



**THE PRESIDENCY  
MINISTRY OF DEVOLUTION AND PLANNING**

# National Drought Early Warning Bulletin

**November 2016**



## Summary

As forecast, the short rains season has started late. No county received normal rainfall in October. The prolonged dry conditions have reduced still further the availability of water and the quantity and quality of forage. Several counties are now severely water stressed.

Livestock body condition is worsening, as longer trekking distances and watering intervals take their toll. Milk production has dropped to very low levels in places, while eight counties report drought-related livestock deaths. Land preparation has been done in advance of the rains, but there are signs of reduced acreage in some counties, and planting is generally delayed by the slow start to the season.

Five counties are now in the alarm drought phase, with the livestock/ranching livelihood zone of Kilifi in the emergency phase. The trend is worsening in all but three counties.

The prospects for food security over the coming months hinge almost entirely on how the short rains unfold, and whether the forecast of a shortened and below-average season proves to be correct.

## 1 Drought status

### 1.1 Drought indicators

#### ***Rainfall***

Rainfall patterns in October were consistent with the forecast of a late onset to the short rains season. The only counties reporting an early or timely onset were Baringo and Nyeri; in all others the start of the season was delayed.

In most counties there was either no rain, or insignificant and poorly distributed light showers. Six counties (Embu, Nyeri, Laikipia, Baringo, West Pokot and Turkana) reported slightly higher amounts of rainfall, but the quantity was below normal and the distribution poor. In no county was the rainfall for October normal.

#### ***Vegetation condition***

The Vegetation Condition Index (VCI) communicates the vigour of vegetation cover, comparing it with the range of values for the same period in previous years. Annex 1 contains the VCI data at 31 October 2016. There are five categories: above-normal vegetation, normal vegetation, moderate vegetation deficit, severe vegetation deficit, and extreme vegetation deficit.

The areas with the highest vegetation deficit continue to be in the south-east and at the coast:

- ***Extreme vegetation deficit:*** Kaloleni sub-county in Kilifi.
- ***Severe vegetation deficit:*** Kilifi, Kwale and Lamu counties, as well as Fafi and Ijara in Garissa.
- ***Moderate vegetation deficit:*** Garissa, Marsabit, Narok, Samburu, Tana River and Turkana counties, as well certain parts of Wajir (South and West), Kajiado (Central, East and South), Laikipia (North), Makeni (Kibwezi East and West), Meru (Tigania East) and Taita Taveta (Mwatate and Voi).

Vegetation conditions in the remaining counties and sub-counties are either normal or above-normal for the time of year. However, in some areas these are deteriorating fast; parts of Kitui and West Pokot are already close to the moderate vegetation deficit band. The rate of deterioration is being exacerbated by the late start to the season and by the concentration of livestock in the few areas where forage remains. Pasture is estimated to last for less than a month in some counties (Laikipia, Lamu, Narok), even for just one week (Garissa).

There are places where pasture and browse are still available but inaccessible to herders. In Isiolo and Marsabit the constraint is conflict, in West Pokot it is conflict and disease, and in Tana River and Wajir it is water: pasture is located too far from the nearest water source for animals to reach it, particularly as their body condition worsens.

### ***Water sources***

Several counties are now significantly water stressed. Surface water has nearly dried up: very few pans in Garissa now hold water, while 95% of those in the pastoral zones of Marsabit and Kilifi, and 80% of those in Wajir, are now dry. In West Pokot, most pans have only 25% of their capacity while seasonal rivers have also dried. The quality of surface water is deteriorating as the small amounts that remain are contaminated from shared use. The depth of shallow wells in counties such as Isiolo is increasing while the yield is reducing. There is now heavy reliance on boreholes, which are congested and operating under significant pressure.

In the few counties which received some rain, the quantity was low and poorly distributed and therefore the recharge of water sources was lower than normal.

### ***Livestock production***

Livestock production indicators continue to worsen as longer trekking distances and longer watering intervals take their toll. Livestock body condition varies by location and species. It is generally still fair in a significant number of counties (such as Baringo, Embu, Isiolo, Kitui, Laikipia, Nyeri, Turkana and West Pokot) but it is poor in others and widely deteriorating. In the livestock/ranching livelihood zone of Kilifi, livestock body condition is very poor, but the feed supplements distributed by the NDMA towards the end of October are already taking effect, with previously recumbent animals now able to stand.

Milk production has dropped to very low levels in some counties. It is half the long-term mean in Isiolo, one-third of the long-term mean in Mandera, and 17% of the long-term mean in Tana River, where it has been steadily declining since March. In Marsabit, 90% of households reported no milk production in the past month. In Tana River, average milk consumption per household is as low as 14% of the long-term mean. Laikipia reports that calving rates are particularly low.

However, in a few counties milk production has risen, nearly doubling on the previous month in Turkana, for example.

Drought-related livestock deaths were reported in the following counties:

- Garissa: deaths of small stock in Ijara.
- Isiolo: livestock deaths in Oldonyiro, Garbatulla and Kinna.

- Kilifi: numerous cattle deaths in Ganze, Kaloleni and Magarini sub-counties.
- Kwale: significant numbers of cattle and sheep, and some camel.
- Lamu: drought-related livestock deaths in Didewaride, Kibokoni and Chalaluma.
- Marsabit: deaths of small stock in parts of North Horr and Moyale.
- Tana River: livestock deaths in all three sub-counties.
- Taita Taveta: some drought-related livestock deaths in Kajire, Miasenyi and Mbulia.

There are more references in this month's bulletins to unusual patterns of migration. Herders in Taita Taveta are continuing to move into the Tsavo National Park and into Kajiado, while those in Kwale are moving to Tanzania. Wajir is currently accommodating herds from Somalia, as well as from Garissa and Mandera. In Kilifi and Laikipia, livestock are moving into ranches within the county; in the case of Laikipia, this is sometimes according to prior agreement with the owners, but sometimes not. In Narok, there is a high concentration of cattle on harvested farms in the south and east.

### ***Crop production***

Land preparation continues in crop-producing counties. In Nyeri, the acreage is said to be lower because of farmers' concerns about La Niña and the previous season's crop failure, as well as the high cost of inputs; low incomes are also limiting land preparation in Kwale. In Baringo, the area under irrigation is lower because of falling river water levels. Farmers in Kitui and Nyeri are dry planting, but not those in Makueni because of fears of delayed rains. In Embu, some seeds are said to be rotting due to the late start to the season.

There have been recent harvests of maize in Baringo, Samburu and West Pokot, and of maize, sorghum and wheat in Laikipia. Horticultural production is reported to be healthy in West Pokot. Some crops on subsistence farms along the River Tana have reached harvesting stage, but in general there are no household food stocks in Tana River given the flooding and prolonged dry spell which affected the previous season. Similarly, most households in Makueni have depleted their food stocks and are relying on the market. Farmers here are said to be discouraged from planting by the below-average harvest in the last season and the current hot and dry conditions. This increases the likelihood that the short rains harvest will also be below normal.

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

In most counties, the average return distances to water for both households and livestock continue to lengthen. The most significant changes on the previous month were as follows:

- In Wajir, the distances for households and livestock increased by 84% and 36% respectively on the previous month, although they are still below the long-term mean.
- The distances for livestock doubled in Baringo and increased by 60% in Laikipia, by 51% in Lamu, and by 44% in Garissa.
- In Marsabit, the average distance for livestock is now more than twice the long-term mean, while in Tana River it is nearly twice the long-term mean.
- In Kilifi, the average distance for households is nearly three times the long-term mean, while the distance for livestock is nearly twice the long-term mean.

In some places boreholes are running for 24 hours a day, leading to long waiting times and inevitable breakdowns. Borehole breakdowns, and other broken water points, are reported in Isiolo, Kajiado, Laikipia, Mandera, Samburu, and Wajir. Unless quickly repaired these breakdowns can lead to devastating livestock loss, given the long distances between water points at this time of year.

The county governments are trucking water in Garissa, Kilifi, Mandera (142 centres and institutions), Tana River, and Wajir (153 centres and nomadic families), and have established rapid response teams to deal with borehole breakdowns.

### **Terms of trade**

Each month, the drought early warning system monitors the relative price of goats and maize, showing the number of kilogrammes of cereal that can be exchanged for one goat.<sup>1</sup> Table 1 summarises the trend when compared with the previous month. The largest falls in terms of trade were in Garissa (24%) and Marsabit (16%). Terms of trade in Tana River are now less than half the long-term mean.

**Table 1: Terms of trade, October 2016**

<i>Trend</i>	Improving	Stable	Worsening
<b>Below long-term mean (LTM)</b>		Kilifi	Marsabit Narok Samburu Tana River Tharaka Nithi
<b>At / close to LTM</b>			
<b>Above LTM</b>	Kitui Laikipia Makueni Wajir West Pokot		Garissa Kajiado Mandera Turkana

*Note: Data based on 15 counties*

With regard to livestock and maize prices:

- There were some significant movements in livestock prices on the previous month in certain counties, although they remained fairly stable in others. The average price of cattle fell sharply in Turkana (by 36%), Kilifi (33%), Makueni (29%), Tana River (25%), Kwale (25%) and Isiolo (22%). In the ranching zone of Kilifi the cattle price is now 73% below the long-term mean, and in Turkana it is two-thirds of the long-term mean. The largest rise was in Kitui, by 26%; this was attributed to livestock owners holding on to their stock so that they would fatten after the short rains, causing reduced supply to the market. Movements in the average price of goats were generally less significant, although they fell by 21% in Garissa, and in Tana River are now less than half of the long-term mean.

<sup>1</sup> These terms of trade are an important indicator of pastoralists' purchasing power. As drought stress increases, animals lose condition and more of them enter the market causing the price to fall. At the same time, the price of cereals tends to rise as stocks become depleted prior to harvest. Thus, livestock-keepers are caught in a pincer movement, as the value of their principal asset decreases and the price of the food they need increases.

- Maize prices remained fairly stable, although there were notable price increases on the previous month in Embu (by 42%), Tharaka Nithi (12%) and Garissa (10%). The maize price in Tana River has been rising steadily since March, due to poor harvests in previous seasons, and is now 60% above the long-term mean. In counties where there have been recent harvests, such as Laikipia and West Pokot, the maize price fell slightly.

### Health and nutrition

The bulletins monitor the percentage of children under five at risk of malnutrition, determined by a mid-upper arm circumference (MUAC) measurement (Table 2). In summary:

- Eight counties have MUAC rates above the 15% threshold of concern: Garissa, Isiolo, Mandera, Marsabit, Meru (North), Samburu, Turkana and Wajir. Of these, the highest is Garissa at 26.8%.
- In Kitui, the MUAC rate is approaching the 15% threshold (13.8%). It is now twice the level it was in July and more than 50% higher than the long-term mean.
- The bulletins highlight hotspots of concern, including:
  - Komolion in Baringo: 41%
  - Kawop and Arsim in Samburu: 48.9% and 28.4% respectively
  - Magadi and Mbirikani in Kajiado: 19.3% and 16.3% respectively
  - Marginal mixed farming livelihood zone in Kitui: 17.9%
- The largest movements in the MUAC rate on the previous month were as follows:

	<i>Increase</i>		<i>Decrease</i>
Isiolo	47%	Makueni	30%
Kwale	38%		
Garissa	37%		

Table 2: Children at risk of malnutrition (MUAC), October 2016

<i>Trend</i>	<b>Improving</b>	<b>Stable</b>	<b>Worsening</b>
<b>Below long-term mean (LTM)</b>	Makueni	Baringo Nyeri (Kieni) <b>Wajir</b>	Kajiado Lamu <b>Mandera</b> <b>Marsabit</b> <b>Turkana</b>
<b>At / close to LTM</b>		Taita Taveta Tana River	Embu (Mbeere) Kilifi Kwale Tharaka Nithi
<b>Above LTM</b>		Laikipia Narok <b>Samburu</b>	<b>Garissa</b> <b>Isiolo</b> Kitui <b>Meru North</b> West Pokot

- Note: Counties highlighted in bold have MUAC rates above 15%

The average price of milk has risen sharply in some counties, attributed in part to the fall in production. The price rose by 23% on the previous month in Kajiado and by 10% in Wajir, taking it well above the long-term mean in the latter.

## 1.2 Drought phase classification

The drought phase is determined by the indicators discussed in the previous sections (Table 3). Livelihood zones that differ from the overall county status are shown in footnotes. Since last month, the number of counties in the alarm drought phase has increased from one (Kilifi) to five, while the livestock/ranching livelihood zone in Kilifi is now in the emergency drought phase. All but three counties are now on a worsening trend.

**Table 3: Drought phase classification, October 2016**

<i>Drought status</i>	<i>Trend</i>	Improving	Stable	Worsening
<b>Normal</b>			Baringo <sup>2</sup> Kitui <sup>3</sup>	Embu (Mbeere) Isiolo Nyeri (Kieni) Tharaka Nithi West Pokot
<b>Alert</b>			Laikipia <sup>4</sup>	Kajiado Makueni Mandera Meru (North) Narok <sup>5</sup> Samburu <sup>6</sup> Taita Taveta Tana River Turkana Wajir <sup>7</sup>
<b>Alarm</b>				Garissa Kilifi <sup>8</sup> Kwale <sup>9</sup> Lamu <sup>10</sup> Marsabit <sup>11</sup>
<b>Emergency</b>				
<b>Recovery</b>				

<sup>2</sup> Pastoral livelihood zone: alert

<sup>3</sup> Marginal mixed farming livelihood zone: worsening

<sup>4</sup> Mixed farming livelihood zone: normal. Pastoral livelihood zone: worsening

<sup>5</sup> Mixed farming livelihood zone: normal and stable

<sup>6</sup> Agro-pastoral zone: normal

<sup>7</sup> Pastoral (cattle) livelihood zone: alarm

<sup>8</sup> Livestock/ranching livelihood zone: emergency. Cash cropping/dairy and food cropping livelihood zones: alert.

<sup>9</sup> Mixed farming livelihood zone: alert and stable

<sup>10</sup> Agro-pastoral/fishing and fisheries/mangroves livelihood zones: alert

<sup>11</sup> Agro-pastoral livelihood zone: alert. Fisherfolk/casual labour/petty trading livelihood zone: normal and stable.

## 2 Other food security challenges

Nine county bulletins mentioned conflict as a concern, two more than last month. There were incidents on the borders between Marsabit/Wajir, and Marakwet/Pokot, and deaths reported along the Pokot/Trans Nzoia border. There were also deaths in Isiolo and Laikipia, while insecurity in parts of Isiolo and Marsabit curtailed access to water and pasture.

Tension is said to be high in Todonyang, Turkana, and between communities in Tana River. Mandera continues to be affected by cross-border insecurity, with 18 deaths in Mandera town in the previous month. Security is improving in Lamu, although there was some herder/farmer conflict.

Human/wildlife conflict was mentioned by six counties: Baringo, Laikipia, Lamu, Samburu, Taita Taveta and West Pokot.

## 3 Actions being taken

### 3.1 Drought Contingency Fund

Since July 2016, the NDMA has disbursed Ksh 145 million of drought contingency finance in ten counties, complementing what the counties and their partners are already doing (Table 4).

**Table 4: DCF disbursements, July 2016 to 3 November 2016**

County	Coordination	Education	Health and Nutrition	Livestock	Security	Water	Total
Garissa	1,585,800		1,172,000	5,373,700		2,893,300	11,024,800
Garissa	1,593,100	7,732,200	4,084,800	9,704,300		4,565,300	27,679,700
Kajiado	1,000,300		1,094,300	5,148,000		2,599,200	9,841,800
Kilifi	627,900		545,500	4,323,800	115,450	961,000	6,573,650
Kilifi				5,020,400			5,020,400
Kilifi				10,056,900		8,964,400	19,021,300
Kitui	931,200		1,076,100	4,699,600		1,060,300	7,767,200
Kwale	689,575		594,650	4,035,250	93,000	1,126,568	6,539,043
Kwale			2,735,200	8,825,000		1,552,200	13,112,400
Lamu	333,200		567,800	3,063,900	253,200	1,767,800	5,985,900
Lamu						418,000	418,000
Lamu				3,346,400			3,346,400
Makueni	784,700		1,362,600	2,046,800		862,300	5,056,400
Narok				3,331,440		3,056,640	6,388,080
Taita Taveta	700,100		188,000	2,618,900	653,100	3,572,880	7,732,980
Tana River	714,600	315,000	795,000	904,800	519,000	50,000	3,298,400
Tana River	235,200	3,265,300		1,592,900		1,248,600	6,342,000
<b>Total</b>	<b>9,195,675</b>	<b>11,312,500</b>	<b>14,215,950</b>	<b>74,092,090</b>	<b>1,633,750</b>	<b>34,698,488</b>	<b>145,148,453</b>



### **3.2 Shock-responsive cash transfers**

No transfers were made in October, since the VCI values in the four counties covered by the Hunger Safety Net Programme did not reach the severe vegetation deficit threshold.

### **3.3 Other interventions**

An inter-ministerial technical committee has developed a detailed picture of needs by sector until July 2017, based on consultations with the county governments. An additional Ksh. 21bn is estimated to be required between November 2016 and July 2017, of which Ksh. 5.1bn is needed for the next three months. The National Treasury has already released the first month of this additional funding.

## **4 Projected food security situation**

Much now depends on how the short rains season unfolds. It has already started late in almost all counties, suggesting that the forecast of a below-average season may be correct. If there is no significant rainfall in November, then the food security situation in a number of counties will substantially worsen as access to pasture and water reduces still further. Food prices are likely to rise and livestock prices to fall, leading to worsening terms of trade for livestock producers.

In the south-east marginal agricultural counties there are already signs that the short rains season may be poor, given the drop in acreage planted and the late start to the season. If the rains also end early, as forecast, then the growing period will be significantly curtailed leading to below-average harvests.

If the short rains do not perform well, then the level of recovery will be insufficient to sustain households through the next dry season. As a result, drought conditions are likely to continue into 2017.

## **5 Conclusions and recommendations**

The food security situation is worsening in a number of counties, particularly in the south-east, north-east and at the coast. The following recommendations are made.

1. **Urgent activation and implementation of drought contingency plans in affected counties.** County Steering Groups should continue to carry out rapid assessments as required and intervene urgently to protect lives and livelihoods. Short-term priorities include:
  - a. Rapid repair and maintenance to keep water points operating, complemented by water trucking where required
  - b. Provision of fodder or feed for livestock
  - c. Expansion of animal health surveillance and response
  - d. Livestock offtake, where appropriate, preferably using market mechanisms
  - e. Expansion of nutrition monitoring and provision of supplementary/therapeutic feeds
  - f. Expansion of public health interventions as water availability declines
  - g. Peace building and conflict management, particularly in areas of resource stress.

2. **Timely preparedness for the likelihood of sustained dry conditions into 2017.** The current rainy season is likely to be short and below average. Counties and sectors should therefore prepare for a prolonged period of drought mitigation and response, with the prospect of serious drought conditions developing in more areas between January and April 2017. This should include any measures likely to maximise the prospects for the short rains cropping season, such as improvements in crop handling and storage.
3. **Accelerated implementation of measures that will reduce drought vulnerability,** in line with the Common Programme Framework for Ending Drought Emergencies, as well as their integration within planning frameworks for the 2017-18 budget year, including:
  - a. Investment in appropriate and sustainable water infrastructure.
  - b. Repair or expansion of the rural road network.
  - c. Expanded access to appropriate education, health and nutrition services.
  - d. Measures that manage conflict and build peace.
  - e. Strengthening of market systems and producer power in markets.

**Annex 1 Vegetation Condition Index, 31<sup>st</sup> October 2016**

COUNTY	Sub-County	VCI as at 17 <sup>th</sup> Oct 2016	VCI as at 31 <sup>st</sup> Oct 2016	Colour	VCI values	Drought Category
					3-monthly	
					≥50	Vegetation greenness above normal
					35 to 50	Normal vegetation greenness
					21 to 34	Moderate vegetation deficit
					10 to 20	Severe vegetation deficit
					<10	Extreme vegetation deficit
BARINGO	<b>County</b>	<b>59.16</b>	<b>53.54</b>	Above-normal vegetation conditions in all sub-counties except Tiaty, which is now in the normal band		
	Central	69.09	66.33			
	Eldama	64.36	61.98			
	Mogotio	59.22	51.75			
	North	62.8	58.1			
	South	60.3	54.75			
	Tiaty	54.72	48.12			
MANDERA	<b>County</b>	<b>59.54</b>	<b>47.82</b>	A marked negative trend, with declining VCI across all counties and Mandera West close to the moderate vegetation deficit band. Being the driest period of the year and considering the high drought vulnerability, a delay in the onset of the short rainy season will inevitably lead to significant drought impacts. For this reason there is need to enhance preparedness for early response in case of late onset of the rains.		
	Banissa	53.53	42.16			
	Mandera East	58.87	44			
	Lafey	60.1	45.93			
	Mandera North	50.85	41.84			
	Mandera South	85.42	69.88			
	Mandera West	43.87	36.28			
TURKANA	<b>County</b>	<b>37.45</b>	<b>33.67</b>	The county is on a worsening drought trend with Turkana East, North and West now in the moderate drought band. The situation requires the prompt activation of contingency plans so as to be ready with implementation if the short rains do not start in time.		
	Turkana Central	56.52	52.81			
	Turkana East	28.96	26.1			
	Turkana Loima	37.81	35.02			
	Turkana North	36.82	32.95			
	Turkana South	39.72	35.39			
	Turkana West	35.65	30.89			
MARSABIT	<b>County</b>	<b>35.72</b>	<b>34.45</b>	The VCI confirms the worsening drought trend especially in Moyale and North Horr, which requires fast activation of contingency plans to prepare for possible worsening conditions in case of a late onset of the short rains.		
	Laisaimis	44.94	43.29			
	Moyale	28.49	27.34			
	North Horr	31.35	30.34			
	Saku	54.37	51.52			
WAJIR	<b>County</b>	<b>48.24</b>	<b>41.32</b>	Worsening trend, with Wajir South and West entering the moderate vegetation deficit band. There is need to prepare for the implementation of early response in case of a late onset of the rains.		
	Wajir East	49.27	37.06			
	Eldas	52.72	48.06			
	Wajir North	54.23	49.53			
	Wajir South	40.43	33.95			
	Torbaj	68.25	54.88			
	Wajir West	38.38	34.99			
SAMBURU	<b>County</b>	<b>33.48</b>	<b>29.24</b>	Marked worsening conditions in Samburu East and Samburu North, which require fast implementation of some response activities to support livelihoods until the onset of the forthcoming rainy season.		
	Samburu East	31.55	27.5			
	Samburu North	30.54	26.62			
	Samburu West	51.79	45.67			
GARISSA	<b>County</b>	<b>27.01</b>	<b>24.37</b>	The drought situation continues to worsen, especially in Fafi and Ijara sub-counties, which are confirmed in the severe vegetation deficit band. A number of emergency activities funded by DCF are currently being implemented, while a request to further scale-up the drought response has been received and approved.		
	Balambala	43.37	39.35			
	Daadab	28.32	24.31			
	Fafi	16.42	14.66			
	Ijara	13.92	14.62			
	Lagdera	56.76	49.99			
	Dujis	31.4	30.12			

ISIOLO	<b>County</b>	<b>47.82</b>	<b>43.02</b>	The county is experiencing normal vegetation conditions for the period but the area is subject to increasing migration of livestock from other counties which affects the resilience of local communities. DCF requests from neighbouring counties should include budgets to mitigate possible conflict arising from the migration of livestock to grazing areas in Isiolo.
	Isiolo North	48.02	43.66	
	Isiolo South	47.51	42.03	
TANA RIVER	<b>County</b>	<b>34.64</b>	<b>32.83</b>	The county continues to experience moderate vegetation deficit in Bura and Garsen, with significant impacts on water supply due to the very poor condition of the water infrastructure. DCF has already been disbursed, while a second request has recently been approved.
	Bura	34.08	32.12	
	Galole	39.11	37.98	
	Garsen	32.33	30.23	
KAJIADO	<b>County</b>	<b>35.59</b>	<b>37.21</b>	Mild vegetation deficit reported in Kajiado Central, East and South. A request for DCF has recently been received and approved.
	Kajiado Central	32.18	33.23	
	Kajiado East	35.44	33.99	
	Kajiado North	61.05	60.58	
	Kajiado South	36.19	34.82	
	Kajiado West	36.5	42.25	
LAIKIPIA	<b>County</b>	<b>44.63</b>	<b>40.12</b>	Normal vegetation conditions for the entire county and all sub-counties except Laikipia North, which is now in the moderate vegetation deficit band. A request for rapid assessment has been approved which will inform drought response if the onset of the rains delays.
	Laikipia East	41.34	36.97	
	Laikipia North	36.91	32.08	
	Laikipia West	60.67	56.67	
THARAKA	<b>County</b>	<b>61.43</b>	<b>54.09</b>	Normal/above-normal vegetation conditions in the entire county and all sub-counties.
	Chulga	67.32	62.34	
	Maara	68.36	62.06	
	Tharaka	57	48.43	
W POKOT	<b>County</b>	<b>51.77</b>	<b>46.3</b>	Negative trend, with Sigor sub-county approaching the moderate deficit band. There is need to enhance preparedness so as to respond soon in case of a delay in the short rains.
	Kacheliba	46.42	40.54	
	Kapenguria	61.79	56.54	
	Pokot South	67.07	61.78	
	Sigor	44.01	38.98	
EMBU	<b>County</b>	<b>58.58</b>	<b>55.35</b>	All sub-counties are experiencing above-normal ranges of vegetation greenness.
	Manyatta	67.56	63.49	
	Mbeere North	50.03	46.49	
	Mbeere South	57.76	55.39	
	Runyenjes	70.93	66.14	
KITUI	<b>County</b>	<b>42.81</b>	<b>41.51</b>	Normal vegetation conditions across the entire county and all sub-counties, although the vegetation conditions are close to the moderate deficit band. Some DCF was disbursed in September to address the moderate vegetation deficit experienced in August.
	Kitui Central	48.83	49.19	
	Kitui East	43.67	41.96	
	Mwingi Central	48.84	48.33	
	Mwingi North	49.02	44.46	
	Mwingi West	47.63	46.76	
	Kitui Rural	35.13	35.57	
	Kitui South	36.79	36.22	
	Kitui West	48.36	48.36	
MAKUENI	<b>County</b>	<b>38.4</b>	<b>37.38</b>	Moderate vegetation deficit for Kibwezi East and West in line with the previous month. All other sub-counties are reporting normal vegetation conditions. A number of DCF-funded response activities are currently being implemented.
	Kaiti	69.17	67.8	
	Kibwezi East	28.48	28.33	
	Kibwezi West	29.52	27.8	
	Kilome	41.23	37.99	
	Makueni	41.5	40.66	
	Mbooni	60.56	60.65	
MERU	<b>County</b>	<b>53.25</b>	<b>48.85</b>	Normal to above-normal vegetation conditions for the period for the entire county and all sub-counties except Tigania East, which is now in the moderate vegetation deficit band. There is need to enhance preparedness so as to respond soon in case of a delay in the short rains.
	Buuri	43.88	40.28	
	Central Imenti	57.16	55.14	
	Igembe Central	58.55	53.68	
	Igembe North	59.72	54.81	

	Igembe South	68.68	57.45	
	North Imenti	46.45	45.08	
	South Imenti	68.35	63.71	
	Tigania East	37.33	34.91	
	Tigania West	38.43	38.83	
NYERI	<b>County</b>	<b>56.53</b>	<b>53.69</b>	Above-normal vegetation conditions in the entire county and all sub-counties.
	Kieni	52.44	51.16	
	Mathira	54.65	50.09	
	Mukurweini	63.24	57.39	
	Town	53.08	50.16	
	Othaya	68.84	63.48	
	Tetu	66.33	61.52	
KILIFI	<b>County</b>	<b>20.32</b>	<b>18.25</b>	The county continues to experience a severe drought across all sub-counties with Kaloleni now in the extreme vegetation deficit band. The impact on the ground is severe, with many livestock deaths and severe shortage of water. A number of DCF response activities are currently being implemented, while a proposal for scaling up slaughter destocking, animal feeds and water supply will be received and approved in the first week of November.
	Ganze	15.61	13.95	
	Kaloleni	11.99	9.51	
	Magarini	20.85	18.92	
	Malindi	18.09	14.89	
	Kilifi North	24.34	21.02	
	Rabai	39.91	33.88	
	Kilifi South	46.04	45.49	
KWALE	<b>County</b>	<b>20.34</b>	<b>19.14</b>	The entire county is experiencing significant vegetation deficit with Kinango and Lungalunga in the severe vegetation deficit band. A number of response activities are currently being implemented. A new proposal for slaughter destocking, water trucking and animal feeds will be submitted and approved in the first week of November.
	Kinango	15.17	13.57	
	Lungalunga	21.09	19.86	
	Matuga	34.89	34.65	
	Msambweni	40.21	41.29	
LAMU	<b>County</b>	<b>20.09</b>	<b>19.14</b>	A marked worsening condition in Lamu, with Lamu West approaching the extreme drought band that requires prompt action and the implementation of relevant response initiatives. A DCF request has been received and approved
	Lamu East	32.35	30.51	
	Lamu West	12.92	12.5	
TAITA T.	<b>County</b>	<b>39.52</b>	<b>35.88</b>	Voi and Mwatate sub-counties are experiencing mild vegetation deficit. Some DCF has already been disbursed and response activities are being implemented.
	Mwatate	39.09	32.15	
	Taveta	59.24	54.48	
	Voi	30.78	28.47	
	Wundanyi	46.24	43.85	
NAROK	<b>County</b>	<b>24.8</b>	<b>30.22</b>	The vegetation greenness has improved, especially in in Kilgoris, after receiving some rains. A request for DCF has been received and disbursement finalised.
	Narok East	31.92	34.57	
	Emurua Dikirr	23.64	32.42	
	Kilgoris	8.98	20.25	
	Narok North	37.07	36.02	
	Narok South	27.07	31.54	
	Narok West	21.37	29.02	

## Annex 2 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 5). 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 5: 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	MUAC (Mid-Upper Arm Circumference) Coping strategies	Nutrition Coping strategies

Figure 1: Drought Phase Classification

