



**NATIONAL DROUGHT MANAGEMENT AUTHORITY**

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## **National Drought Bulletin**

**February 2019**

*The NDMA operates and maintains the national drought early warning information system, coordinates national and county food security assessments, and processes and disseminates drought early warning information to stakeholders.*

## KEY HIGHLIGHTS

- Currently 14 out of the 23 arid and semi-arid (ASAL) counties are classified in the normal phase.
- Compared to the situation in December, the drought status in most ASAL counties deteriorated in January.
- More counties have moved into the alert drought stage, (from seven (7) in December to nine (9) in January). 12 counties reported a worsening trend while 10 counties are stable.
- The offseason rainfall received in a few counties at the beginning of January was largely insufficient and its distribution, both in time and space, was generally poor.
- Pasture and browse condition declined in January due to poor forage regeneration occasioned by depressed rainfall during the October to December rainy season as well as the sunny, dry and hot weather conditions that prevailed in January.
- The average distances to water sources for households and livestock increased compared to December across ASAL counties. Distances are expected to further increase due to the prevailing dry weather conditions.
- Preparation of sector response plans should start in the affected counties to facilitate early drought response.

Drought phase classification - January 2019

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

## 1.0 Drought Status

### 1.1 Drought indicators

#### a) Rainfall

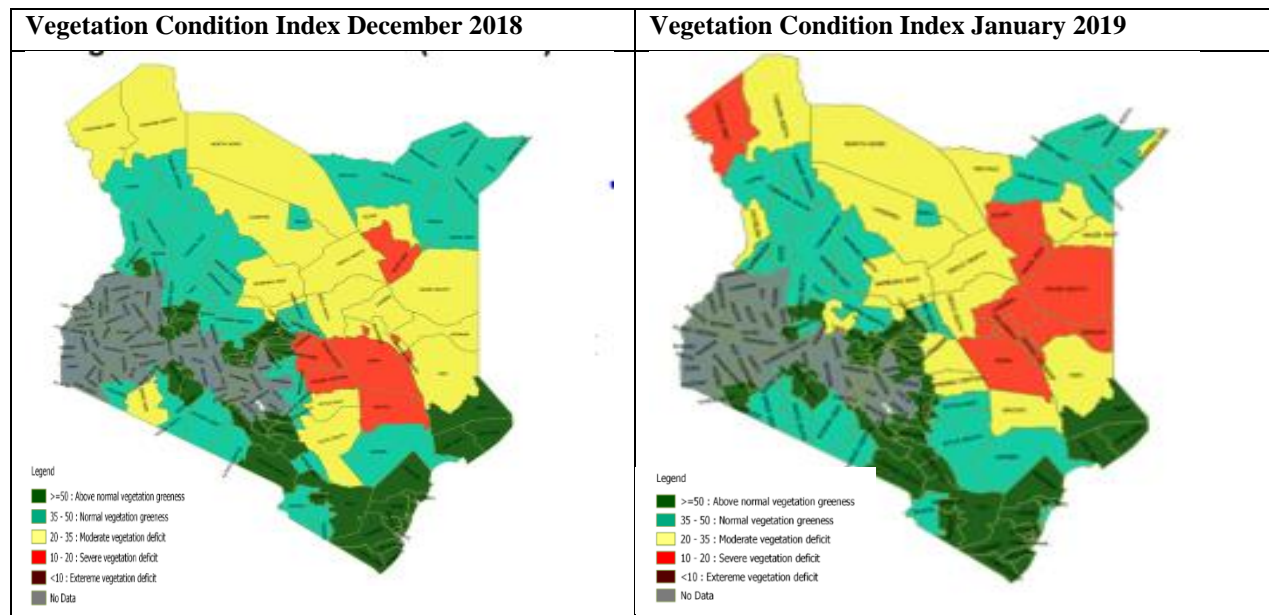
Most ASAL counties experienced sunny, hot and dry weather conditions for most of January 2019, which is usual for this time of the year. However, few counties such as Baringo, Embu (Mbeere), Laikipia, Meru (Meru North), Makueni, Narok, Nyeri (Kieni) and Taita Taveta received some little offseason rainfall at the beginning of the month. The rains were generally poorly distributed, both in time and space.

During the month, higher-than-average daytime temperatures were recorded over the entire ASAL region, which led to high rate of evaporation and evapotranspiration, causing rapid drying up of dams, water pans, and moisture stress/wilting in pasture and crops.

#### b) Vegetation condition

Figure 1 compares the vegetation condition index (VCI) in December 2018 with January 2019. The maps indicate a declining trend in the vegetation condition in most ASAL counties compared to the previous month. The downward trend in the state of vegetation in these areas can be attributed to the depressed rainfall received during the October-December rainy season and the sunny, dry and hot weather conditions that prevailed during the month.

*Figure 1: Comparison of December 2018 and January 2019 Vegetation Condition Index (VCI)*



Currently, 9 sub-counties are experiencing severe vegetation deficit. These are: Balambala, Dadaab, Lagdera, Dujis in Garissa County; Bura in Tana River County; Turkana West in Turkana County and Eldas, Wajir South, Wajir West in Wajir County. The situation in these sub-counties is being closely monitored for possible activation of drought response interventions.

**c) Water sources**

In most areas, the main water sources were water pans, traditional river wells, dams, springs and shallow wells, which are the normal sources during this time of the year. However, compared to the previous month, water volumes in most dams, water pans and other open water sources in most counties decreased due to the prevailing hot and dry weather.

Consequently, in some counties such as Marsabit and Mandera, water availability declined to below normal for the period. In Mandera, most water pans in Mandera North, Mandera West and Banisa sub counties have dried up and the County Government is currently trucking water to more than 130 centres. Similarly, in Marsabit approximately eight (8) strategic boreholes have broken down due to increased concentration of livestock, while water trucking is ongoing in parts of North Horr and Laisamis sub counties.

**d) Livestock production**

The current livestock body condition in most ASAL counties ranges from good to fair. However, the condition is expected to deteriorate in the next two months since pasture availability is likely to diminish and trekking distances to water sources increase.

During the month under review, average milk production went up in six (6) counties but remained stable in four (4). Milk production in 11 counties (Wajir, Mandera, Marsabit, Isiolo, Kilifi, Taita Taveta, Meru, Kwale, Embu, Tharaka and Lamu), was above the 2014 - 2018 long term average. The above normal milk production was attributed to high livestock birth rates that occurred in December 2018.

Milk production in 13 counties decreased in January, which was attributed to poor pasture and browse condition and increased trekking distances to water sources. In Samburu, for instance, average household milk production declined by 25 percent from 2 litres per day in December 2018 to 1.5 litres per day in January 2019. Similarly, milk production in Kajiado, West Pokot, Isiolo, Baringo, Turkana, Kwale and Lamu, fell by 50, 24, 21, 20, 19, 14 and 13 percent respectively. Table 1 illustrates the trend in milk production in the 23 ASAL counties.

**Table 1: Milk production in January 2019**

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

**e) Crop production**

Crops in the marginal agricultural counties such as Makueni, Kilifi, Narok, Meru (Meru North), Taita Taveta, Nyeri (Kieni), Kitui, Kwale, Embu (Mbeere) and Tharaka were in the podding or tussling phases, while some were in grain-filling and harvesting stage. However, most areas were experiencing moisture stress, thus affecting overall crop performance.

For instance, in Embu (Mbeere) most of the crops including maize, beans, millet, sorghum, cow peas, and green grams were at harvesting stage. The harvest is projected to be lower than normal due to moisture stress that was experienced mid-season, leading to replanting in areas such as Kiambere, Makima, Evurore and Mwea. In Makueni, maize was at the cob-formation to maturity stage, beans at drying stage, sorghum at head-formation stage and pigeon peas at vegetative stage.

Generally, the expected harvest is projected to be 40 to 70 percent lower than normal due to the poor performance of 2018 October-November-December (OND) rainfall season.

**f) Access to water**

The average distances to water sources for households and livestock increased compared to December in several ASAL counties. The highest increase in distance to the main water points for households during the month were in the following counties: Mandera, Kwale, Lamu, Tana River, Tharaka Nithi, Wajir and Isiolo. In Mandera, for example, average household distance to watering sources more than doubled from 4.6 km in December to 11.6 km in January. In Wajir, the current average return distance from households to the main water sources rose by 67 percent from 3 km in December to 5 km, while in West Pokot the increase was by 37 percent from 3 km recorded in December to 4.1 km. The trend in distances trekked by households to access water is provided in Table 2.

**Table 2: Distance to water sources for households in January 2019**

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

The trend in the distance covered by livestock in search of water is illustrated in Table 3. Compared with December, the current trekking distance to water sources from grazing areas increased in all counties except Meru.

**Table 3: Distance to water sources for livestock in January 2019**

Indicator	Current status			Trend			
	Above LTA	Close to LTA	Below LTA	Improving	Stable	Worsening	
Distance from livestock grazing areas to main water sources	Marsabit Samburu Kitui Wajir Kilifi Garissa Kajiado Kwale West Pokot Baringo Tana River	Lamu Makueni Laikipia Narok Meru	Turkana Mandera Isiolo Nyeri Taita Taveta Tharaka Nithi Embu	Meru		Turkana Samburu Tana River Makueni Garissa West Pokot Tharaka Mandera Isiolo Taita Taveta Lamu	Narok Kajiado Kitui Nyeri Laikipia Baringo Wajir Marsabit Kilifi Kwale Embu

Increase in the average trekking distance to water sources for households and livestock is mainly attributed to drying up of open water sources as a result of the dry weather conditions experienced in January 2019. Distances are expected to increase further in February.

**g) Terms of trade**

Terms of trade (ToT) in almost all counties remained favourable, implying that livestock producers in these counties could purchase quantities of maize above seasonal averages from the sale of a medium size goat. This was attributed to rising goat prices as a result of their good body condition, while maize prices were stabilising or declining.

However, terms of trade in Tana River were below the long-term average by 14 percent. The unfavourable terms of trade were due to decrease in the goat prices due to poor body condition in the county and high supply of goats in the market, coupled with increase in maize prices. Table 4 shows the trend in the terms of trade (ToT) in ASAL counties.

**Table 4: Terms of trade in January 2019**

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

**h) Health and nutrition**

The proportion of children under five years at risk of malnutrition based on mid-upper-arm-circumference (MUAC<135mm) in January 2019 was below the long-term average in majority of the ASAL counties except in Garissa, Tana River, Kwale and Lamu. The improved nutrition status recorded in January compared to the 2014-2018 long term average was attributed to improved household food availability coupled with favourable terms of trade associated with October to December wet season.

However decrease in both milk production and consumption combined with reduction in households purchasing power in counties such as Tana River and Garissa resulted to an increase in malnutrition cases. Samburu County had the highest percentage of children reported to be at risk of malnutrition, at 19.9 percent followed by Mandera - 18.1, Turkana - 17.4, Tana River - 16.2, Garissa - 14.3 and Wajir at 12.7 percent Table 5 summarises the trend in MUAC rates across the ASAL counties.

**Table 5: Children at risk of malnutrition (MUAC) in January 2019**

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

## 1.2 Drought phase classification

Table 6 shows the status and trend in drought phase classification in the 23 ASAL counties. Although majority of the counties are still in the normal phase, compared to the situation in December, the drought status in most ASAL counties deteriorated in January.

**Table 6: Drought phase classification in January 2019**

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

The drought status is currently categorised as follows;

- Normal, 14 counties
- Alert, 9 counties

In terms of trend, the situation is as follows;

- Worsening in 12 counties
- Stable in 10 counties
- Improving in 1 county

The declining trend is attributed to the poor rainfall performance observed during the October-November-December (OND) 2018 short rains season in the affected areas. In addition, the sunny, dry and hot weather conditions that prevailed over most parts of the country in January 2019 led to high rates of evaporation and evapotranspiration, causing faster reduction in water levels in open water sources and the soil surface. This resulted in rapid drying up of dams and water pans, and wilting in pasture and crops.



## **2.0 Projected Food Security Situation**

February is normally a dry month in most parts of the country. The forecast for February 2019 indicates that nearly all arid and semi-arid counties are expected to be sunny and dry for most of the month. There is also an increased likelihood for hotter-than-normal temperatures in February, which could result in high evapotranspiration rates and faster than normal drying up of pasture and open water sources.

Forage and water sources are expected to be depleted due to the poor 2018 OND short rains. Consequently distances from grazing areas to water sources will likely increase to above-average levels, contributing to deterioration in livestock body condition and leading to earlier-than-normal migration to dry season grazing areas in mid-to-late February. This is anticipated to reduce household access to milk.

The current favourable goat-to-staples terms-of-trade is projected to be maintained as a result of the above-average 2018 long rains maize harvest in high and medium potential agricultural production areas. This will likely keep maize prices at below average amount.

## **3.0 Recommendations**

- 1.** Close monitoring and activation of sectoral response plans to facilitate early response in the following nine counties that are in the alert drought stage - Garissa, Turkana, Marsabit, Samburu, Tana River, Isiolo, Kitui, Wajir and Tharaka Nithi (Tharaka).
- 2.** Food and cash transfers interventions -Appraisal retargeting and scaling up of social protection programmes to vulnerable households.
- 3.** Livestock disease surveillance and enhanced animal health services.
- 4.** Close monitoring of livestock movement in search of pasture and water and opening of dry season boreholes to support access to pasture.
- 5.** Prepositioning of farm inputs in preparation for the long rains season.
- 6.** Rehabilitation and maintenance of strategic water facilities.
- 7.** Activation of rapid response teams in the water sector to support speedy repair of broken water systems and prepositioning of fast-moving spare parts.
- 8.** Provision of fuel subsidies for motorised boreholes.
- 9.** Hygiene and sanitation promotion in communities and institutions.
- 10.** Support community peace dialogue and resource use agreements in conflict prone areas.

Annex 1.0: Vegetation Condition Index (VCI) as at 28<sup>th</sup> January 2019

ADMINISTRATIVE UNIT				DROUGHT CATEGORIES/REMARKS		
COUNTY	Sub County	VCI-3 month as at 31 <sup>st</sup> Dec 2018	VCI-3 month as at 28 <sup>th</sup> January 2019	Color	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
BARINGO	County	49.81	49.56	The vegetation greenness is within normal / above normal ranges for the period across all the sub-counties.		
	Central	64.27	65.08			
	Eldama	61.64	61.66			
	Mogotio	53.77	48.46			
	North	47.04	47.36			
	South	51.6	52.1			
	Tiaty	44.31	44.74			
MANDERA	County	43.6	37.84	The county as well as all sub-counties are normal in vegetation cover for the period except for Mandera East that is experiencing moderate vegetation deficit.		
	Banissa	45.69	38.8			
	M. East	37.25	32.7			
	Lafey	40.62	35.92			
	M. North	40.51	35.42			
	M. South	48.19	41.59			
	M. West	44.87	38.73			
TURKANA	County	32.04	33.46	The vegetation greenness has recorded a slight decline and Turkana West is now in the severe deficit band while Turkana North is in moderate vegetation deficit.		
	T. Central	49.94	45.22			
	T. East	36.5	39.64			
	Loima	36.4	43.1			
	T. North	26.79	31.79			
	T. South	40.24	39.47			
	T. West	21.23	16.57			
MARSABIT	County	33	25.73	The county and all sub-counties are in the moderate vegetation deficit band with Saku sub-county experiencing normal vegetation greenness.		
	Laisaimis	31.38	24.97			
	Moyale	37.71	32.88			
	North Horr	32.12	23.69			
	Saku	43.82	37.71			
WAJIR	County	29.69	24.87	County in moderate vegetation deficit with Wajir South, Wajir West and Eldas in severe deficit condition for the period.		
	W. East	39.03	32.77			
	Eldas	21.36	16.26			
	W. North	48.22	41.09			
	W. South	23.85	19.77			
	Torbaj	38.29	32.4			
	W. West	14.98	13.18			
	S. West	39.86	41.04			

ADMINISTRATIVE UNIT				DROUGHT CATEGORIES/REMARKS		
COUNTY	Sub County	VCI-3 month as at 31 <sup>st</sup> Dec 2018	VCI-3 month as at 28 <sup>th</sup> January 2019	Color	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
SAMBURU	County	32.14	37.89	Normal vegetation condition across entire county with moderate vegetation deficit for Samburu East.		
	S. East	22.05	29.88			
	S. North	41.83	46.42			
	S. West	39.86	41.04			
GARISSA	County	30.37	28.68	Moderate vegetation deficit condition for entire county but with severe deficit recorded for Balambala, Daadab, Lagdera and Dujis. There is need to review impact on livelihoods for possible activation of drought response/early action.		
	Balambala	20.55	17.32			
	Daadab	20.9	16.91			
	Fafi	29.63	30.49			
	Ijara	52.92	53.47			
	Lagdera	22.6	15.02			
	Dujis	16.61	17.88			
ISIOLO	County	27.08	23.84	Moderate vegetation deficit condition across the entire county		
	I. North	24.75	21.17			
	I. South	30.63	27.92			
TANA RIVER	County	28.28	27.64	The county faces moderate vegetation greenness deficit except for Bura sub county that is experiencing severe deficit while Garsen sub county is in the normal vegetation greenness band.		
	Bura	19.24	16.58			
	Galole	17.42	20.09			
	Garsen	42.74	41.76			
KAJIADO	County	47.2	47.32	Entire county above normal/normal in vegetation condition.		
	K. Central	49.46	48.88			
	K. East	52.03	57.26			
	K. North	54.98	57.24			
	K. South	54.14	53.07			
	K. West	38.05	37.27			
LAIKIPIA	County	38.03	39.21	The vegetation greenness is within normal to above normal ranges for the period.		
	L. East	41.31	52.08			
	L. North	38.25	39.84			
	L. West	36.04	31.83			
THARAKA NITHI	County	31.29	44.97	Tharaka sub county in moderate vegetation deficit while other sub-counties are in above normal ranges for the period.		
	Chuka	54.91	64.18			
	Maara	66.28	71.57			
	Tharaka	11.2	29.23			
WEST POKOT	County	43.92	38.09	The vegetation greenness is within normal ranges for the period in all sub-counties.		
	Kacheliba	35.29	32.82			
	Kapenguria	46.95	38.9			
	Pokot South	57.1	49.81			

	Sigor	49.27	40.04	
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ADMINISTRATIVE UNIT				DROUGHT CATEGORIES/REMARKS		
COUNTY	Sub County	VCI-3 month as at 31 <sup>st</sup> Dec 2018	VCI-3 month as at 28 <sup>th</sup> January 2019	Color	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
EMBU	County	50.52	62.18	Vegetation greenness above normal ranges for the period		
	Manyatta	75.15	81.56			
	Mbeere North	41.71	54.47			
	Mbeere South	43.52	57.52			
	Runyenjes	68.81	75.07			
KITUI	County	29.38	40.4	Normal vegetation conditions for entire county except for Mwingi Central and Mwingi North which are in moderate vegetation deficit.		
	Kitui Central	46.96	61.71			
	Kitui East	32.08	44.95			
	Mwingi Central	18.3	33.88			
	Mwingi North	18.43	34.01			
	Mwingi West	41.37	55.01			
	Kitui Rural	35.62	51.45			
	Kitui South	31.85	38.13			
	Kitui West	45.78	58.35			
MAKUENI	County	54.57	59.88	Vegetation greenness is above normal ranges for the period.		
	Kaiti	62.92	70.89			
	Kibwezi East	47.36	51.31			
	Kibwezi West	54.32	59.98			
	Kilome	62.54	69.42			
	Makueni	59.24	63.08			
MERU	County	49.83	59.02	The vegetation greenness is within/above normal ranges for the period		
	Buuri	57.92	64.32			
	Central Imenti	73.74	76.73			
	Igembe Central	36.7	48.42			
	Igembe North	36.58	48.73			
	Igembe South	35.17	49.53			
	North Imenti	70.33	73.68			
	South Imenti	76.9	78.4			
	Tigania East	40.91	52.27			

	Tigania West	42.65	58.4	
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ADMINISTRATIVE UNIT				DROUGHT CATEGORIES/REMARKS		
COUNTY	Sub County	VCI-3 month as at 31 <sup>st</sup> Dec 2018	VCI-3 month as at 28 <sup>th</sup> January 2019	Color	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>NYERI</b>	<b>County</b>	<b>67.33</b>	<b>66.86</b>	<b>All sub-counties are now in above normal ranges for the period</b>		
	Kieni	56.2	57.3			
	Mathira	82.29	72.44			
	Mukurweini	79.99	82.22			
	Town	73.52	80.34			
	Othaya	82.23	81.42			
	Tetu	82.33	80.94			
<b>KILIFI</b>	<b>County</b>	<b>57.08</b>	<b>55.85</b>	<b>The vegetation greenness is above normal across the entire county</b>		
	Ganze	57.97	54.77			
	Kaloleni	75.58	71.59			
	Magarini	54.14	55.68			
	Malindi	54.7	51.26			
	Kilifi-North	57.33	47.97			
	Rabai	73.5	67.31			
	Kilifi-South	62.31	54.25			
<b>KWALE</b>	<b>County</b>	<b>63.81</b>	<b>66.7</b>	<b>The vegetation greenness is within/above normal ranges for the period across all the sub-counties.</b>		
	Kinango	61.68	64.64			
	Lungalunga	63.45	68.62			
	Matuga	73.93	72.96			
	Msambweni	64.67	65.68			
<b>LAMU</b>	<b>County</b>	<b>68.79</b>	<b>61.07</b>	<b>Stable above normal vegetation conditions for the period across all the sub-counties.</b>		
	Lamu East	72.69	65.13			
	Lamu West	66.53	58.72			
<b>TAITA TAVETA</b>	<b>County</b>	<b>52.54</b>	<b>52.45</b>	<b>Normal/above normal vegetation conditions.</b>		
	Mwatate	49.98	50.12			
	Taveta	47.11	42.25			
	Voi	55.49	56.98			
	Wundanyi	53.48	57.47			
<b>NAROK</b>	<b>County</b>	<b>40.37</b>	<b>48.93</b>	<b>Normal to above normal vegetation conditions across the county.</b>		
	Narok-East	56.21	51.97			
	Emurua Dikirr	42.72	55.44			
	Kilgoris	38.57	52.79			
	Narok-North	55.19	54.73			
	Narok-South	41.06	49.05			
	Narok-West	26.71	42.52			

## **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 groups are monitored, capturing different kinds of impact (Table 7). The combined analysis from all four indicator groups then determines the particular drought phase: normal, alert, alarm, emergency or recovery (Figure 1). Identifying the correct drought phase helps to guide the most appropriate response for that stage in the drought cycle.

**Table 7: Indicators monitored by the drought early warning system**

<b>Type of indicator</b>	<b>Examples of indicators monitored</b>	<b>Types of impact</b>
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	MUAC (Mid-Upper Arm Circumference) Coping strategies	Nutrition Coping strategies

**Figure 2.0: Drought Phase Classification**

