



A Vision 2030 Flagship Project



## National Drought Management Authority Baringo County Drought Early Warning Bulletin for June 2020

JUNE EW PHASE	Early Warning Phase Classification			
<b>Drought Status: NORMAL</b>  Shughull za kawaida	<b>LIVELIHOOD ZONE</b>	<b>EW PHASE</b>	<b>TRENDS</b>	
<p><b>Drought Situation &amp; EW Phase Classification</b> Drought Phase: Normal- Stable</p> <p><b>Biophysical Indicators</b></p> <ul style="list-style-type: none"> <li>The county received above normal rains during the month.</li> <li>The Vegetation greenness as depicted by the VCI is above normal.</li> <li>The Water levels in most water sources are normal at 80_90%</li> </ul> <p><b>Socio Economic Indicators (Impact Indicators)</b></p> <p><b>Production indicators:</b></p> <ul style="list-style-type: none"> <li>The forage condition is good in both quality and quantity and is expected to remain stable until the next rainfall season.</li> <li>Livestock body condition is fair to good in all livelihood zones.</li> <li>Milk production is within the normal seasonal range.</li> <li>No drought related livestock deaths were reported during the reporting period..</li> </ul> <p><b>Access indicators</b></p> <ul style="list-style-type: none"> <li>Terms of trade are stable and within the seasonal range.</li> <li>Distances to water sources for households are below normal seasonal ranges and stable due to recharge of most surface water sources.</li> </ul> <p><b>Utilization indicators:</b></p> <ul style="list-style-type: none"> <li>The number of under-five children at risk of malnutrition is minimal and stable.</li> <li>Copping strategy index for households is within normal ranges.</li> </ul>	PASTORAL	NORMAL	STABLE	
	AGRO PASTORAL	NORMAL	STABLE	
	IRRIGATED CROP	NORMAL	STABLE	
	COUNTY	NORMAL	STABLE	
	<b>Biophysical Indicators</b>	<b>Value for the month Baringo</b>	<b>LTA-Monthly Baringo</b>	<b>Normal Kenya % ranges</b>
	Average rainfall MM (%)	117.4	107	80-120
	VCI-3month	87.93		35-50
	% Of water in the water pan	80%-90%		50-60
	<b>Production indicators</b>	<b>Value</b>	<b>Normal ranges</b>	
	Livestock Migration Pattern	Normal	Normal	
	Livestock Body Condition	4-5	3-4	
	Milk Production (Ltr /HH/Month)	1.8	1.76	
	Livestock deaths (for drought)	No deaths	No death	
	<b>Access Indicators</b>	<b>Value</b>	<b>Normal ranges</b>	
	Terms of Trade (ToT)	51.4	>63	
Milk Consumption (Ltr)	1.8	≥1.7		
Water for Households-trekking distance (km)	2.7	0-4		
Crops area planted for the season				
<b>Utilization indicators</b>	<b>Value</b>	<b>Normal ranges</b>		
At Risk (%)	13.17%	<15		
CSI	14.12	>19.0		

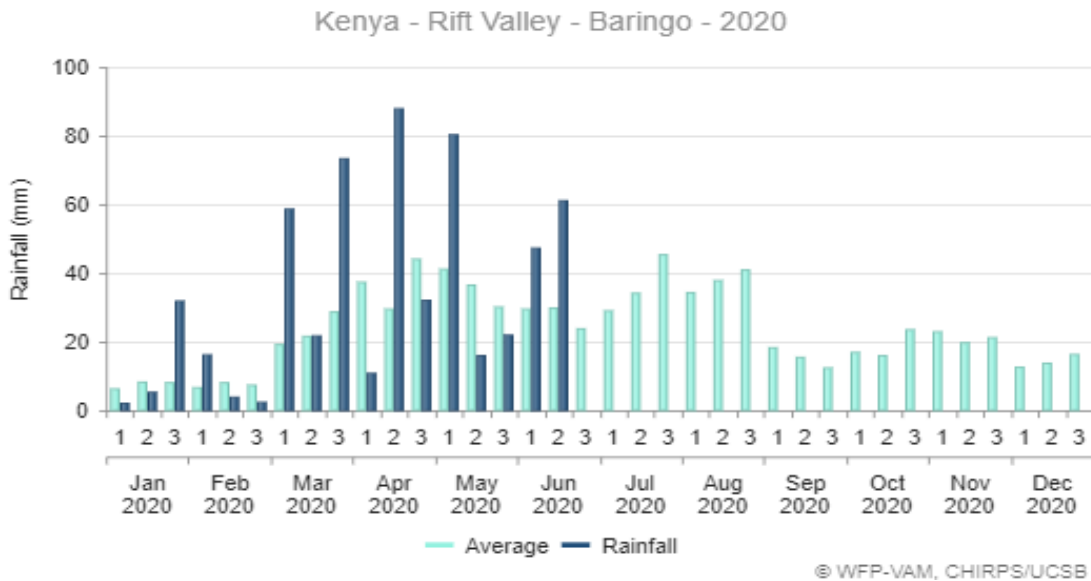
<ul style="list-style-type: none"> <li>Short rains harvests</li> <li>Short dry spell</li> <li>Reduced milk yields</li> <li>Increased HH Food Stocks</li> <li>Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>Planting/Weeding</li> <li>Long rains</li> <li>High Calving Rate</li> <li>Milk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

# 1. CLIMATIC CONDITIONS

## 1.1 Rainfall performance

- During the month under review, the county continued to receive rains that are above normal compared to the long term average.

## 1.2 Amount of rainfall and spatial distribution



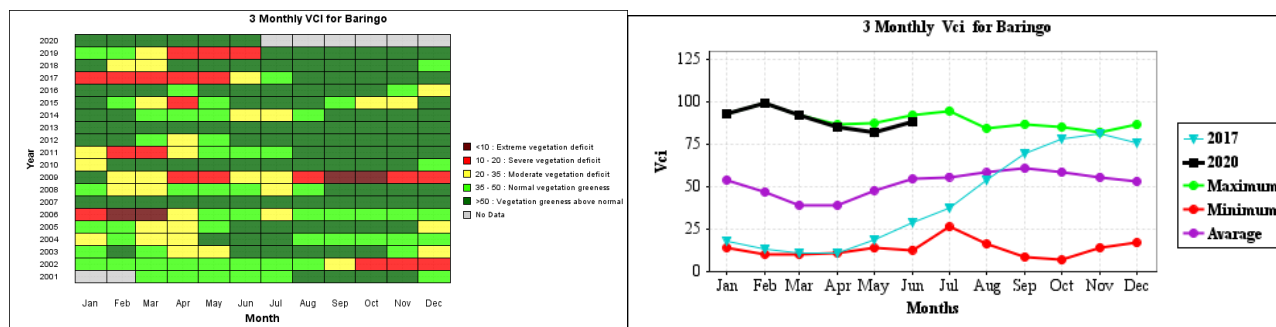
**Figure. 1. Rainfall performance**

- The county received enhanced rains compared to the previous seasons (Figure 1). Both temporal and spatial distribution was good across all the livelihood zones.

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 Vegetation condition index (VCI)

The vegetation greenness as depicted by the vegetation condition index (VCI) is above normal in all sub counties (Figure 2).



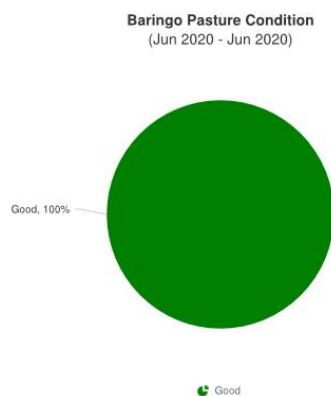
**Figure 2. Vegetation Condition Index**

The vegetation condition index for the county is 87.93 . The current VCI is at their highest maximum values ever recorded in the county. The above normal greenness has been attributed to the cumulative effects of good rainfall performance for the better part of this year. The performance of the long rains season has been above normal and this has contributed to the good conditions of the natural vegetation.

#### 2.1.1 Field observation

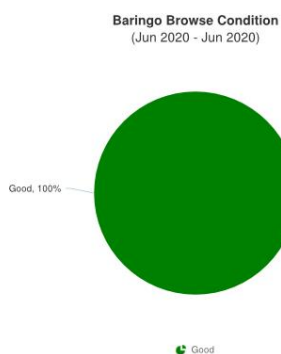
##### 2.1.1.1 Pasture

- The pasture condition is good both in quantity across all livelihood zones (Figure 3).
- These conditions are normal at this time of the year.
- The current pasture is expected to last for three months in the pastoral and agro pastoral livelihood zones and four months in irrigated livelihood zone given the prevailing conditions.



**Figure 3: Pasture Condition**

##### 2.1.1.2 Browse



- The browse condition is good both in quantity and quality across all livelihood zones (Figure 4). The condition is normal as compared to seasonal ranges for this time of the year.
- The available browse is expected to last for three months in pastoral and agro pastoral livelihood zones and four months in irrigated livelihood zone.

**Figure 4: Browse Condition**

## 2.2 WATER RESOURCE

### 2.2.1 Source

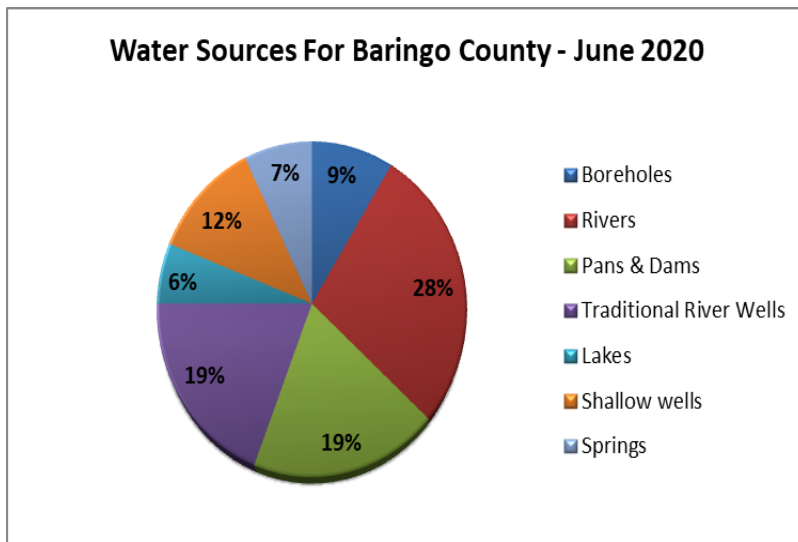


Figure 5: State of water Sources

- The main water sources for both livestock and human consumption across all livelihoods were rivers, water pans and traditional river wells (Figure 5).
- Most water pans and dams were at 80% to 90% of their full capacity.
- Water quality and quantity across pastoral and agro-pastoral livelihood zones is good, which is normal at this time of the year.
- The current water sources are expected to last for over five months in all livelihood zones.

### 2.2.2 Household access and Utilization

- The average household trekking distance to water sources was stable at 2.7km, in comparison to the previous month (Figure 6).
- The distances are below the long term average (LTA) by 59 percent.
- Irrigated cropping zone recorded the least trekking distance of less than one kilometre while pastoral livelihood zone recorded the highest average of 4.2km.
- The stability in distances is attributed to the recharge of open water sources across all livelihoods due to the ongoing long rains.

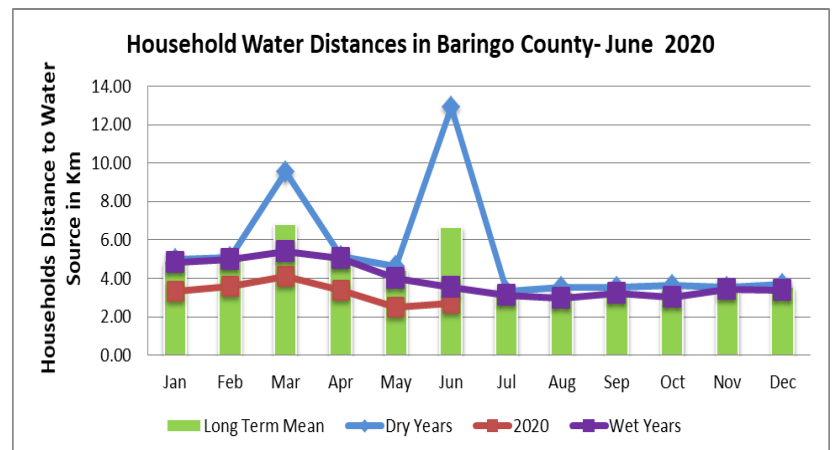


Figure 6: Water Source Trekking Distances

### 2.2.3 Livestock access

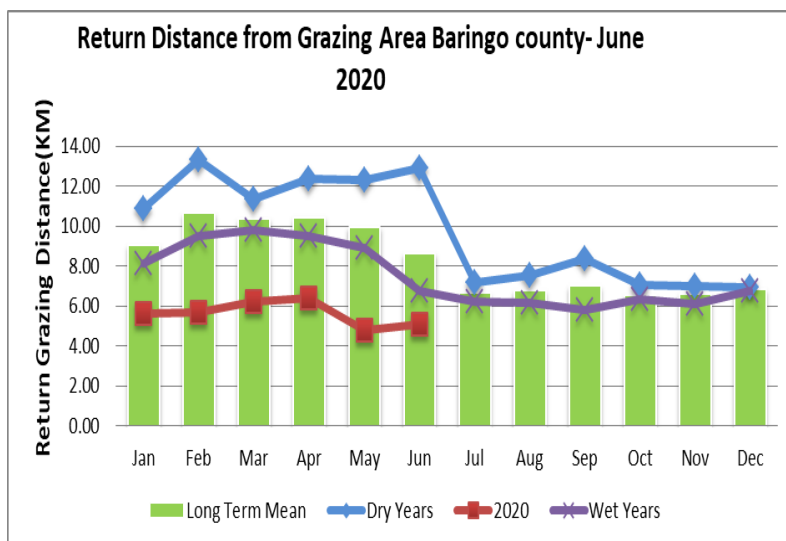


Figure 7. Water Source Grazing Distance

- The average return distance for livestock from grazing fields to water points was 5.1km in comparison to the previous month at 4.8 km (Figure 7). This was a marginal of six percent.
- The pastoral livelihood zone recorded the longest average distance of 6.2 km while irrigated livelihood zone recorded the shortest average distance of 1.6 kilometres.
- The return distances are still below the long term average and this is attributed to availability of pastures and water at the traditional grazing sites across all livelihood zones.

### 3.0 PRODUCTION INDICATORS

#### 3.1 Livestock Production

##### 3.1.1 Livestock Body Condition

- The livestock body condition is good to fair across all livelihood zones for all the livestock species. This has been occasioned by availability of enough pasture, browse and water across the livelihood zones as a result of the ongoing rains.
- The current livestock body condition is expected to remain stable until the end of the current rainfall season.

##### 3.1.2 Livestock Diseases

- Minimal CCP and CBP diseases were reported in all livelihoods, which is normal. The livestock department with support from Regional Livelihood Resilience Project has concluded livestock vaccinations and treatment of these cases.

##### 3.1.3 Milk Production

- There was marginal increase in average milk produced per household per day by six percent at 1.8 litres, as compared to the previous month (Figure 8).
- The milk was mainly from cattle and goats.
- Pastoral livelihood zone had an average of 2.4 litres while agro pastoral had the least at 0.6 litres.
- The current milk production is within the normal range.

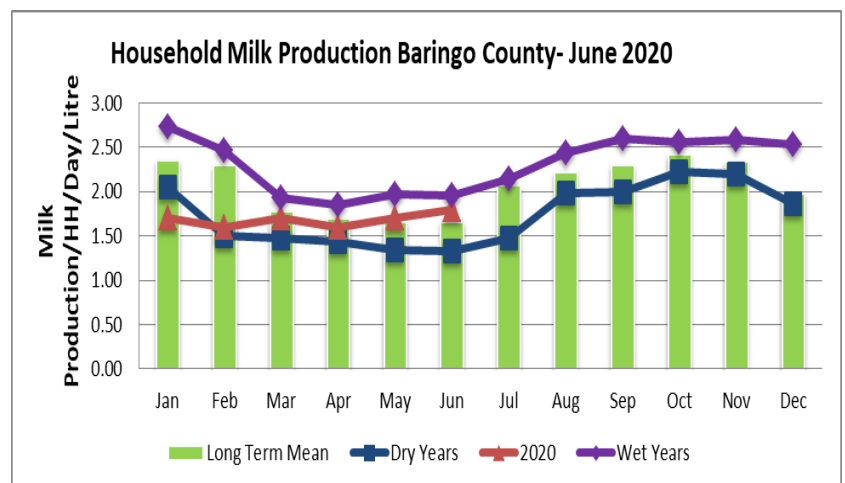


Figure 8: Milk Production

#### 3.2 Rain fed crop production

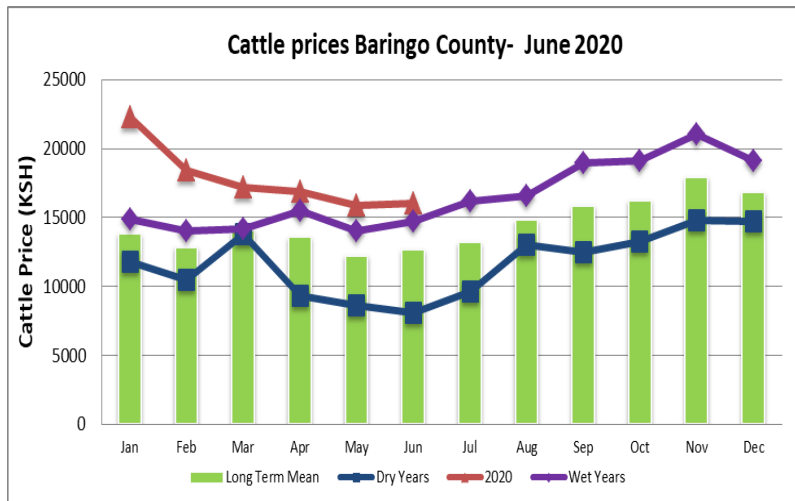
##### 3.2.1 Stage and Condition of food Crops

- Currently the maize is at flowering stage in the irrigated and agro pastoral livelihood zones.
- Some pockets in the county have also experienced flooding which has damaged the crops especially in the irrigated livelihood zone.
- So far desert locusts have not been sighted in the county for the last two months.

## 4.0.0 MARKET PERFORMANCE

### 4.1.0 Livestock marketing

#### 4.1.1 Cattle prices.



- The average price for medium-sized cattle was at Ksh. 16,019 which was a marginal increase compared to the previous month of Ksh. 15,854.
- The price was above the long-term average by 27 percent. Irrigated livelihood zone posted the highest prices of Ksh.18,000 while pastoral livelihood zone recorded the least average price of Ksh.14,800.
- The decrease in prices was due to closure of markets across the county due to Covid 19 pandemic.

Figure 9: Cattle Prices

#### 4.1.2 Goat Prices.

- The average price of a medium sized goat was relatively stable at Ksh. 2,650 as compared to the previous month at Ksh. 2,658 (Figure 10). The price was above the LTA by 10 percent.
- The prices were highest in irrigated cropping livelihood zone at Ksh. 3,500 and lowest in pastoral livelihood zone at Ksh.2,463. The stability in prices is as a result of prevailing good body condition.

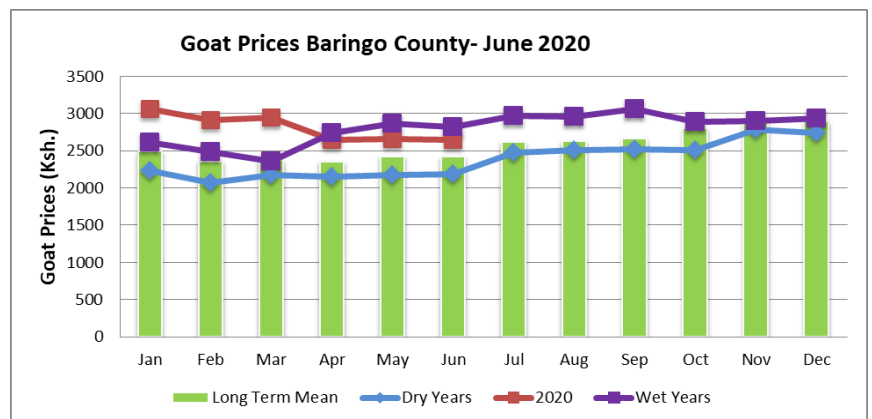


Figure.10: Goat Prices

## 4.2.0. Crop prices

### 4.2.1 Maize

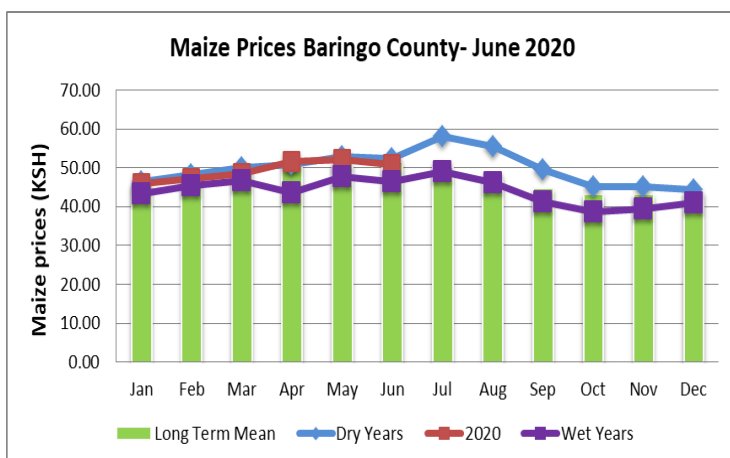


Figure.11: Maize Prices

- The current average price for a kilogram of maize has remained stable at Ksh. 51, as compared to the previous month. (Figure 11). The prices are almost the same in comparison to the long-term average at this time of the year. Pastoral livelihood zone recorded the highest price of Ksh.55 per kg while irrigated livelihood zone recorded the lowest at Ksh.40 per kg.

#### 4.2.2 Posho (Maize meal)

- The price per kilogram of posho was at Ksh.58, a slight decrease as compared to the previous month at Ksh.60. (Figure 12).
- The price was below the long-term average by six percent.

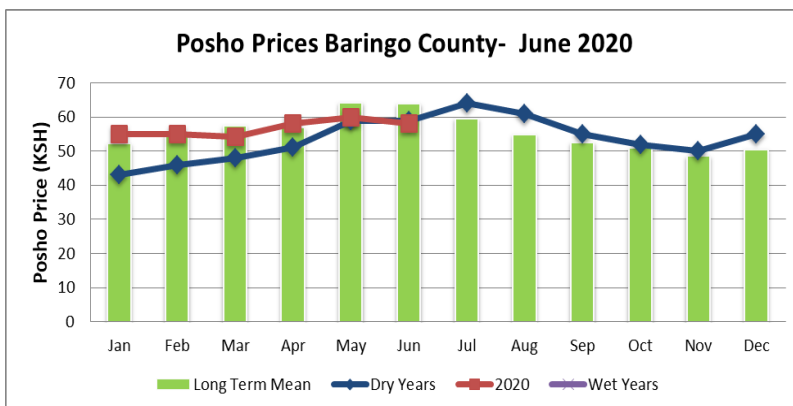


Figure 12: Posho prices

#### 4.2.3 Beans Prices

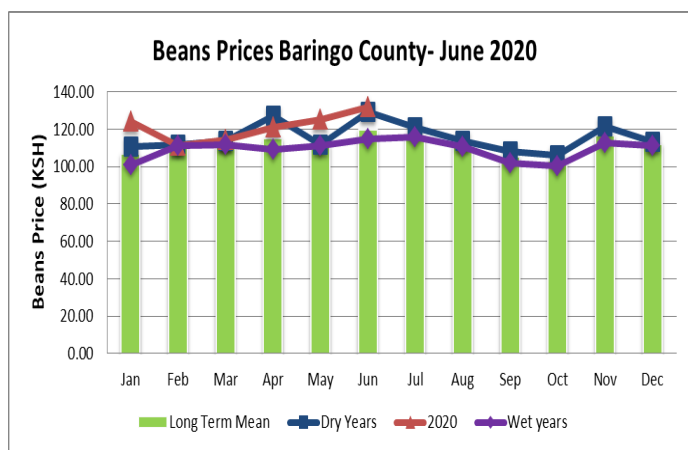


Figure 13: Beans Prices

- The average price per kilogram for beans increased by five percent from Kshs.125.2 to Ksh. 131.9 currently (Figure 13).
- The price increase was attributed to scarcity of the commodity in the county
- The current prices are above the long-term average by 10 percent
- Pastoral livelihood zone recorded the highest average prices of Ksh.138 while the irrigated livelihood zone recorded the least prices of Ksh.100.

#### 4.3 Livestock Price Ratio/Terms of Trade

- The terms of trade are stable in comparison to the previous month. The terms are currently at 51.4 from 51.7 previously, (Figure 14). This was attributed to stability in both maize and goat prices.
- The current terms of trade are better in comparison to the long-term average.
- Irrigated cropping livelihood zone had the highest terms of trade of 69 while pastoral livelihood zone had the least at 45.9.

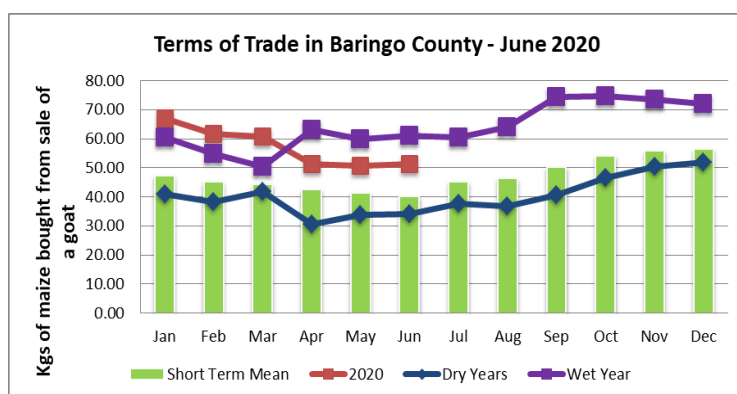
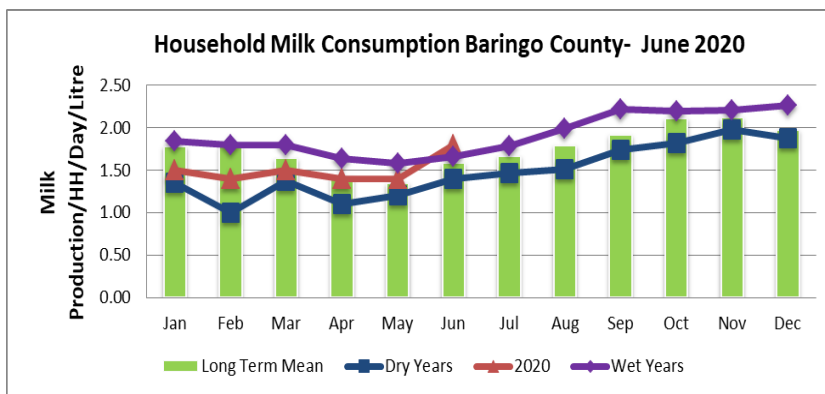


Figure 14: Terms of Trade

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 Milk Consumption



- The average milk consumption per household per day was at 1.8 litres, which was an increased of 29 percent compared to the previous month (Figure 15).
- The milk consumption was highest in the pastoral livelihood zone at 2.4 litres and lowest in agro pastoral at 0.5 litres.
- The amount consumed was above the long-term mean by five percent.

Figure 15: Milk Consumption

### 5.2 Food Consumption Score

- About 2.2 percent of the households reporting poor food consumption were in the pastoral livelihood zone (Figure 16).
- The proportion of households with borderline food consumption was 30.6 percent, 10.3 percent and 7.4 percent in pastoral, fishing and agro pastoral livelihood zones respectively.
- Generally, a proportion of 1.5, 22.5 and 76 percent of the households across the livelihoods have poor, borderline and acceptable food consumption scores respectively.

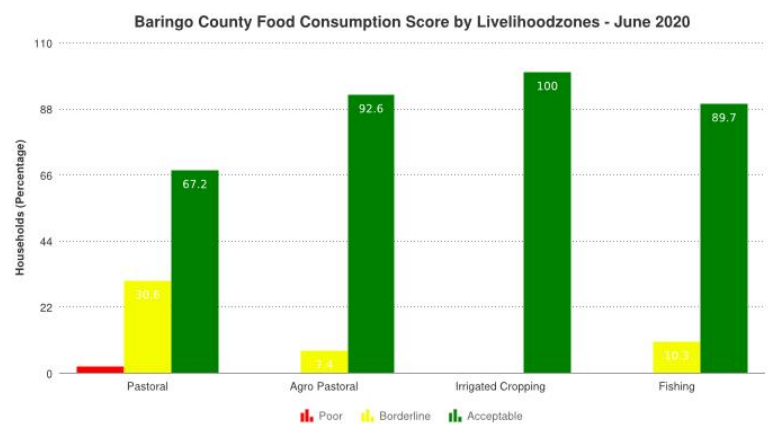


Figure 16: Food Consumption Score

#### 5.3.1 Health and Nutrition Status

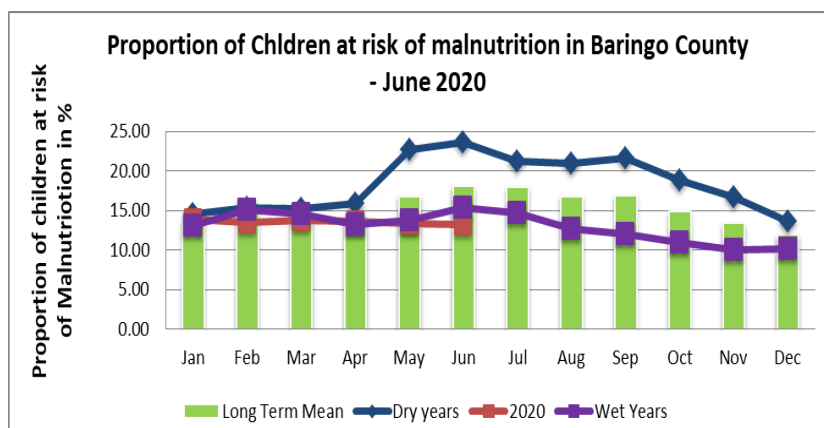


Figure 17: Nutrition status

- The nutrition status of the sampled children under five years of age is stable at 13.17 compared to the previous month at 13.31 (Figure 17).
- Ribko and Kolowa wards in the pastoral livelihood zone recorded highest levels of malnutrition at 27.7% and 24.37% respectively. This was partly contributed by diarrhoea cases experienced in these areas.

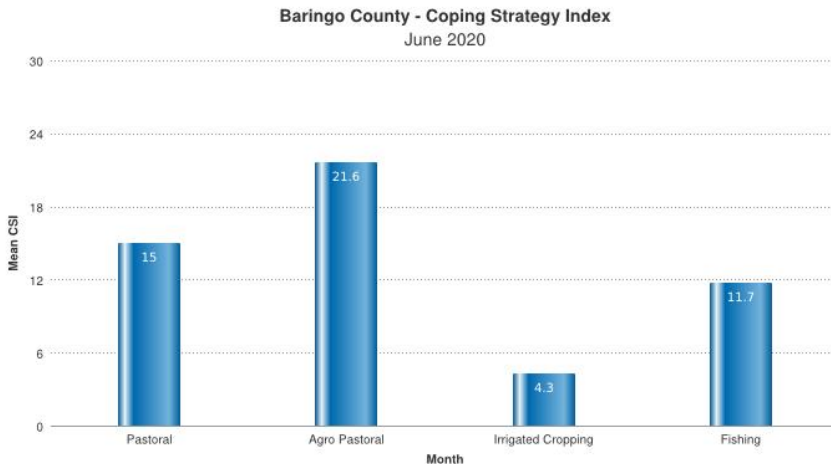


### 5.3.2 Health

- During the reporting period, the illnesses that were reported were malaria and diarrhoea across livelihood zones. The diarrhoea cases were occasioned by use of water from stagnant bodies and poor hygiene practices at household level.
- Sensitization campaigns against COVID 19 pandemic are ongoing across the county. By the end of June 2020, the county was yet to record its first official COVID 19 case.

## 5.4 Coping strategies

### 5.4.1 Coping Strategy Index



- The average coping strategy index is stable at 14.12 compared to last month at 14.23
- Households in agro pastoral livelihood zone employed more coping strategies at 21.6 followed by pastoral at 15. The irrigated zone employed least coping mechanisms at 4.3.

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Figure 18: Coping Strategy Index

## **6.0 CURRENT INTERVENTION MEASURES.**

### **6.1 Non-food interventions**

#### **National Drought Management Authority(NDMA)**

- Baringo NDMA office carried out review and updating the county drought response contingency plan. The plan will guide county partners in carrying out drought response initiatives in a more coordinated and cost effective way.

#### **Kenya Red Cross (KRCS)**

- The Kenya Red Cross society in collaboration with other technical departments has supported the development of the locust response contingency plan. The plan is expected to guide the county in locust control mitigation measures.

#### **UNICEF Project –Tiaty Sub County**

- Continued Integrated nutrition outreaches in Tiaty East targeting six sites with MoH under UNICEF – Targeted messages on Maternal Infant, and Young child nutrition and COVID prevention shared through this platform.
- Continued integrated nutrition outreaches in East Pokot targeting six sites with MoH under UNICEF – Targeted messages on Maternal Infant, and Young child nutrition and COVID prevention shared through this platform. Support supervision was also done to assess adherence to COVID 19 measures.
- On floods control measures, the KRCS has held Post Floods KIRA Assessment CSG on 23<sup>rd</sup> June, 2020. It also conducted Kenya Inter-Agency Rapid Assessment (KIRA) with stakeholders in Baringo South and North Sub Counties . Post Floods KIRA Assessment final report development is ongoing.
- On OFDA-USAID project, monitoring and supervision of test pumping water projects works is in progress for Kapunyany and Tangelbei. KRCS has conducted assessment on capacity gaps on livestock extension support by county government – Knowledge Attitude Practice KAP survey in Mogotio, Baringo South, Baringo North and Tiaty sub counties. Implementation of BCC outreaches in the 8 CLTS villages as well as making pre-visits to meet the gate keepers in the OFDA project areas is currently ongoing in 4 sub counties-Tiaty, Mogotio, Baringo North and South Sub Counties.
- Community managed disaster risk reduction training (CMDRR) targeting KRCS Staff and Volunteers underway from 29<sup>th</sup> June, 2020 to 3<sup>rd</sup> July, 2020.

#### **Self Help Africa**

- The NGO supported the County Government in locust control by purchasing 30 multi purpose spraying equipments.
- They will also be implementing drought resilience program through the SHARE project targeting 60, 000 beneficiaries.

#### **World Vision**

- Facilitated in partnership with MoH and East Pokot sub-county Covid response committee training of all community health volunteers (CHVs), chiefs and assistant chiefs in the entire East Pokot sub-county to support sensitization on COVID-19 prevention and response precaution measures for effective health communication to communities.
- Mapped and identified 1,000 households in Mogotio and East Pokot Sub Counties to receive cash transfers of Kshs 4000 each to support vulnerable families buy food during COVID-19 pandemic period.
- Continued with rehabilitation of 4 boreholes in East Pokot Sub County (Ngoron-Loremoi, Kapunyany, Embositit and Koloa). This will boost access to water which is crucial under COVID-19 precaution measures.
- Commissioning of construction of 9.1km pipeline systems, 100m<sup>3</sup> masonry tank and 5 water kiosks to enhance distribution and access to potable water for human and livestock use in Kamar and Molo-Sirwe Locations, Mogotio Sub County.
- In Baringo North sub County, construction works for Phase II of Kipkaren Water Project were commissioned. The scope of works will cover construction of two rising mains to existing masonry tank at Kimolon and to a proposed tank at Sekondonin. The tank at Kipkaren will act as storage tank as the water gravitate to it. The water will then be pumped to the two tanks and be supplied to six villages

potentially benefiting 201 households who will access water within 500m and or 30 minutes turnaround time.

- Through the Locust control and safeguarding livelihood project, 175 households in East Pokot Sub County, 125 households in Baringo North and 100 households in Tiaty Sub County were identified for cash transfers of Kshs 3000 per month for 3 months to recover livelihoods affected by locust infestation. These farmers will also be monitored and capacity built by 60 ToTs trained on good agricultural practices.
- Facilitated Malezi bora campaigns in Tiaty Sub County aimed at making health services more accessible and provides health and nutrition education. The campaign encourages mothers with children under five years to seek services such as immunization, growth monitoring, and treatment for diarrhea using ORS, Vitamin A supplementation and deworming
- 3300 households in Mogotio and Baringo North Sub Counties were issued with sachets of water purifiers to facilitate in household water treatment.
- Issuance of 357 NFI Kits to in Baringo South Subcounty to individuals displaced by floods. The areas were Salabani, Ng'ambo, IIng'arua, Kimondi, Kiserian, Ilchamus and Rugus locations

## **7.0 EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement**

- The county is still grappling with effects of the COVID 19 pandemic. There is limited social interactions due to measures that have been put in place by the government to contain its spread. Livestock markets have been shut down and therefore affecting household incomes.

### **7.2 Migration**

- There have been no cases of livestock migrations reported during the month in the county as most livestock are still within the traditional wet season grazing areas..

### **7.3 Food security prognosis**

- The performance of the long rains season was above normal and is therefore expected to have a positive impact on food security. Crops on the farms are doing well and normal yield is expected to be realised in the next harvest. County food stocks will therefore be enhanced in the next two months.
- Water access and availability for both human and livestock consumption is expected to remain good up to the next rainfall season. Trecking distances to water points are therefore expected to remain within normal ranges.
- Forage conditions are expected to remain good thus sustaining good livestock body condition up to the next rainfall season. This is therefore expected to enhance livestock productivity in terms of milk production, live animal weight among other production parameters.
- Cases of malnutrition are expected to remain minimal due to availability of milk for household consumption.
- Household incomes in pastoral and agro pastoral areas are expected to be affected following the closure of livestock markets due to Covid 19 pandemic. Livestock production constitute more than 50 percent of the total household incomes in this zones.

## **8.0 RECOMMENDATIONS**

### **8.1.1. General Recommendations:**

- Close monitoring of food prices to be sustained due to market disruptions that are being caused by the Covid19 pandemic. The information will assist in finding out the impact of the pandemic on food security at the household level.
- Resource Mobilization for capacity strengthening, surveillance, control and assessment of the social economic and environmental impact of desert locust invasion in affected sub-counties
- Establish a multi sectoral and multi-disciplinary team of professionals that will develop post invasion strategies to support locust invaded farming communities and rehabilitate affected rangelands
- Strengthen cross-border coordination and prioritize effective locust control measures at cross-border invasion sites.
- Strengthening sector specific drought preparedness and resilience building initiatives at Sub-County and community level.
- Regular County and Sub- County drought coordination, monitoring and reporting meetings with emphasis on the nature of on-going interventions partnerships and resources gaps
- Need for joint resource mobilization towards addressing food insecurity and under nutrition cases
- Continuous engagements to address under nutrition cases in in the county.

### **8.2.0 Proposed Recommendations**

#### **8.2.1. Water Sector**

- Improve on water quality mostly in pastoral and agro pastoral areas where usage of surface based water sources such as damd and pans is common. Availing of chemicals for water treatment at households is important as it will minimises outbreak of water borne diseases.
- Sensitization of communities on sanitation and hygiene, water management/resources based conflict resolution and management committees

#### **8.2.2. Nutrition and Health**

- Enhance sensitization campaigns on preventive measures against Covid 19 pandemic.
- Intensify Nutrition Surveillance and service provision in the hard to reach areas to support case findings through nutrition and health outreaches through partnership with stakeholders

#### **8.2.3. Education**

- Equip schools with roof catchments and covered storage tanks and cisterns
- Pipeline extension to schools that are neighboring permanent water sources e.g. boreholes and river intakes
- Training of board of management on basic operation and maintenance of water supply systems and roof water harvesting system for sustainability

#### **8.2.4. Livestock and Veterinary sector**

- Carry out routine disease surveillance and vaccination over notifiable diseases to ensure normal livestock market operations especially for foot and mouth disease
- Provide for strategic disease control infrastructure, and promote inter-county and cross border disease surveillance and control mechanisms
- Improve on the infrastructure for pasture management and conservation. There is a lot of forage in the field which if harvested and conserved well, it will promote sustainable livestock production in the county.

#### **8.2.5. Agriculture Sector**

- Continuous surveillance of desert locusts in the county. The locusts are reported to be in the neighbouring counties and therefore its important to be watchful for any secondary invasion.
- Support development of integrated water and soil conservation infrastructure for crop production
- Support cultivation of drought tolerant and early maturing crops
- Promote water harvesting for household food security- Farm ponds and equipping existing ones and irrigation schemes

## REFERENCE TABLES

**Table 3: Drought Phase Classification**

Normal	Alert	Alarm	Emergency
All environmental Agricultural and pastoral indicators are within the seasonal ranges	Meteorological drought indicators move outside seasonal ranges	Environmental and at least two production indicators are outside Long term seasonal ranges	All Environmental, Metrological and Production indicators are outside normal ranges.
<b>Recovery:</b>			
The drought phase must have reached at least Alarm stage. Recovery starts after the end of drought as signaled by the environmental indicators returning to seasonal norms; local economies starting to recover			

**Table 4: Standardized Precipitation Index (SPI)**

Color	SPI Values	Metrological Drought Category
	> +1.5 or more	Wet Conditions
	0 to +1.5	No drought
	-0.1 to -0.99	Mild drought
	-1 to -1.99	Severe drought
	<-2 and less	Extreme drought

**Table 5: Vegetation Condition Index Values (VCI)**

Color	VCI values 3-monthly average	Agricultural Drought Category
	≥50	Wet
	35 to 50	No agricultural drought
	21 to 34	Moderate agricultural drought
	10 to 20	Severe agricultural drought
	<10	Extreme agricultural drought

**Table 6: Livestock Body Condition**

Level	Classification	Characteristics (this describes majority of the herd and not individual isolated Stock)
1	Normal	Very Fat Tail buried and in fat
		Fat, Blocky. Bone over back not visible
		Very Good Smooth with fat over back and tail head
		Good smooth appearance
2	Moderate	Moderate. Neither fat nor thin
3	Stressed	Borderline fore-ribs not visible. 12th & 13th ribs visible
4	Critical	Thin fore ribs visible
5	Emaciated	Very thin no fat, bones visible
		Emaciated, little muscle left

### Definition of Early Warning Phases

The EW phases are defined as follow:

**NORMAL:** The normal phase occurs when **biophysical drought indicators (VCI and SPI) show no unusual fluctuations** hence remain within the expected ranges for the time of the year in a given livelihood zone, division or county

**ALERT:** The alert phase is when either the **vegetation condition index or the standard precipitation index (biophysical indicators) show unusual fluctuations below expected seasonal ranges** within the whole county/sub-county or livelihood zones.

**ALARM:** The alarm phase occurs when both **biophysical and at least three production indicators fluctuate outside expected seasonal ranges** affecting the local economy. The production indicators to be considered are livestock body condition, crop condition, milk production, and livestock migration and livestock mortality rate.

If **access indicators** (impact on market, access to food and water) move outside the normal range, the status remains at “alarm” but with a worsening trend. Proposed access indicators include ToT, price of cereals, availability of cereals and legumes, and milk consumption. The trend will be further worsening when also welfare indicators (MUAC and CSI) start moving outside the normal ranges.

**EMERGENCY:** In the emergency phase, **all indicators are outside of normal ranges**; local production systems have collapsed within the dominant economy. The emergency phase affects asset status and purchasing power to extent that seriously threatens food security. As a result, coping strategy index, malnutrition (MUAC) and livestock mortality rates move above emergency thresholds

**RECOVERY: Environmental indicators returning to seasonal norms.** The drought phase must have reached at least Alarm stage. Recovery starts after the end of drought as signaled by the environmental indicators returning to seasonal norms while production indicators are still outside the normal seasonal range but local economies start to recover. The status changes to normal once the bio physical and production indicators are back to normal range.