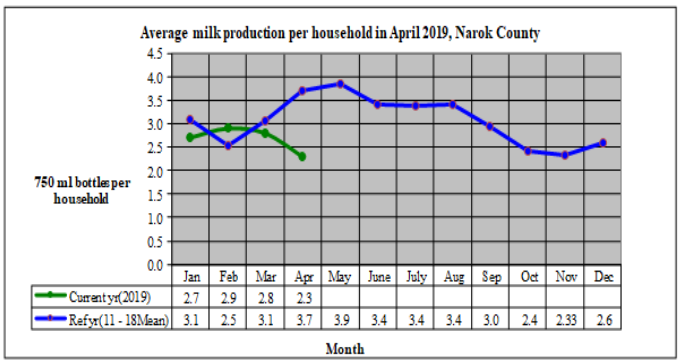


Figure 7: Milk production

3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

- The crops planted in the County include beans, sorghum, maize, wheat and potatoes in Narok North, Kilgoris and Emurua Dikirr sub-counties.
- Planting and replanting is ongoing as most parts of the county have received rains.
- Most of the maize crop is in poor conditions due to water stress experienced in the last two months.
- In Transmara East Sub County, the maize crop is still being attacked by fall army worms.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

4.1.1 Cattle Prices

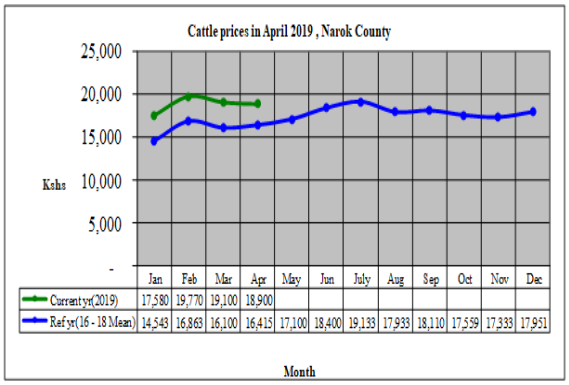


Figure 8: Cattle prices

The average price for the medium sized cattle reduced slightly compared to last month.

The highest prices were recorded in the mixed farming livelihood zone at Kshs 23,300 per head while the lowest price was in the pastoral livelihood zone at an average price of Kshs 16,000 per head.

The current cattle prices are above the normal range compared to long term means at this time of the year as shown by Figure 8.

4.1.2 Goat Prices

- The average goat prices decreased by three percent compared to the previous month. The decline in price is attributed to deteriorating body condition as a result of forage depletion. However the situation is likely to improve owing to rainfall onset.
- The highest price was recorded in the mixed farming livelihood zone at Kshs 4000 per head while the lowest price was recorded in the pastoral livelihood zone at Kshs 2,000 per head.
- The average goat price was above the normal range at this time of the year as shown by Figure 9.

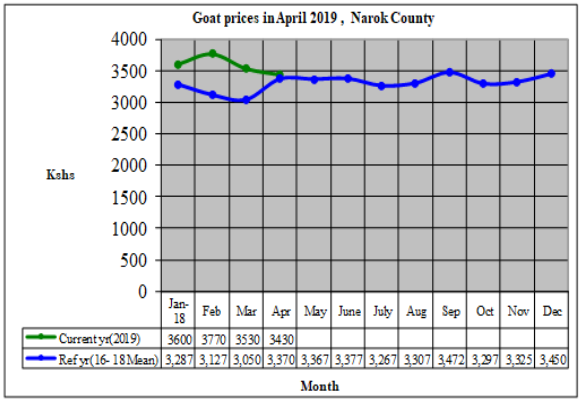


Figure 9: Goat prices

4.2 CROP PRICES

4.2.1 Maize

- The average price of maize per kilogram increased by thirteen percent compared to the previous month. The highest prices were recorded in pastoral livelihood zone at Kshs 50 per kg while the lowest was recorded in the agro-pastoral livelihood zone at an average price of Kshs 35 per kg.
- The increasing prices are attributed to diminishing stocks at household level coupled with high uptake by traders from farmers and local stockist particularly in Trans Mara West Sub County. The overall price is below the normal range as shown by Figure 10.

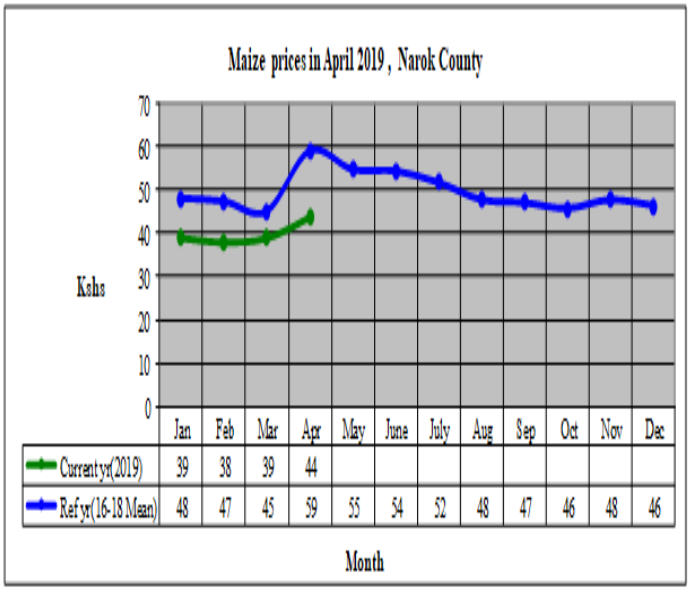
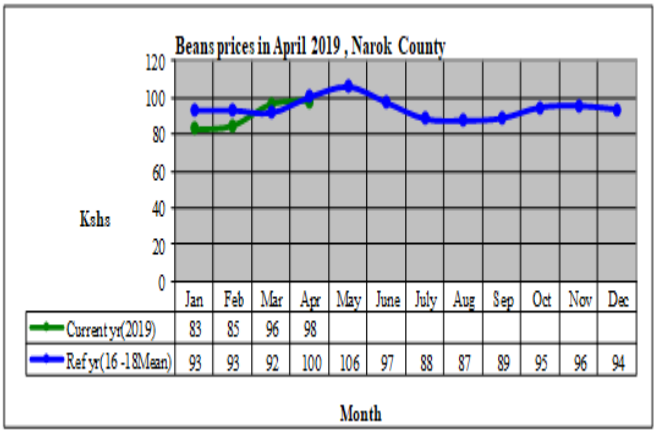


Figure 10: Maize prices

4.2.2 Beans

- The average price of beans increased slightly compared to the previous month. The highest price was recorded in the mixed farming livelihood zone at Kshs. 110/kg compared to the pastoral livelihood zone which recorded a lower price of Kshs.92 per kg. The increase could be due to rising demand for planting seeds for the current season



	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Current yr(2019)	83	85	96	98								
Ref yr(16 -18Mean)	93	93	92	100	106	97	88	87	89	95	96	94

Figure 11: Beans prices

- The current price is above the normal range at this time of the year as shown by Figure 11.

4.3 Livestock Price Ratio/Terms of Trade

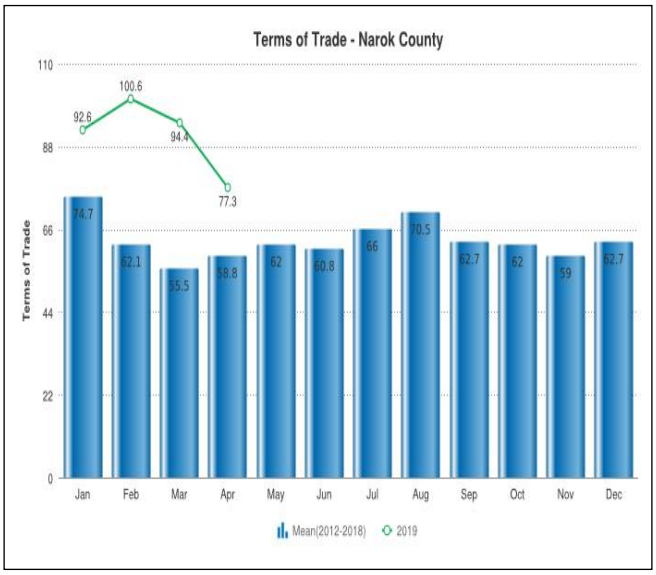


Figure 12: Terms of trade

The Terms of Trade (ToTs) based on the Cereal/Meat price ratio decreased by eighteen percent compared to last month. The decrease in ToTs is due to decreased goat prices and increase in maize prices.

This implies that a sale of one goat fetched 77.3 kgs of cereals compared to 94.4 kgs last month. The ToTs were less favourable in the pastoral and mixed farming livelihood zones compared to agro-pastoral livelihood zone.

The current cereal/meat price ratio is above the normal range at this time of the year as shown in Figure 12.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

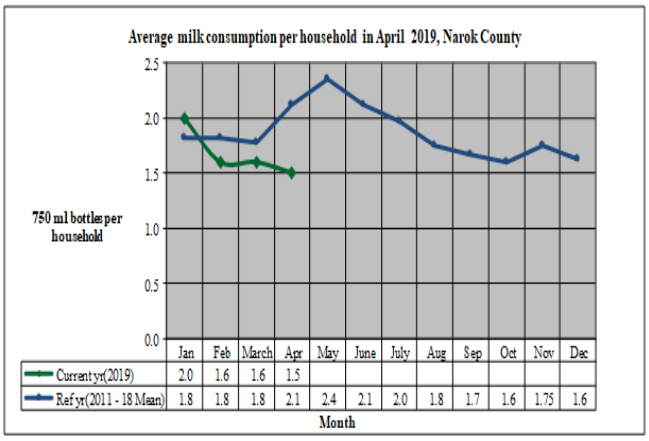


Figure 13: Milk consumption

Average household milk consumption per day is on a declining trend compared to last month.. There were inter-livelihood variations in milk consumption with mixed farming zone having the highest consumption rate at 3 litres, followed by agro-pastoral zone at 2 litres. The pastoral livelihood zone had the least consumption rate at 0.7 litre. The current milk consumption rate is below normal range at this time of the year as shown by Figure 13.

5.2 FOOD CONSUMPTION SCORE

- Approximately 72%, 24% and 4% of the households fell within the acceptable, borderline and poor food consumption score categories respectively in the month under review.
- The poor food consumption score implies households are not consuming balanced diet and rarely consuming food rich in protein and energy giving food. Borderline implies that households are consuming staples and vegetables every day accompanied by oil and pulses a few times in a week. The acceptable implies that households are consuming staples, protein (milk and meat) and vegetables every day and frequently accompanied by pulses.
- There was variation across the livelihood zones as shown in Figure 14 whereby most households in mixed and pastoral livelihood zones had acceptable food consumption scores. About 69% of the households are having borderline food consumption score.

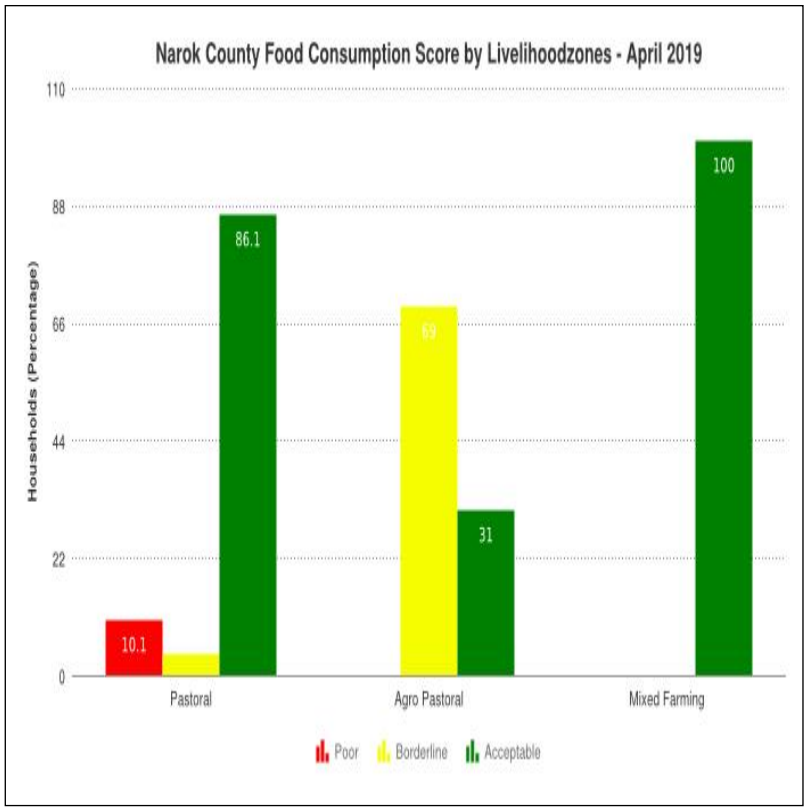
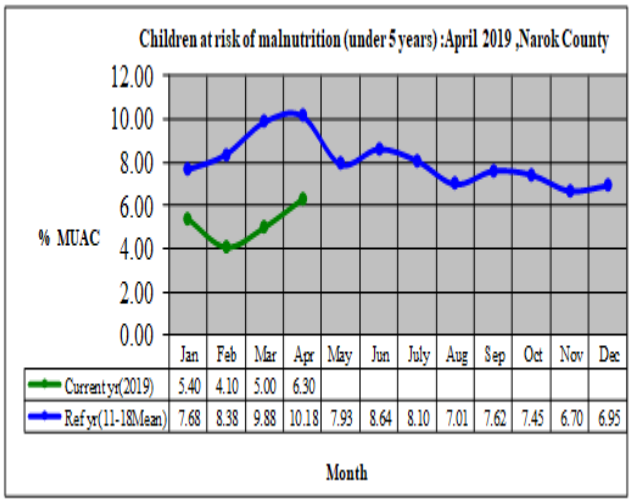


Figure 14: Food consumption score

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status



The percentage of children less than five years of age who are at risk of malnutrition as indicated by the Mid-Upper Arm Circumference (MUAC) has increased by twenty six percent compared to last month. Mosiro ward and Ntuka ward in the pastoral livelihood zones recorded the highest number of children at risk of malnutrition at seven percent compared to areas in the mixed farming livelihood zone which recorded children under risk of malnutrition at 0.4%.

The dietary diversity in mixed farming livelihood zone is stable due to better milk consumption.

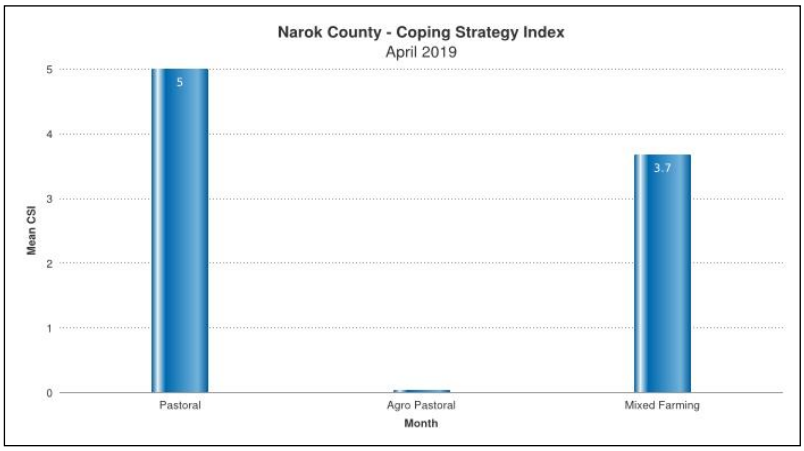
Figure 15: Children at risk of malnutrition

The current rate of malnutrition is below the normal range compared to the long-term average as shown by Figure 15.

5.3.2 Health

A few cases of diarrhoea and fever in Mosiro ward and Naroosora ward in the pastoral livelihood zone and Ilkerin ward in the mixed farming zone were recorded during the month under review.

5.4 COPING STRATEGIES



Households employed normal coping strategies in accessing food across all the livelihood zones as shown by Figure 16. The pastoral and mixed farming livelihood zones had higher CSI compared to agro-pastoral livelihood zone.

The coping strategies are normal at this time of the year.

Figure 16: Coping strategies

6.0 CURRENT INTERVENTION MEASURES (ACTIONS)

6.1 NON-FOOD INTERVENTIONS

- The fertilizer subsidy program is ongoing. The program is being implemented jointly by the National and County governments.
- The County government is implementing the National Agricultural and Rural Inclusive Growth project (NARIGP). The project is funded by the World Bank covering 20 wards in the county and aims at increasing agricultural productivity and profitability of targeted beneficiaries.
- Construction of 4 water projects (Sogoo, Pinyiny, Olopikidongoe and Entasekera) in four Wards of Soggoo, Lolgorian, Loita and Mosiro at a cost of Kshs 176m. The projects are being funded by Water Services Trust Fund.

6.2 FOOD AID

- The Ministry of Interior and Coordination through the office of the County Commissioner has received some relief food items which include maize, beans and cooking oil. Each Sub county received 300 bags of maize (50kg0, 150 bags of beans (50kg) and 30 cartons of cooking oil. The items are being distributed to the beneficiaries.

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- No major conflict issues that are related to drought were observed during the month under review.

7.2 Migration

- The county is experiencing a normal migration of a few large stock in Mosiro and Naroosura ward to upper part of Mau in Narok North sub-county and Loita ward in search of pasture and water. However, herders started reverting back to their normal grazing areas following the onset of the long rain season.

7.3 FOOD SECURITY PROGNOSIS

- The delay in onset of the long rains season has affected crop production activities. Planting was delayed by over one month and less acreage has been prepared. The performance of the long rains season crop is therefore going to be affected and consequently compromising production. This implies that the county is likely to experience a poor harvest.
- Livestock productivity is likely to start improving following the onset of the long rains season. Forage regeneration is likely to pick up in the next two to three weeks. Improved water access and availability will cause reduction in trekking distances for livestock to watering points and grazing fields.
- Purchasing power mostly for pastoral communities is likely to be compromised as cereal prices continues to rise while livestock prices are declining.

8.0 RECOMMENDATIONS

- A response plan targeting pastoral areas should be prepared and put on standby should the current season perform dismally. The critical sectors to be prioritised are water and livestock.
- Desilting of pans and dams to improve water hygiene and sanitation standards in order to minimise chances of outbreak of water borne diseases and to prolong water retention.
- Establishment of preparedness activities especially in water and livestock sectors will boost the resilience level of the vulnerable communities to cope better in future against the effects of drought.
- Establishment of value chain activities for various crop enterprises so as to minimise wastage during times of surplus.
- Livestock disease surveillance should be enhanced across the county.
- Sustained campaigns on sanitation to be enhanced at this time of rainfall onset. Chances of contaminating water sources are high especially in areas with low latrine coverage.