



**THE PRESIDENCY  
MINISTRY OF DEVOLUTION AND PLANNING**

# National Drought Early Warning Bulletin

**September 2017**



## Summary

Off-season rainfall in July and August, particularly in parts of the northern Rift Valley and coast, has reduced distances to water and improved livestock body condition, with positive consequences for milk production, livestock prices, and food consumption. Elsewhere, however, drought stress is deepening as the dry season reaches its height. The prices of basic foodstuffs, though generally falling, are still unusually high. As expected, the long rains harvest was poor, and therefore unlikely to have any significant impact on households' access to food.

The priorities for response may be broadly categorised as follows:

- i. Counties where drought stress is already critical, and where essential services and interventions must be sustained, and if necessary expanded: **Garissa, Isiolo, Kajiado, Marsabit, Samburu (East), Tana River and Wajir.**
- ii. Counties where the situation is either worsening, or where levels of vulnerability are high, such that modest shocks could have major consequences: **Kilifi, Laikipia, Mandera, Narok and Turkana.**
- iii. Counties where inter-county action is needed to manage migration and conflict: **Kitui, Meru and Nyeri.**
- iv. Counties with localised hotspots, particularly in semi-arid areas.

Two additional priorities remain formalising the National Drought Emergency Fund and ensuring adequate attention to drought risk reduction in the next round of national and county planning.

## 1 Drought status

### 1.1 Drought indicators

#### **Rainfall**

August was generally a dry month, but in places there were significant off-season rains, particularly in the northern Rift Valley and at the coast. Other areas also received off-season showers – most of them along a central belt stretching from North Horr in Marsabit through parts of Samburu, Laikipia and Nyeri – but these were poorly distributed.

#### **Vegetation condition**

Figure 1 compares the vegetation condition in July and August 2017. It shows an improving situation in the North Rift, given the off-season rainfall, but a deteriorating situation elsewhere, particularly in parts of Kajiado, Kilifi, Marsabit, Narok, Samburu and Tharaka Nithi.

The areas with the greatest vegetation deficit at present are:

*Extreme deficit:* Kilgoris (Narok) – the lowest recorded value since 2001.

*Severe deficit:* Lagdera (Garissa); Isiolo North (Isiolo South borderline); Kajiado Central and Kajiado West; Magarini (Kilifi); Samburu East; Turkana Central; Wajir West and Wajir South.

**Figure 1:**

**Vegetation Condition Index (3 Month) : July 2017 & August 2017**

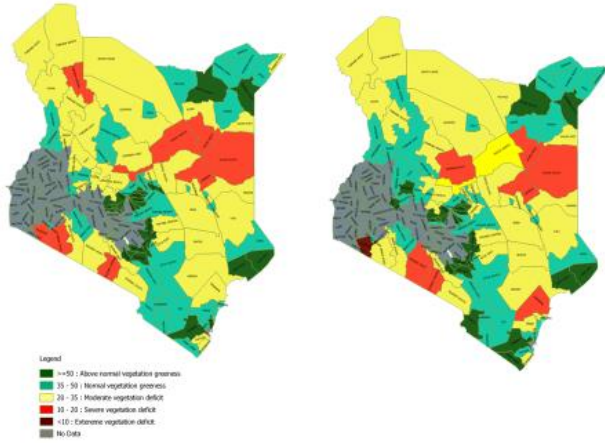
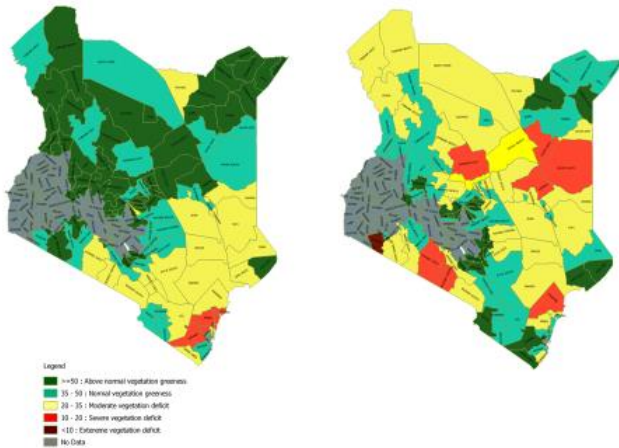


Figure 2 compares the current vegetation condition with that of a year ago, when drought stress was largely concentrated in the south and east.

**Figure 2:**

**Vegetation Condition Index (3 Month) : August 2016 & August 2017**



Field observations place the VCI data in context. In Lamu, for example, pasture is in good condition but likely to last for only two months, given the large numbers of livestock from Tana River and Garissa currently grazing in the county. For similar reasons, pasture and browse will deteriorate more quickly than usual in the northern and eastern parts of Wajir, which received better rains but where livestock are currently concentrated. Elsewhere, forage is already rapidly worsening. In Kitui, the proportion of respondents reporting poor pasture more than doubled between July and August, from 31 percent to 72 percent.

**Water sources**

The condition of water sources mirrors the distribution of rainfall. In some areas, such as Embu and Lamu, water sources are normal for the time of year; the volume in most pans in Baringo is now 100 percent of

capacity. In other areas, such as Kwale and Makueni, water sources are normal but declining. Elsewhere, such as Isiolo and parts of Wajir, there is significant water stress. In Kajiado, pans dried up as early as June, since they recharged to less than ten percent of their capacity during the long rains, and consequently the pressure on strategic boreholes is increasing.

### **Livestock production**

Livestock production has improved in areas of reasonable rainfall. In Turkana, for example, milk production increased by 550 percent on the previous month, though it is still less than one-third of the long-term mean. Elsewhere, such as Kajiado, livestock body condition continues to worsen. Milk production here is negligible – milk on sale is from outside the county at a price 50 percent higher than usual – while cattle are already emaciated in Mosiro, Ewaso, Meto and Dalalekutuk. Four counties reported mortality associated with drought: Kajiado (particularly Mosiro), Isiolo, Laikipia (mostly deaths of calves from exhaustion) and Meru (North).

An indicator of continued pressure on the livestock system is persistent unusual migration, which was reported by nearly half the 23 ASAL counties in August. In some cases, such as Lamu and Kitui, these are counties which are hosting large herds from elsewhere. In others, such as Kajiado, livestock are moving out of the county much earlier than they might otherwise have done. Laikipia is a county which experiences both inward migration (from Baringo and Samburu) and outward.

Thirteen counties in August reported the incidence of critical livestock diseases (Table 1), such as Contagious Bovine Pleuropneumonia (CBPP), Contagious Caprine Pleuropneumonia (CCPP), Foot and Mouth Disease (FMD) and Peste des Petits Ruminants (PPR).

**Table 1: Counties reporting critical livestock diseases, August 2017**

<b>CBPP</b>	Mandera, Marsabit, Narok, Turkana, Wajir, West Pokot
<b>CCPP</b>	Baringo, Garissa, Isiolo, Kajiado, Mandera, Marsabit, Samburu, Tharaka Nithi, Turkana, Wajir, West Pokot
<b>FMD</b>	Kajiado, Meru (suspected), Narok
<b>PPR</b>	Baringo, Marsabit, Narok, Wajir, West Pokot

### **Crop production**

As expected, the long rains harvest is proving to be poor. Only 40 percent of sampled households in Kitui harvested maize in August which was in a fair-to-poor condition; other parts of the county, where crops never germinated due to moisture stress, harvested none. The marginal mixed farming zones of Makueni and Tharaka Nithi also experienced a total crop failure, while in Embu the harvest will be below normal. In Meru, production was low across all livelihood zones, with the maize harvest at only 30 percent of the long-term mean. The harvests of beans and sorghum in Meru were also well below normal.

In Nyeri, the long rains crop was significantly water-stressed. The same was true of Narok, where crops and pasture across the county were also affected by armyworms. In Baringo, 80 percent of crops in sentinel sites were destroyed by the Fall Armyworm. Off-season rains have rejuvenated the withered maize crop to some degree, but production will still be below average.

Land preparation is expected to intensify this month as the short rains is the dominant crop-producing season in marginal agricultural counties. However, given the poor performance of successive previous seasons, farmers may lack the capital to purchase certified seeds and other inputs.

### **Access to water**

In at least 70 percent of counties, the average distance to water for both households and livestock is longer than normal for the time of year (Table 2), in some cases significantly so – by more than three times for households in Kilifi, and by more than five times for livestock in Meru (North), where the loss of pasture is forcing herds to graze further from operational water points.

The average distance walked by households either lengthened or shortened on the previous month in a similar number of counties (Table 2). However, for livestock, longer distances were more common. There were also significant in-county differences: for example, the average household distance in Narok fell slightly on the previous month but in the pastoral livelihood zone it doubled, while in neighbouring Kajiado, the livestock distance in Chulu was nearly 30km, almost four times the county average.

**Table 2: Average household and livestock return distances to water, August 2017<sup>1</sup>**

	<i>No. counties where the distance was below, above or at the long-term mean</i>			<i>No. counties where the distance was shorter, longer or the same as the previous month</i>		
	<b>Below</b>	<b>Above</b>	<b>At</b>	<b>Shorter</b>	<b>Longer</b>	<b>Stable</b>
<b>Household</b>	5	14	1	8	9	3
<b>Livestock</b>	5	15	1	5	13	3

### **Terms of trade**

Table 3 illustrates the movements in the average prices of cattle, goats and maize on the previous month and their relationship to the long-term mean.

**Table 3: Average cattle, goat and maize prices, August 2017<sup>2</sup>**

	<i>No. of counties where the price rose, fell or was stable on the previous month</i>			<i>No. counties where the price was above, below or at the long-term mean</i>		
	<b>Rose</b>	<b>Fell</b>	<b>Stable</b>	<b>Above</b>	<b>Below</b>	<b>At</b>
<b>Cattle</b>	10	12	0	7	14	1
<b>Goats</b>	13	8	1	8	12	2
<b>Maize</b>	4	17	2	22	1	-

A number of factors influenced livestock prices. The rise in Baringo was attributed both to improved livestock body condition and security, specifically the re-opening of markets in Tiaty after a prolonged period of insecurity. However, in Laikipia, security operations closed off access to markets in Olmorani and

<sup>1</sup> Data from 20 counties for households and 21 counties for livestock.

<sup>2</sup> Data from 22 counties for livestock prices (no sales recorded in Nyeri) and 23 counties for maize prices

Rumuruti which then depressed prices in neighbouring Samburu. Another factor was the Eid festival, which temporarily increased demand and consequently prices in counties such as Garissa, Isiolo and Wajir.

While the pattern of livestock price movements was mixed, maize prices showed a more definitive trend. The price is now falling in most counties, now that more maize is available post-harvest, but it remains above the long-term mean in all but one. The four counties where the price continues to rise are all pastoral counties, while those where it is falling most steeply are all semi-arid maize-producing counties.

Table 4 summarises the terms of trade between goats and maize, for which the general trend is positive.<sup>3</sup> The largest rises on the previous month were at the coast: by 146 percent in Lamu, 52 percent in Kilifi, and 43 percent in Taita Taveta. The largest falls were in Meru (North), by 26 percent, and in Kajiado, by 18 percent.

**Table 4: Terms of trade, August 2017<sup>4</sup>**

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

### **Health and nutrition**

The bulletins monitor the percentage of children under five at risk of malnutrition, determined by measuring the mid-upper arm circumference (MUAC) (Table 5). There are ten counties where the average MUAC rate exceeds 15 percent.

Low milk consumption is one factor contributing to high malnutrition. Milk consumption fell by 32 percent on the previous month in Marsabit, where milk production was zero in the pastoral zone and worsening in the agro-pastoral zone where livestock are heavily concentrated. The MUAC rate in Laisamis, where

<sup>3</sup> 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. 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. Thus, livestock-keepers are caught in a pincer movement, as the value of their principal asset reduces and the price of the food they need rises.

<sup>4</sup> Data from 21 counties.

milk consumption is almost zero, now exceeds 27 percent. In Tana River, where the MUAC rate is nearly 80 percent above the long-term mean, milk consumption is just six percent of normal.

Several bulletins mention the potential impact of the nurses' strike on health and nutrition services. The improvements in nutrition in counties such as Baringo and Kitui are attributed to high-impact interventions and effective screening, referral and outreach, which are put at risk as facilities close.

**Table 5: Children at risk of malnutrition (MUAC), August 2017<sup>5</sup>**

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

The largest movements in the average MUAC rate on the previous month are shown in Table 6. The nutrition hotspots in August included Samburu North, Komolion (Baringo), and Mosiro and Naroosura (Narok). The proportion of households in Kajiado with poor food consumption increased by 50 percent on the previous month.

**Table 6: Largest average movements in MUAC, August 2017**

<b>Increase on the previous month</b>		<b>Decrease on the previous month</b>	
Meru (North)	70%	Taita Taveta	52%
Makueni	23%	Nyeri (Kieni)	50%
Embu (Mbeere)	18%	Narok	26%
Kwale	15%	Kitui	22%

Cholera was reported by one county (Kilifi).

<sup>5</sup> Counties highlighted in bold have average MUAC rates above 15 percent.

## 1.2 Drought phase classification

The drought phase is determined by the indicators discussed in the previous sections (Table 7). There are currently four counties where drought conditions are considered normal, 13 in the alert phase, and six in the alarm phase. In most the trend is worsening.

**Table 7: Drought phase classification, September 2017**

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

## 2 Other food security challenges

There were fewer reports of conflict in August than in previous months. The situation has stabilised in Baringo, Isiolo and West Pokot.

The worst incidents were in Meru, where conflict in Igembe Central and Igembe North led to 14 deaths and the displacement of nearly 800 households in July, and a further three deaths in Igembe Central in August. Five schools have been closed in the same sub-county and households displaced.

Tension is high in Lamu, where security operations against Al-Shabaab continue, and also in border areas between Kitui and Tana River, between Laikipia and Samburu, and between communities in parts of Isiolo. The Kitui bulletin also notes that sand harvesting is expanding rapidly in the county and that its impact on water levels and soil erosion has the potential to contribute to conflict in future.

<sup>6</sup> Mixed farming (food crops/livestock) livelihood zone and National Park: alert and worsening

<sup>7</sup> Pastoral livelihood zone: alarm

<sup>8</sup> Pastoral (East) livelihood zone: alarm

<sup>9</sup> Pastoral (cattle) and pastoral (all-species) livelihood zones: alarm



Conflict between people and wildlife was reported by three counties: Baringo, Laikipia and Taita Taveta, while flash flooding in Riwo ward of West Pokot destroyed crops and killed livestock.

### 3 Response

Representatives of the relevant ministries have agreed the third phase of the government’s drought response programme for the period September to December 2017. A total of Kshs. 6.1 billion is being released by the National Treasury.

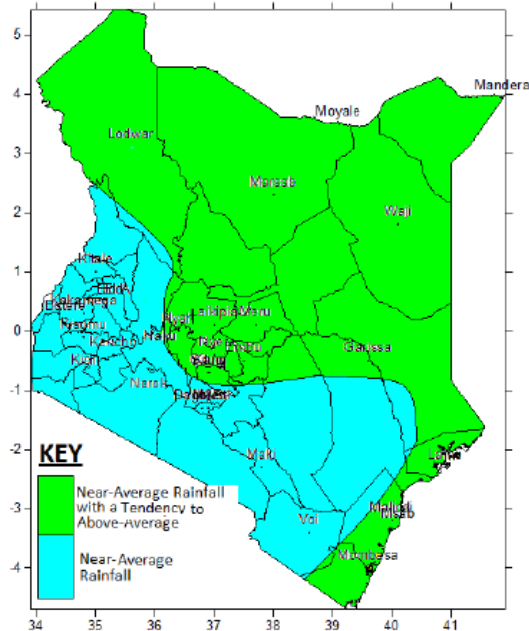
The NDMA has approved Kshs. 209 million of drought contingency finance for 15 counties since the start of the 2017-18 financial year, of which Kshs. 81 million has been disbursed. The details are in Annex 2. This builds on the Kshs. 1.3 billion allocated in the 2016-17 financial year.

The Hunger Safety Net Programme is scheduled to pay emergency cash transfers on 15 September with funds provided by the European Union and DFID. These were triggered by the June and July VCI, and are made up of Kshs. 115 million paid to 42,422 households in Wajir, Marsabit and Turkana (June), and a further Kshs. 57 million paid to 21,089 households in Wajir and Turkana (July).

### 4 Projected food security situation

The forecast for the short rains season was published on 29 August. Figure 3 illustrates the outlook, which is for enhanced rainfall in most parts of the country. This is expected to be well-distributed in both time and space, especially during October and the peak month of November. However, the onset of the season may be late in parts of the south and north-west, while cessation may be early across the north.

Figure 3: Rainfall outlook, October-November-December, 2017



## 5 Recommendations

There are four categories of county where immediate action is required:

- i. Counties where drought stress is already critical, and where essential services and interventions must be sustained, and if necessary expanded: **Garissa, Isiolo, Kajiado, Marsabit, Samburu (East), Tana River and Wajir.**
- ii. Counties where the situation is either worsening, or where levels of vulnerability are high, such that modest shocks could have major consequences: **Kilifi, Laikipia, Mandera, Narok and Turkana.**
- iii. Counties where inter-county action is needed to manage migration and conflict: **Kitui, Meru and Nyeri.**
- iv. Counties with localised hotspots, particularly in semi-arid areas.

Formalising the National Drought Emergency Fund, and ensuring adequate attention to drought risk reduction within the next round of national and county development planning, remain matters of priority.

**Annex 1 Vegetation Condition Index, 28<sup>th</sup> August 2017**

ADMINISTRATIVE UNIT		Remarks				
COUNTY	Sub County	VCI-3month 31 <sup>st</sup> July 2017	VCI-3 month 28 <sup>st</sup> August 2017	Colour	VCI values (3-month)	Drought Category
					≥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
<b>BARINGO</b>	<b>County</b>	<b>35.02</b>	<b>50.78</b>	This county received good off-season rains, and as a result, the vegetation greenness continued to improve and is now well within the normal ranges for the period.		
	Central	45.09	48.64			
	Eldama	47.55	62.21			
	Mogotio	28.59	47.41			
	North	31.86	49.73			
	South	38.06	53.8			
	Tiaty	32.60	48.85			
<b>MANDERA</b>	<b>County</b>	<b>48.05</b>	<b>47.39</b>	The vegetation greenness is within the normal ranges for the period but considering the aridity of this county and the high vulnerability of its people, it is important to enhance preparedness to address possible drought impacts that will probably occur in September/October, especially if there is a delay in the start of the rainy season.		
	Banissa	47.73	45.16			
	Mandera East	34.96	38.8			
	Lafey	48.44	49.43			
	Mandera North	48.72	49.25			
	Mandera South	51.78	50.52			
	Mandera West	46.63	43.90			
<b>TURKANA</b>	<b>County</b>	<b>24.06</b>	<b>35.06</b>	Some off-season rains have improved the vegetation greenness, which is currently almost in the normal range for the period. However, considering the high vulnerability to drought and the high temperatures, it is recommended to prepare for response to mitigate possible impacts during September and October.		
	Turkana Central	19.07	40.36			
	Turkana East	23.79	37.87			
	Turkana Loima	22.08	34.16			
	Turkana North	28.87	34.75			
	Turkana South	25.38	34.06			
	Turkana West	20.46	32.31			
<b>MARSABIT</b>	<b>County</b>	<b>26.66</b>	<b>31.08</b>	The County experiences a moderate aridity but with clear a worsening trend in Moyale sub-county, which is an important fall-back area for livestock. It is anticipated that increased drought impacts will arise in September/October. Drought response funds should be disbursed soon to facilitate preparedness for response.		
	Laisaimis	30.06	31.85			
	Moyale	36.05	28.21			
	N. Horr	21.67	30.92			
	Saku	39.25	39.40			
<b>WAJIR</b>	<b>County</b>	<b>29.39</b>	<b>30.06</b>	While the greenness in Wajir North is above normal ranges for the period, the drought situation remains severe in the south and west. This requires targeted intervention to mitigate the ongoing and expected impacts. The NDMA has already financed a number of response activities to: reallocate livestock from Wajir South/West to Wajir North, where better grazing resources are still available; facilitate vaccination in areas with a high concentration of animals; and fund conflict resolution.		
	Wajir East	28.92	29.52			
	Eldas	33.25	37.52			
	Wajir North	62.86	59.34			
	Wajir South	15.16	14.39			
	Tarbaj	39.66	44.52			
	Wajir West	13.23	16.43			
<b>SAMBURU</b>	<b>County</b>	<b>29.92</b>	<b>28.00</b>	Samburu East experiences a significant drought with the VCI shifting into the severe deficit band. Preparedness for response should be activated soon to target the most affected hotspots.		
	Samburu East	22.82	18.46			
	Samburu North	36.11	34.97			
	Samburu West	37.52	42.96			
<b>GARISSA</b>	<b>County</b>	<b>30.54</b>	<b>28.15</b>	The drought situation remains critical, especially in Lagdera. This sub-county is experiencing an acute water shortage which requires intensive water trucking activities. The other sub-counties are on a worsening trend and therefore significant drought impacts are expected in September and October, until the start of the short rainy season.		
	Balambala	24.89	26.02			
	Daadab	31.60	28.52			
	Fafi	32.38	26.47			
	Ijara	39.55	39.90			
	Lagdera	16.53	17.18			
	Dujis	35.77	37.72			

<b>ISIOLO</b>	<b>County</b>	<b>15.33</b>	<b>14.88</b>	Isiolo county continues to experience a significant vegetation deficit, with Isiolo North close to the extreme deficit band. Due to the serious drought situation, the NDMA has already disbursed some DCF to support sectoral mitigation activities across the county.
	Isiolo North	10.97	11.44	
	Isiolo South	22.01	20.13	
<b>TANA RIVER</b>	<b>County</b>	<b>24.31</b>	<b>24.1</b>	All sub-counties are experiencing a moderate but significant vegetation deficit. Considering that rainfall performance in the county has been below average for the last three seasons, there is a clear impact on the food security of many households that requires enhanced drought mitigation before the onset of the short rainy season.
	Bura	24.71	24.95	
	Galole	23.84	22.91	
	Garsen	24.25	24.13	
<b>KAJIADO</b>	<b>County</b>	<b>22.14</b>	<b>22.18</b>	There is a clear vegetation deficit across all sub-counties, with Kajiado Central and West in the severe band. As a result, households in pastoral and agro-pastoral livelihood zones are facing food insecurity due to forage and water scarcity, while those in the mixed farming systems realised a poor maize harvest (up to 90% yield reduction from LTA) with consequent deficit of households' food stocks. Due to the worsening situation, it is important to support local livelihoods through targeted drought mitigation initiatives to be implemented in September-October.
	Kajiado Central	15.92	16.26	
	Kajiado East	21.66	21.46	
	Kajiado North	27.11	20.75	
	Kajiado South	29.03	30.69	
	Kajiado West	20.15	18.97	
<b>LAIKIPIA</b>	<b>County</b>	<b>22.67</b>	<b>31.00</b>	Some improvements recorded due to some off-season rains that have been received in late July. However, no sufficient recovery has occurred so far in a number of hotspots in L. North, where livestock shows poor body condition as a result of poor forage. In addition, the poor performance of the 2017 long rains season has impacted on crop yields with a consequent decline in food stocks at household level. This situation requires the prompt implementation of some drought response activities, especially to support livestock husbandry and water supply in the worst affected hotspots
	Laikipia East	23.89	32.99	
	Laikipia North	22.39	27.77	
	Laikipia West	22.60	36.10	
<b>THARAKA NITHI</b>	<b>County</b>	<b>45.89</b>	<b>37.93</b>	Vegetation greenness is within normal ranges for the period, except in Tharaka sub-county which is on a negative trend and shifted to the moderate deficit band. The situation on the ground needs monitoring to determine whether some drought response activities will be needed before the onset of the short rainy season.
	Chuka	59.74	48.40	
	Maara	61.98	55.29	
	Tharaka	35.52	28.44	
<b>WEST POKOT</b>	<b>County</b>	<b>37.01</b>	<b>44.95</b>	Due to significant off-season rains, there has been a marked improvement from the previous month. The vegetation greenness is currently within normal ranges for the period.
	Kacheliba	35.64	44.04	
	Kapenguria	38.21	47.05	
	Pokot South	43.34	48.00	
	Sigor	34.74	43.02	
<b>EMBU</b>	<b>County</b>	<b>51.98</b>	<b>43.62</b>	Vegetation greenness is within normal ranges for the period, although with a significant worsening trend in Mbeere South.
	Manyatta	61.73	52.14	
	Mbeere North	49.58	44.61	
	Mbeere South	45.37	37.32	
	Runyenjes	71.28	55.37	
<b>KITUI</b>	<b>County</b>	<b>39.87</b>	<b>39.79</b>	The vegetation greenness is almost within normal ranges with only Mwingi Central and Kitui East recording a minor deficit. However, hotspots in the strip bordering Tana River county received insignificant rainfall, and communities are experiencing significant water and pasture stress that requires close follow up. Crop production has been affected by the poor temporal distribution of rainfall, especially in the mixed farming livelihood zone.
	Kitui Central	60.92	65.43	
	Kitui East	32.64	33.80	
	Mwingi Central	31.12	34.07	
	Mwingi North	41.62	38.60	
	Mwingi West	57.51	54.39	
	Kitui Rural	44.27	43.69	
	Kitui South	39.28	38.79	
	Kitui West	60.78	60.63	
<b>MAKUENI</b>	<b>County</b>	<b>54.62</b>	<b>53.39</b>	Vegetation greenness is within /abov normal ranges for the period, although hotspots are recorded in Kibwezi East, Kibwezi West and parts of Makueni sub-county that need close follow up. In addition, the
	Kaiti	76.48	74.91	
	Kibwezi East	47.96	48.97	

	Kibwezi West	45.1	42.06	irregular distribution of rains led to a decline in crop production, with some areas in the marginal mixed farming livelihood zone having total crop failure.
	Kilome	58.13	50.84	
	Makueni	57.51	58.56	
	Mbooni	73.99	72.94	
<b>MERU</b>	<b>County</b>	<b>45.16</b>	<b>43.16</b>	Moderate deficit recorded in Igembe North and Tigania East, while all the other sub-counties are within normal ranges for the period. The situation needs to be closely monitored, also considering the serious resource-based conflict occurring between incoming herders from Isiolo and locals. This may require some disbursement of DCF to facilitate inter-county coordination and support for conflict resolution.
	Buuri	44.33	45.06	
	Central Imenti	61.72	61.00	
	Igembe Central	44.18	39.76	
	Igembe North	28.65	29.17	
	Igembe South	53.25	47.15	
	North Imenti	56.56	53.32	
	South Imenti	64.83	60.13	
	Tigania East	35.19	33.72	
	Tigania West	39.86	36.16	
<b>NYERI</b>	<b>County</b>	<b>55.47</b>	<b>52.41</b>	Vegetation greenness is within /above normal ranges for the period. However, the county may need some support to cushion the negative impacts of a possible influx of livestock from neighbouring counties.
	Kieni	51.56	52.29	
	Mathira	60.84	54.66	
	Mukurweini	55.36	40.84	
	Town	51.16	50.74	
	Othaya	63.97	49.05	
	Tetu	62.79	60.13	
<b>KILIFI</b>	<b>County</b>	<b>32.9</b>	<b>26.54</b>	After a significant recovery recorded in the last couple of months, the drought situation is currently on a worsening trend, with Magarini shifting into the severe deficit band and Ganze and Malindi entering the moderate category. This situation requires prompt follow up, also considering that this county experienced a number of drought shocks between July 2016 and March 2017.
	Ganze	38.73	30.96	
	Kaloleni	46.65	49.95	
	Magarini	26.18	19.70	
	Malindi	35.62	25.38	
	Kilifi North	42.15	35.09	
	Rabai	48.76	50.39	
	Kilifi South	50.23	41.85	
<b>KWALE</b>	<b>County</b>	<b>52.12</b>	<b>54.63</b>	Significant improvements recorded in the arid part of the county (Kinango and Lungalunga), while Msambweni is still experiencing a mild deficit.
	Kinango	60.13	60.36	
	Lungalunga	49.13	51.73	
	Matuga	31.93	44.56	
	Msambweni	24.17	27.04	
<b>LAMU</b>	<b>County</b>	<b>50.86</b>	<b>56.27</b>	Huge improvements recorded with both sub-counties experiencing above-normal vegetation greenness.
	Lamu East	50.16	55.35	
	Lamu West	51.2	56.81	
<b>TAITA TAVETA</b>	<b>County</b>	<b>39.64</b>	<b>41.58</b>	VCI is within normal ranges for the period across all sub-counties, although drought hotspots are present, especially in Voi sub-county
	Mwatate	39.42	37.22	
	Taveta	49.15	51.92	
	Voi	35.70	38.57	
	Wundanyi	39.73	40.85	
<b>NAROK</b>	<b>County</b>	<b>27.48</b>	<b>29.06</b>	Three sub-counties have vegetation greenness below the normal ranges for the period, with Kilgoris shifting into the extreme deficit band (with poor pasture in the pastoral livelihood zone). As a result, the body condition of livestock is worsening fast, while livestock migration is affecting households' access to milk. This situation should prompt a rapid assessment to identify hotspots that need to be targeted through the use of DCF.
	Narok East	44.76	39.15	
	Emurua Dikirr	38.91	43.82	
	Kilgoris	10.45	7.77	
	Narok North	43.60	45.18	
	Narok South	32.14	30.03	
	Narok West	27.48	25.43	

## Annex 2 Drought contingency fund approvals and disbursements, 2017-18

Row Labels	FRF No.	Agriculture	Coordination	Education	Health & Nutrition	Livestock	Security	Water	Grand Total	Disbursed / Funded	Committed Balance
Baringo	544		947,600						947,600	947,600	-
<b>Baringo Total</b>									<b>947,600</b>	<b>947,600</b>	-
Garissa	540							1,593,700	1,593,700	1,593,700	-
Garissa	552							3,442,400	3,442,400		3,442,400.00
Garissa	571							349,200	349,200	349,200	-
<b>Garissa Total</b>								<b>5,385,300</b>	<b>1,942,900</b>	<b>1,942,900</b>	<b>3,442,400.00</b>
Isiolo	565		1,466,600	4,368,150		19,652,500	1,732,800	4,301,900	31,521,950	22,319,900	9,202,050.00
Isiolo	573					1,987,000			1,987,000		1,987,000.00
Isiolo	576					1,520,800			1,520,800		1,520,800.00
<b>Isiolo Total</b>									<b>35,029,750</b>	<b>22,319,900</b>	<b>12,709,850.00</b>
Kwale	582					1,115,790			1,115,790		1,115,790.00
<b>Kwale Total</b>									<b>1,115,790</b>	-	<b>1,115,790.00</b>
Kilifi	578					1,764,200			1,764,200		1,764,200.00
Kilifi	581		283,000						283,000		283,000.00
<b>Kilifi Total</b>									<b>2,047,200</b>	-	<b>2,047,200.00</b>
Lamu	538					7,329,000			7,329,000	7,329,000	-
Lamu	541					5,050,550			5,050,550	3,732,000	1,318,550.00
Lamu	542					206,500			206,500	206,500	-
<b>Lamu Total</b>									<b>12,586,050</b>	<b>11,267,500</b>	<b>1,318,550.00</b>
Mandera	547							4,514,500	4,514,500	4,514,500	-
Mandera	563	1,186,800	1,163,850			9,658,000		1,840,280	13,848,930		13,848,930.00
<b>Mandera Total</b>									<b>18,363,430</b>	<b>4,514,500</b>	<b>13,848,930.00</b>
Marsabit	525					15,011,600		2,320,000	17,331,600		17,331,600.00
Marsabit	550		1,250,400						1,250,400	1,250,400	-
Marsabit	582					1,120,000			1,120,000	1,120,000	-
Marsabit	584		1,448,000		1,718,800	17,921,200		8,000,500	29,088,500	-	29,088,500.00
<b>Marsabit Total</b>									<b>48,790,500</b>	<b>2,370,400</b>	<b>46,420,100.00</b>
Narok	592		319,100						319,100	319,100	-
<b>Narok Total</b>									<b>319,100</b>	<b>319,100</b>	-
Nyeri	531					4,500,400			4,500,400	4,500,400	-
<b>Nyeri Total</b>									<b>4,500,400</b>	<b>4,500,400</b>	-
Samburu	526					9,900,100			9,900,100	9,900,100	-
Samburu	537					3,720,900			3,720,900	3,720,900	-
Samburu	579					984,200			984,200		984,200.00
Samburu	585		1,247,480			14,574,880			15,822,360	-	15,822,360.00
<b>Samburu Total</b>									<b>30,427,560</b>	<b>13,621,000</b>	<b>16,806,560.00</b>
Taita Taveta	536		102,150						102,150	102,150	-
<b>Taita Taveta Total</b>									<b>102,150</b>	<b>102,150</b>	-
Tana River	553		1,040,400						1,040,400	1,040,400	-
Tana River	558							3,326,400	3,326,400	3,326,400	-
Tana River	569					23,988,800			23,988,800		23,988,800.00
<b>Tana River Total</b>									<b>28,355,600</b>	<b>4,366,800</b>	<b>23,988,800.00</b>
Turkana	532					1,177,450			1,177,450	1,177,450	-
Turkana	546		1,641,400						1,641,400	1,641,400	-
Turkana	549					6,934,230			6,934,230		6,934,230.00
<b>Turkana Total</b>									<b>9,753,080</b>	<b>2,818,850</b>	<b>6,934,230.00</b>
Wajir	551					5,631,000			5,631,000	5,631,000	-
Wajir	557					1,411,100			1,411,100	1,411,100	-
Wajir	567		243,000				4,480,500		4,723,500	4,723,500	-
<b>Wajir Total</b>									<b>11,765,600</b>	<b>11,765,600</b>	-
<b>Grand Total</b>									<b>209,489,110</b>	<b>80,856,700</b>	<b>128,632,410.00</b>

### Annex 3 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 8). The combined analysis from all four indicator groups then determines the particular drought phase: normal, alert, alarm, emergency or recovery (Figure 4). Identifying the correct drought phase helps to guide the most appropriate response for that stage in the drought cycle.

**Table 8: 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 4: Drought Phase Classification**

