



**NATIONAL DROUGHT MANAGEMENT AUTHORITY**

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## **National Drought Early Warning Bulletin**

**January 2020**

## KEY HIGHLIGHTS

- During the month of December 2019, most ASAL areas received enhanced rainfall that was also well distributed both in time and space. By the end of December, nearly all counties had recorded more than 100 percent of their long term average (LTA) rainfall for the month indicating that most ASAL areas had received above normal rainfall.
- The ongoing October to December seasonal rains have resulted in improved pasture and browse condition and has also replenished most surface water sources in the ASAL counties. As a result, the current state of pasture and browse in terms of both quantity and quality is above that normally experienced at this period of the year in most ASAL areas.
- Return distances to water for households have generally reduced in all the 23 ASAL counties.
- The positive trend was attributed to the impact of the enhanced rainfall received during the October - December season that has recharged water pans, dams, natural ponds and other surface water sources with adequate water hence improving water access for both domestic and livestock use, to a great extent.
- Generally, the trend in the proportion of children at risk of malnutrition by mid upper arm circumference (MUAC) of less than 135 mm across the ASAL counties is improving or stable implying that the prevalence of malnutrition among children aged 6 – 59 months has reduced in comparison with last month. In addition, average MUAC rate in 15 counties is either close to the long term average (LTA) or has fallen below LTA indicating that the nutritional status of children aged below five years in these counties is currently better than would be expected at this time of the year.
- As a result of the above average rainfall performance recorded during the month of December , all the 23 ASAL counties are now categorized in the normal drought phase, compared with 21 counties in the normal phase and two in recovery in November 2019.

**Drought phase classification, December 2019**

<i>Drought status</i>	<i>Trend</i>		
	<i>Improving</i>	<i>Stable</i>	<i>Worsening</i>
<i>Normal</i>	Garissa, Isiolo, Kwale, Marsabit, Tana River, Wajir, Tharaka Nithi (Tharaka)	Kajiado, Baringo, Laikipia, Taita Taveta, Turkana, Narok, West Pokot, Embu (Mbeere), Kilifi, Makeni, Mandera Lamu, Nyeri (Kieni), Samburu, Kitui Meru (Meru North)	
<i>Alert</i>			
<i>Alarm</i>			
<i>Emergency</i>			
<i>Recovery</i>			

## 1.0. Drought status

### 1.1 Drought indicators

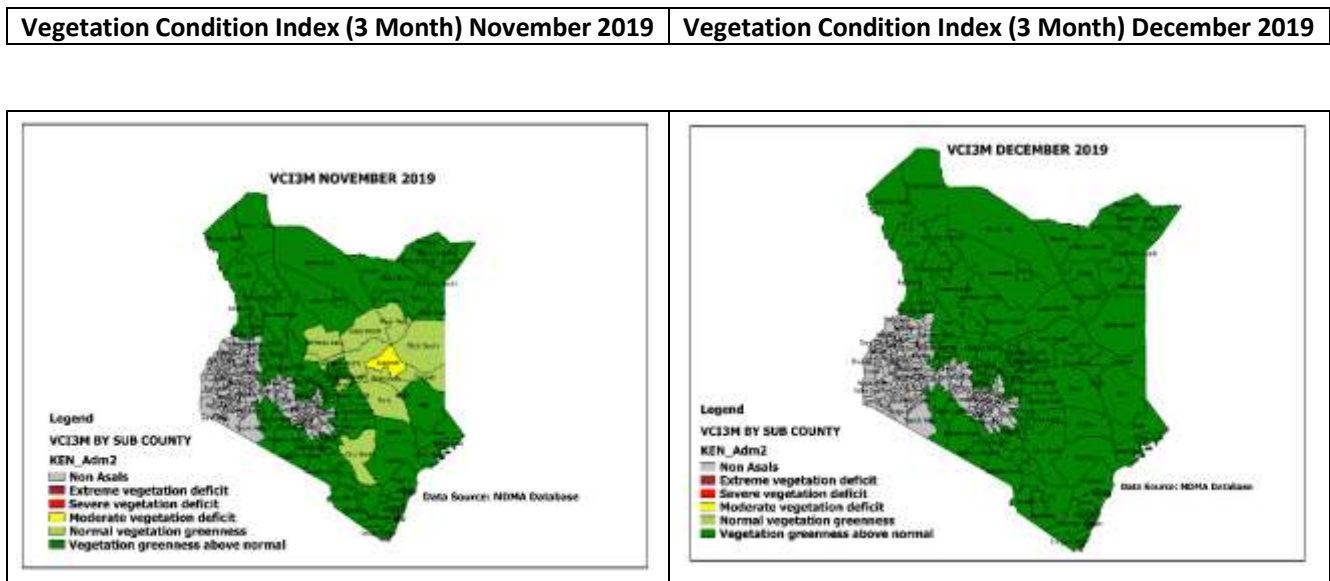
#### *Rainfall*

In December 2019, most ASAL areas received enhanced rainfall that was also fairly well distributed both in time and space. By the end of December, nearly all counties had recorded more than 100 percent of their long term average (LTA) rainfall for the month indicating that most ASAL areas had received above normal rainfall. For example, during the month of December, Lodwar Town in Turkana County, recorded rainfall that was above 200 percent of the normal rainfall for the month. In Marsabit, Moyale and Saku sub-counties received enhanced rains, which were above average, parts of Laisamis sub-county received torrential rains while areas in Illeret, Dukana and Turbi/Bubisa wards in North Horr sub-county received slightly enhanced rains. Rainfall amounts received in Kwale county, were above-normal in all the three dekads since 39.5 mm, 36 mm and 64.7 mm of rainfall were received in dekads one, two and three in comparison with an LTA of 33.6 mm, 23.4 mm and 24.8 mm respectively. The ongoing October to December seasonal rains have resulted in improved pasture and browse condition and has also replenished most surface water sources in the ASAL counties.

#### *Vegetation condition*

Figure 1 compares the vegetation condition index (VCI) in November 2019 with that in December 2019. The maps show that vegetation greenness is on an improving trend compared to November 2019 and it further illustrates that the condition of vegetation in all ASAL counties is within normal and above normal ranges for the period. The high vegetation regeneration witnessed during the month under review is attributed to the good performance of the October - November - December (OND) 2019 seasonal rainfall.

**Figure 1: Comparison of Vegetation Condition Index (VCI), November 2019 and December 2019**



### ***Water sources***

The enhanced rainfall experienced since beginning of October has recharged most open water sources and hence the most relied upon sources of water for both domestic and livestock use in December were pans, dams, shallow wells and rivers. Across the ASAL counties, most surface water sources are recharged to between 75 and 100 percent of their full capacity and the available water is likely to last for at least three months. For example, in Samburu County, traditional river wells accounted for approximately 58 percent of usage by households followed by pans and dams at 22.6 percent. Other water sources used by households during the month under review were springs at 9.7 percent, while the proportion that depended on boreholes and rivers was 6.5 and 3.2 percent respectively. In all counties, the current water situation is above normal compared to the similar period at this time of the year.

### ***Livestock production***

Most ASAL areas recorded an improvement in livestock productivity in December which was attributed to good pasture and browse condition and reduced trekking distances to water sources.

### ***Pasture and browse condition***

Condition of pasture and browse in December in all the arid and semi-arid counties was good as depicted in Table 1. The observed state of pasture and browse in terms of both quantity and quality was above that normally experienced at such a time of the year in most ASAL areas and was attributed to the enhanced rainfall received in December compounded by the cumulative effect of the rains received in October and November. However, in Turkana County, pasture situation was classified as fair owing to the poor performance of rains in parts of the county especially in some pockets in Turkana North.

On the other hand, with the invasion of desert locusts in some ASAL counties such as Mandera, Marsabit, Wajir and Garissa defoliation of pasture and browse has been witnessed which is likely to reduce the expected period pasture is expected to last in the affected areas.

**Table 1.0: Pasture and browse condition, December 2019**

<b>Pasture</b>				<b>Browse</b>			
<b>Poor</b>	<b>Fair</b>	<b>Good</b>		<b>Poor</b>	<b>Fair</b>	<b>Good</b>	
	Turkana	Tana River	Wajir			Turkana	Makueni
		Tharaka Nithi	Nyeri (Kieni)			Mandera	Marsabit
		West Pokot	Embu (Mbeere)			Narok	Nyeri (Kieni)
		Lamu	Makueni			Samburu	Taita Taveta
		Mandera	Marsabit			Baringo	Garissa
		Baringo	Garissa			Isiolo	Kajiado
		Isiolo	Kajiado			Kilifi	Kitui
		Kilifi	Kitui			Kwale	Laikipia
		Kwale	Laikipia			Tana River	Wajir
		Narok	Meru (Meru North)			Tharaka Nithi	Lamu
		Samburu	Taita Taveta			West Pokot	Embu (Mbeere)
						Meru (Meru North)	

### ***Livestock body condition***

In all counties, livestock body condition has improved compared to last month due to rise in availability of good forage combined with reduced livestock trekking distances. As presented in Table 2, during the month under review, all ASAL counties reported that body condition for cattle and goats was good and on an improving trend.

**Table 2.0: Livestock body condition, December 2019**

Cattle			Goats		
Poor	Fair	Good	Poor	Fair	Good
		Baringo Embu Kitui			West Pokot Wajir Makueni
		Garissa Isiolo Lamu			Taita Taveta Nyeri Mandera
		Kajiado Kilifi Laikipia			Samburu Turkana Kwale
		Marsabit Narok Meru			Baringo Embu Kitui
		Samburu Turkana Kwale			Garissa Isiolo Lamu
		West Pokot Wajir Makueni			Kajiado Kilifi Laikipia
		Taita Taveta Nyeri Mandera			Marsabit Narok Meru
		Tana River Tharaka Nithi			Tana River Tharaka Nithi

### **Milk production**

Table 1 illustrates the trend in milk production in the 23 ASAL counties. Across the ASAL areas improvement in forage and water availability has led to enhanced livestock body condition consequently resulting to increased productivity. In Turkana County, for instance, the amount of milk produced per day per household increased by 25 percent to 2.5 litres in December from 2 litres in November. In Samburu, average milk production per household per day rose by 17 percent from 1.2 litres in November to 1.4 litres in December while in Embu (Mbeere), Kitui, Isiolo, Tharaka Nithi (Tharaka) and Kajiado average milk production increased by 33, 22, 17, 15 and 14 percent respectively.

However, milk production in some ASAL areas declined in December. In Baringo, for example, the average household milk production recorded in December was lower than the level attained in November by 15 percent while in Lamu milk production per household fell by 18 percent from 1.7 litres in November to 1.4 litres in December. The decrease in milk production in Baringo was attributed to the displacement of households in the irrigated livelihood zone due to floods while in Lamu the drop in milk production was associated to the deterioration of forage condition in the grazing areas as a result of flooding.

**Table 3.0: Milk production, December 2019**

Indicator	Current status			Trend		
	Above LTA	At LTA	Below LTA	Improving	Stable	Worsening
<b>Milk Production</b>	Garissa	Kwale	Baringo	Embu	Makueni	Baringo
	Isiolo	Laikipia	Embu	Garissa	Meru	Kilifi
	Mandera	Narok	Kajiado	Isiolo	Narok	Kwale
	Marsabit	Taita Taveta	Kilifi	Kajiado	Taita Taveta	Lamu
	Meru	Tana River	Kitui	Kitui	Tana River	
	Nyeri	Turkana	Lamu	Mandera	Wajir	
	Tharaka Nithi		Makueni	Marsabit	West Pokot	
	Wajir		Samburu	Nyeri	Laikipia	
	West Pokot			Samburu		
				Tharaka Nithi		
				Turkana		

### Cattle prices

Improved cattle body condition which was credited to availability of adequate pasture and water in close proximity to the grazing areas combined with the effects of high demand and low supply of cattle offered for sale as most livestock keepers were holding their livestock were the major drivers of the higher cattle prices recorded in December. Consequently, in majority of the ASAL counties cattle prices have improved or have remained stable. For example, in Kajiado, Isiolo, Wajir, Marsabit and Makueni the current prices for cattle are above the prices normally reported for the same period (LTA) by 63, 57, 52, 25 and 23 percent respectively. However, in three ASAL counties: Embu (Mbeere), Kitui and Tharaka Nithi (Tharaka) the situation has not returned to normal fully and hence the current cattle prices are lower than the three-year average price for the month as shown Table 4.

**Table 4.0: Cattle prices, December 2019**

Indicator	Current status			Trend			
	Above LTA	At LTA	Below LTA	Improving	Stable	Worsening	
Cattle Prices	Taita Taveta	Nyeri	Laikipia	Embu Kitui Tharaka	Isiolo	Baringo	
	Tana River	Wajir	Meru		Kitui	Embu	
	West Pokot	Lamu			Makueni	Kajiado	
	Baringo	Isiolo			Mandera	Kilifi	
	Kajiado	Kilifi			Marsabit	Laikipia	
	Mandera	Makueni			Samburu	Lamu	
	Turkana	Marsabit			Tana river	Meru	
	Samburu	Narok			Tharaka Nithi	Narok	
					Turkana	Nyeri	
			Wajir	Taita Taveta			
			West Pokot				

### Goat prices

Table 5 summarizes the trend in goat prices in December in the 23 ASAL counties. During the month of December goat prices in approximately 90 percent of the ASAL counties were above average or close to LTA. The above average prices for goats was attributed to their good body condition and better prices offered during the December festive season. Conversely, in three counties: Mandera, Kilifi and Turkana goat prices were below the three-year average due to market forces of supply and demand occasioned by the high volumes of small stock offered for sale.

**Table 5.0: Goat prices, December 2019**

Indicator	Current status			Trend		
	Above LTA	At LTA	Below LTA	Improving	Stable	Worsening
Goat Prices	Baringo	Meru Nyeri Tana River Wajir	Mandera	Embu Garissa Isiolo Laikipia Lamu Makueni Narok Nyeri Samburu	Baringo	Kilifi Turkana
	Embu		Kilifi		Kajiado	
	Garissa		Turkana		Kitui	
	Isiolo				Mandera	
	Kitui				Kwale	
	Lamu				Meru	
	Samburu				Taita Taveta	
	Tharaka Nithi				Tana River	
	Kwale					

	Laikipia Makueni Marsabit Kajiado Narok Taita Taveta West Pokot			Marsabit Tharaka Nithi Wajir West Pokot		
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### ***Crop production***

All ASAL counties received average to above average rainfall during the October to December (OND) short rains season resulting in overall favourable crop conditions. In the marginal agricultural counties like Makueni, Tharaka Nithi (Tharaka), Kwale, Nyeri (Kieni), Kitui, Embu (Mbeere), Kilifi, Meru (Meru North) and Taita Taveta the main crops grown which include maize, beans, millet, sorghum, cow peas, green grams are performing well and were reported to be at tussling, flowering and podding stages with some of the early planted crops approaching maturity and harvesting stage.

The heavy rains, however, has significantly reduced crop production prospects in the low lying and riverine areas in some ASAL areas like Kitui, Taita Taveta, Embu (Mbeere), Tana River, Garissa, Kilifi and Nyeri (Kieni). Limited cases of fall army worm (FAW) infestation were reported in Kitui, Tharaka Nithi (Tharaka), Kwale, Nyeri (Kieni) and Taita Taveta but so far the effect of FAW in these counties has not been substantial to affect production.

### ***Maize prices***

Maize price trends in the ASAL counties are demonstrated in Table 6. In about 80 percent of the counties, maize prices recorded in December were higher than usual compared with the 2016 - 2018 average. The high average maize price is attributed to poor crop harvest in the previous season which has led to limited maize stocks at household level and consequently creating a high demand of the maize in the local markets.

For instance, in Lamu County, the retail price of a kilogram of maize was Kshs 73, which was 83 percent above the 2016 - 2018 average. In Meru, a kilogram of maize was retailing at Kshs 45 representing a 63 percent margin above Kshs 27 in the three year average while in Tana River a kilogram of maize was retailing at Kshs 66 which was 57 percent above LTA.

**Table 6.0: Maize prices, December 2019**

<b>Indicator</b>	<b>Current status</b>			<b>Trend</b>				
	<b>Above LTA</b>	<b>At LTA</b>	<b>Below LTA</b>	<b>Improving</b>	<b>Stable</b>	<b>Worsening</b>		
<b>Maize Prices</b>	Embu Kilifi Laikipia Mandera Taita Taveta Tharaka Nithi Samburu West Pokot Tana River	Isiolo Garissa Makueni Meru Nyeri Kwale Narok Lamu Kitui	Baringo Marsabit	Kajiado Turkana Wajir	Tana River Lamu Narok Nyeri	Baringo Wajir Embu Laikipia Samburu Isiolo Taita Taveta	Makueni Tharaka Kajiado Kitui Garissa Kilifi Meru	Kwale Mandera Marsabit Turkana West Pokot

### ***Access to water***

Table 7 shows the trend in distances walked by households to access water. Return distances to water for households have generally reduced in all the 23 ASAL counties. The positive trend was attributed to the impact of the enhanced rainfall received during the October - December season that has recharged water pans, dams, natural ponds and other surface water sources with adequate water hence improving water access for both domestic and livestock use, to a great extent.

**Table 7.0: Distance from households to main water sources, December 2019**

<b>Indicator</b>	<b>Current status</b>			<b>Trend</b>		
	<b>Above LTA</b>	<b>At LTA</b>	<b>Below LTA</b>	<b>Improving</b>	<b>Stable</b>	<b>Worsening</b>
<b>Distance from households to main water sources</b>	Kwale Garissa	Kajiado Kilifi	Baringo, Isiolo, Kitui, Samburu, Laikipia, Lamu, Tana River, Makueni, Mandera, Marsabit, West Pokot, Meru (Meru North), Narok, Nyeri (Kieni), Taita Taveta, Turkana, Wajir, Tharaka Nithi (Tharaka), Embu (Mbeere)	Kitui, Kwale, Embu (Mbeere), Kajiado, Kilifi, Laikipia, Makueni, Meru (Meru North), Narok, Wajir, Nyeri (Kieni), Tharaka Nithi (Tharaka), Tana River, Garissa, Isiolo, Marsabit	Baringo Lamu Mandera Samburu Taita Taveta Turkana West Pokot	

In all the ASAL counties, largely as a result of the recharge of most water sources, the trekking distances from grazing areas to water sources have decreased or remained unchanged in December. Similarly, the recorded trekking distances for the month under review were significantly lower than the five year average distances walked by livestock to reach water points for the period. For instance, the average distance to water sources from grazing areas, in Isiolo County decreased by a margin of 33 percent from 1.5 km in November to 1 km in December. In Mandera, average trekking distance from the main water sources to grazing areas for livestock decreased from 5 km in November to 3 km in December and was significantly lower than the five year average distances for the period by 75 percent and in Kitui, average return distances from grazing areas to watering points declined by 30 percent to stand at 2.6 km in December from 3.7 km in November which is also below the long term mean of 3.9 km by 33 percent. The trend in the distance trekked by livestock in search of water is illustrated Table 8.

### ***Terms of trade***

Table 9 shows the trend in the terms of trade (ToT) in ASAL counties. Overall, in about 70 percent of the counties, livestock keepers were able to purchase additional quantities of maize from the sale of a goat in the month of December compared to the previous month. The increase in ToT was attributed to a rise in goat prices as a result of greater demand for goats during the festival season and the good body condition of goats. For example, in Marsabit County a household could buy 102 kg of maize from the sale of one goat compared to 82 kg in November. The amount of maize that could be purchased by households in Marsabit was 23 percent higher than the three year average for the month. In Wajir, proceeds from the sale of a goat could purchase 72 kg of maize compared to 63 kg in November an increase by 14 percent while in Narok County households



could currently purchase 86 kg of maize which when compared with the 2016 - 2018 LTA of 63 kg translates to an additional 23 kg maize.

However, in Baringo, the terms of trade exhibited a downward trend in December because the proceeds from the sale of a goat could purchase 66 kg of maize in December compared with 70 kg in November. Similarly, in Lamu County the ToT for December decreased by 29 percent from 102 kg of maize in November to 72 kg in December. The decrease in the ToT in these counties was attributed to a fall in goat prices while the price of maize increased.

**Table 9.0: Terms of trade, December 2019**

<i>Indicator</i>	<i>Current status</i>			<i>Trend</i>			
	<i>Above LTA</i>	<i>At LTA</i>	<i>Below LTA</i>	<i>Improving</i>		<i>Stable</i>	<i>Worsening</i>
<b>Terms of trade (ToT)</b>	Garissa Marsabit Turkana Wajir Narok Kajiado Taita Taveta	Baringo Embu Isiolo Kilifi Makueni West Pokot Tana River Samburu Tharaka Nithi	Kitui Kwale Laikipia Meru Lamu Mandera Nyeri	Mandera Makueni Samburu Turkana Laikipia Garissa West Pokot Taita Taveta Marsabit	Isiolo Kwale Meru Wajir Embu Nyeri	Tana River Kajiado Kilifi Kitui Narok Tharaka Nithi	Baringo Lamu

### **Health and nutrition**

Table 10 shows the trend in the proportion of children at risk of malnutrition across the ASAL counties. Generally, the trend in the proportion of children at risk of malnutrition by mid upper arm circumference (MUAC) of less than 135 mm across the ASAL counties is improving or stable implying that the prevalence of malnutrition among children aged 6 – 59 months has reduced in comparison with last month. In addition, average MUAC rate in 15 counties is either close to the long term average (LTA) or has fallen below LTA indicating that the nutritional status of children aged below five years in these counties is currently better than would be expected at this time of the year. Improvement in the nutritional status among the under-fives was attributed to increase in milk consumption at the household level, favourable terms of trade and enhanced dietary diversity across the ASAL counties.

However, eight counties: Tana River, Kwale, Mandera, Kitui, Tharaka Nithi (Tharaka), Wajir, Meru (Meru North) and Lamu reported a higher percentage of children at risk of malnutrition than the December long term mean. The most likely cause of malnutrition in these counties could be poor infant and young children feeding practices, inadequate food intake, poor dietary diversity and disease incidences.

**Table 10.0: Children at risk of malnutrition (MUAC), December 2019**

<b>Indicator</b>	<b>Current status</b>			<b>Trend</b>			
	<b>Above LTA</b>	<b>At LTA</b>	<b>Below LTA</b>	<b>Improving</b>		<b>Stable</b>	<b>Worsening</b>
<b>MUAC</b>	Kitui Kwale Lamu Mandera Meru Wajir Tana River Tharaka	Nyeri Garissa Samburu Turkana	Embu (Mbeere) Taita Taveta West Pokot Makueni Marsabit Baringo Laikipia Kajiado Narok Kilifi Isiolo	Baringo Garissa Kajiado Kilifi Kitui Lamu Samburu Tharaka Nithi Tana River West Pokot Taita Taveta Laikipia	Embu Isiolo Makueni Marsabit Kwale Mandera Wajir	Meru	Narok Nyeri Turkana

## 1.2 Drought phase classification

Currently all the 23 ASAL counties are categorized in the normal drought phase, compared with 21 counties in the normal phase and two in recovery in November 2019. The improving trend is attributed to the above average rainfall performance observed during the month of December. Table 11 shows the trend in drought status in the ASAL counties.

**Table 11.0: Drought phase classification, December 2019**

<b>Drought status</b>	<b>Trend</b>		
	<b>Improving</b>	<b>Stable</b>	<b>Worsening</b>
<b>Normal</b>	Garissa, Isiolo, Kwale, Marsabit, Tana River, Wajir, Tharaka Nithi (Tharaka)	Kajiado, Baringo, Laikipia, Taita Taveta, Turkana, Narok, West Pokot, Embu (Mbeere), Kilifi, Makueni, Mandera Lamu, Nyeri (Kieni), Samburu, Kitui Meru (Meru North)	
<b>Alert</b>			
<b>Alarm</b>			
<b>Emergency</b>			
<b>Recovery</b>			

## **2.0 Projected food security situation**

According to weather outlook for January 2020 from the Kenya Meteorological Department (KMD), most ASAL areas are expected to receive occasional rainfall during the first half of January. The continuation of the rains into January is likely to impact positively on both water and forage availability and accessibility, hence will further enhance improvement in livestock condition and productivity.

Increased availability of milk and other food commodities is likely to support reduction in prevalence of malnutrition in children. Market operations are likely to remain vibrant with maize prices projected to remain stable. Consequently, terms of trade are likely to remain favourable supporting access to staple food commodities for households in the next month.

On the other hand, with the invasion of desert locusts in some ASAL counties such as Mandera, Marsabit, Wajir and Garissa defoliation of pasture and browse has been witnessed which is likely to reduce the expected period pasture is expected to last in the affected areas.

## **3.0 Recommendations**

### **Agriculture Sector**

- Urgent action required to enhance surveillance and control operations against invasion of desert locusts and fall army worms
- Post-harvest management training for farmers and agro pastoralists who are set to harvest the short rain season crop

### **Livestock Sector**

- Treatment and vaccination against emerging livestock diseases.
- Promote pasture establishment and conservation including deferred grazing management and participatory rangeland management.
- Intensify efforts towards establishment of strategic hay reserves and stock piling of hay so as to promote availability of livestock feeds for utilization during the dry season/periods of drought.

### **Water Sector**

- Promotion of water harvesting and storage.
- Rehabilitation of water catchments, repair and maintenance of water points.

### **Health and Nutrition Sector**

- Provision of health education to communities on hygiene and sanitation and expansion of health and nutrition interventions to cover areas that have reported high disease and malnutrition cases.
- Sensitization on treatment of drinking water as most households are accessing water from unprotected sources
- Support Vitamin A supplementation and de-worming programmes

**Education Sector**

- Promotion of water harvesting, storage and management in schools.
- Enhance Home Grown School Meals Programmes (HGSMP) in schools.

**Peace Building and Conflict Management**

- Peace building and conflict management initiatives.

### Annex 1.0: Vegetation Condition Index (VCI) as at 30<sup>th</sup>December 2019

ADMINISTRATIVE UNIT				DROUGHT CATEGORIES/REMARKS		
COUNTY	Sub County	VCI-3 month as at 25 <sup>th</sup> Nov 2019	VCI-3 month as at 30 <sup>th</sup> Dec 2019	Colour	VCI values (3-month)	Drought Category
					≥50	Vegetation greenness above normal
					>=35 - <50	Normal vegetation greenness
					>=20 - <35	Moderate vegetation deficit
					>=10 - <20	Severe vegetation deficit
					<10	Extreme vegetation deficit
<b>BARINGO</b>	<b>County</b>	80.11	86.29	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Central	85	83.91			
	Eldama	75.17	75.15			
	Mogotio	82.57	91.3			
	North	77.06	80.15			
	South	82.35	86.31			
	Tiaty	79.99	89.9			
<b>MANDERA</b>	<b>County</b>	73.23	90.4	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Banissa	60.85	86.89			
	M East	75.14	85.37			
	Lafey	75.03	90.56			
	M North	66.53	92.73			
	M South	80.56	91.35			
	M West	78.15	90.42			
<b>TURKANA</b>	<b>County</b>	76.11	90.48	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	T Central	79.1	91.13			
	T. East	62.46	71.2			
	T. Loima	82.87	108.15			
	T. North	71.94	85.7			
	T. South	66.72	84.41			
	T. West	91.27	102.6			
<b>MARSABIT</b>	<b>County</b>	60.81	82.13	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Laisaimis	61.27	86.43			
	Moyale	67.29	89.84			
	N. Horr	57.79	76.71			
	Saku	81.2	101.15			
<b>WAJIR</b>	<b>County</b>	60.65	78.82	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains. Significant improvement observed during month of December 2019.		
	W East	83.51	94.32			
	W. Eldas	62.53	75.18			
	W. North	87.14	95.64			
	W. South	43.53	68.44			
	W. Tarbaj	83.2	92.03			
<b>SAMBURU</b>	<b>County</b>	54.98	74.9			

	S. East	48.3	72.4	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	S. North	58.56	76.79			
	S. West	70.01	78.64			
<b>ADMINISTRATIVE UNIT</b>				<b>DROUGHT CATEGORIES/REMARKS</b>		
<b>COUNTY</b>	<b>Sub County</b>	<b>VCI-3 month as at 25<sup>th</sup> Nov 2019</b>	<b>VCI-3 month as at 30<sup>th</sup> Dec 2019</b>	<b>Colour</b>	<b>VCI values (3-month)</b>	<b>Drought Category</b>
					≥50	Vegetation greenness above normal
					>=35 - <50	Normal vegetation greenness
					>=20 - <35	Moderate vegetation deficit
					>=10 - <20	Severe vegetation deficit
					<10	Extreme vegetation deficit
<b>GARISSA</b>	<b>County</b>	54.52	69.73	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains. Improvement noted across the sub counties.		
	Balambala	42.28	63.11			
	Daadab	37.52	57.85			
	Fafi	67.06	75.85			
	Ijara	69.22	83.06			
	Lagdera	30.23	55.32			
	Dujis	74.82	72.52			
<b>ISIOLO</b>	<b>County</b>	42.49	70.41	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains. Significant improvement noted across the sub counties.		
	I. North	43.32	73.87			
	I. South	41.22	65.11			
<b>TANA RIVER</b>	<b>County</b>	60.49	81.27	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains. Significant improvement noted across the sub counties		
	Bura	48.63	65.61			
	Galole	60.65	82.24			
	Garsen	70.46	93.95			
<b>KAJIADO</b>	<b>County</b>	64.96	81.8	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	K. Central	59.31	76.63			
	K. East	74.69	85.33			
	K. North	60.55	63.43			
	K. South	69.83	93.99			
	K. West	60.1	73.72			
<b>LAIKIPIA</b>	<b>County</b>	75.6	80.93	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	L. East	74.32	84.28			
	L. North	71.7	81.05			
	L. West	83.53	79.11			
<b>THARAKA NITHI</b>	<b>County</b>	47.16	63.02	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Chuka	61.59	69.96			
	Maara	57.46	62.23			
	Tharaka	38.43	60.65			
<b>WEST POKOT</b>	<b>County</b>	78.63	84.79	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Kacheliba	79.44	85.28			
	Kapenguria	85.39	88.1			
	Pokot South	77.46	84.09			
	Sigor	72.12	81.52			
<b>EMBU</b>	<b>County</b>	67.33	77.89			

	Manyatta	54.72	56.73	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Mbeere North	67.28	77.31			
	Mbeere South	72.89	87.25			
	Runyenjes	60.95	68.24			
<b>ADMINISTRATIVE UNIT</b>						
<b>COUNTY</b>	<b>Sub County</b>	<b>VCI-3 month as at 25<sup>th</sup> Nov 2019</b>	<b>VCI-3 month as at 30<sup>th</sup> Dec 2019</b>	<b>Colour</b>	<b>VCI values (3-month)</b>	<b>Drought Category</b>
					≥50	Vegetation greenness above normal
					>=35 - <50	Normal vegetation greenness
					>=20 - <35	Moderate vegetation deficit
					>=10 - <20	Severe vegetation deficit
					<10	Extreme vegetation deficit
<b>KITUI</b>	<b>County</b>	50.6	71.29	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Kitui Central	81.39	88.81			
	Kitui East	51.91	72			
	Mwingi Central	57.9	78.45			
	Mwingi North	50.1	67.26			
	Mwingi West	77.51	89.18			
	Kitui Rural	74.61	90.11			
	Kitui South	38.63	64			
	Kitui West	82.59	92.81			
<b>MAKUENI</b>	<b>County</b>	76.36	91.94	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains..		
	Kaiti	83.59	100.66			
	Kibwezi East	56.64	75.45			
	Kibwezi West	75.05	89.91			
	Kilome	91.77	105.15			
	Makueni	90.63	106.77			
	Mbooni	87.16	97.03			
<b>MERU</b>	<b>County</b>	61.77	74.07	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Buuri	69.14	70.34			
	Central Imenti	62.04	68.34			
	Igembe Central	62.88	81.56			
	Igembe North	62.27	81.39			
	Igembe South	59.51	80.34			
	North Imenti	67.17	68.28			
	South Imenti	61.03	62.1			
	Tigania East	56.46	72.3			
	Tigania West	61.46	74.78			
<b>NYERI</b>	<b>County</b>	66.79	70	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Kieni	65.93	71.45			
	Mathira	68.35	61.1			
	Mukurweini	75.07	75.5			
	Town	75.08	82.85			
	Othaya	61.45	67.96			

	Tetu	66.06	65.75			
<b>KILIFI</b>	<b>County</b>	66.91	82.73	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Ganze	64.57	83.69			
	Kaloleni	68.44	82.85			
	Magarini	67.41	85.91			
	Malindi	59.64	75.27			
	Kilifi-North	71.39	77.34			
	Rabai	65.24	78.33			
	Kilifi-South	75.72	81.52			
<b>KWALE</b>	<b>County</b>	66.81	85.02	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains..		
	Kinango	64.46	86.49			
	Lungalunga	70.19	88.08			
	Matuga	69.89	77.03			
	Msambweni	70.67	73.21			
<b>LAMU</b>	<b>County</b>	76.97	85.53	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Lamu East	88.68	80.42			
	Lamu West	81.03	88.48			
<b>ADMINISTRATIVE UNIT</b>				<b>DROUGHT CATEGORIES/REMARKS</b>		
<b>COUNTY</b>	<b>Sub County</b>	<b>VCI-3 month as at 25<sup>th</sup> Nov 2019</b>	<b>VCI-3 month as at 30<sup>th</sup> Dec 2019</b>	<b>Colour</b>	<b>VCI values (3-month)</b>	<b>Drought Category</b>
					≥50	Vegetation greenness above normal
					>=35 - <50	Normal vegetation greenness
					>=20 - <35	Moderate vegetation deficit
					>=10 - <20	Severe vegetation deficit
					<10	Extreme vegetation deficit
<b>TAITA TAVETA</b>	<b>County</b>	77.08	98.4	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains..		
	Mwatate	71.5	97.07			
	Taveta	95.94	107.18			
	Voi	69.96	94.66			
	Wundanyi	86.42	103.52			
<b>NAROK</b>	<b>County</b>	62.19	72.12	The county and its sub counties is in above normal drought conditions due to good performance of the 2019 short rains.		
	Narok-East	66.83	84.15			
	Emurua Dikirr	82.41	86.96			
	Kilgoris	66.31	68.8			
	Narok-North	55.56	63.37			
	Narok-South	62.2	73.69			
	Narok-West	60.53	70.94			



## Annex 2.0 Summary of the drought early warning system

Each month, Field Monitors collect data in a number of sentinel sites across 23 arid and semi-arid counties. This is then complemented by information from other sources, particularly satellite data. For all indicators, the current value is compared with the long-term average for the time of year in order to establish whether it falls within seasonal norms.

Four types of indicator are monitored, capturing different kinds of impact (Table 12). The combined analysis from all four indicator groups then determines the particular drought phase: normal, alert, alarm, emergency or recovery (Figure 2). Identifying the correct drought phase helps to guide the most appropriate response for that stage in the drought cycle.

**Table 12.0: Indicators monitored by the drought early warning system**

Type of indicator	Examples of indicators monitored	Types of impact
Biophysical	Rainfall data Vegetation condition State of water sources	Environmental
Production	Livestock body condition Milk production Livestock migration Livestock mortality Crop production	Livestock production Crop production
Access	Terms of trade (meat/maize) Milk consumption Distances to water	Markets Access to food and water
Utilisation	Mid-Upper Arm Circumference (MUAC) Coping strategies	Nutrition Coping strategies

Figure 2.0: Drought Phase Classification

