



**THE PRESIDENCY
MINISTRY OF DEVOLUTION AND PLANNING**

National Drought Early Warning Bulletin

June 2017



Summary

The long rains have ended, but many parts of the ASALs are still experiencing a significant deficit in vegetation condition, long distances to water, unusually high food prices, and worrying levels of malnutrition. While there have been some modest improvements on the previous month in some areas – illustrated by the fact that more counties this month are in the alert drought phase than in alarm – conditions are generally far from normal and any recovery is likely to be short-lived. A difficult dry season stretches ahead, particularly for pastoral counties.

The early warning bulletins highlight other risks: insecurity has worsened on the previous month, while the Fall Armyworm and African Armyworm continue to threaten crops in marginal agricultural counties, for some of whom the prospects for the next harvest were already poor.

A recent mid-season assessment concluded that the drought-affected population has reached 3.5 million, an increase from 2.7 million, and that a total of Kshs. 11.1 billion will be required for response measures between July and December 2017. Since the coming dry season will coincide with both the year end in government and the elections, it is essential that mechanisms are found to ensure that counties can sustain essential services throughout this critical period.

1 Drought status

1.1 Drought indicators

Rainfall

The rainfall situation in May was mixed. The early warning bulletins report that some coastal counties, such as Kilifi, Kwale and Lamu, received near-normal to above-normal rainfall that was also well distributed, but these were the exceptions. In a few counties (Embu, Makeni, Samburu and Tana River), monthly average rainfall was normal to above-normal in quantity but not well distributed. In others, such as West Pokot, the distribution was good but the amount was lower than expected. However, in approximately two-thirds of ASAL counties, the rainfall was both below normal and poorly distributed.

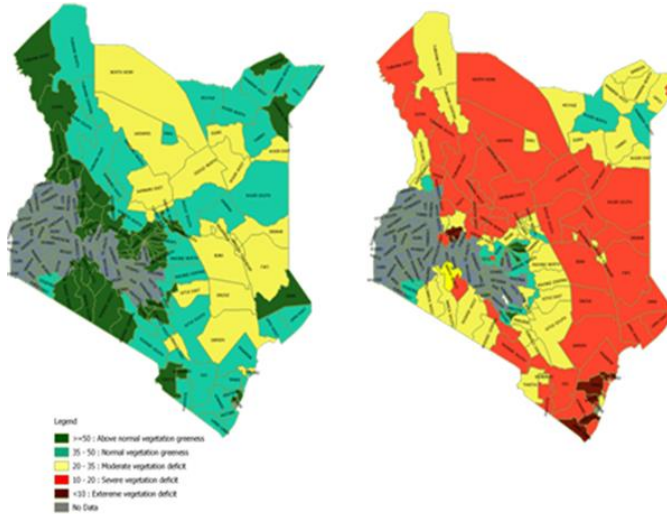
The pastoral areas of Isiolo and Marsabit are particularly badly affected; parts of Isiolo received no rain in either April or May. Some areas of Mosiro, Magadi and Mbirikani in Kajiado, and most of Turkana, also received only traces of rainfall in May. For many counties, the long rains season has not lived up to its name: in Tana River, for example, onset was in the second week of April and cessation in the second dekad of May.

Vegetation condition

Figure 1 compares the Vegetation Condition Index (VCI) in late May 2016 with that in late May 2017. By the end of a rainy season one would expect a return to normal vegetation greenness, as the left-hand map from 2016 illustrates. However, the right-hand map shows that there is still a significant vegetation deficit in most arid and semi-arid counties. The current VCI values do show some improvement on the

previous month, but they also show that the long rains season has not been sufficient to generate an adequate recovery.

Figure 1: Comparison of Vegetation Condition Index, May 2016 and May 2017



Water sources

Despite the patchy performance of the season, there has been sufficient rainfall in most counties to reduce water stress. For example, most households in West Pokot were reliant on boreholes in April but have now switched to open sources: seasonal rivers have started to flow again, the volume of water in permanent rivers has risen, and pans have reached 50-75 percent of their capacity. Water trucking has reduced significantly across the region, continuing only in pockets where water stress is greatest, such as parts of Isiolo and Marsabit.

Livestock production

Livestock body condition is generally on an improving trend, although it has not yet returned to normal. Drought-related livestock mortality was reported by seven counties in May,¹ down from eight in April, although for the most part this now affects only a few animals. The number of counties reporting abnormal livestock migration also fell from 12 in April to ten in May. However, while the trend is positive, the fact that neither mortality nor migration are normal reflects continued stress within the livestock economy.

In some pastoral counties milk production improved significantly on the previous month: in Garissa it rose by 38 percent and is now over half the long-term mean; in Marsabit it rose by 23 percent and is now 84 percent of the long-term mean, while in Wajir it is now above the long-term mean. In others, however, it remains unusually low – just one percent, three percent and four percent respectively of the long-term mean in Turkana, Tana River and Mandera. In Isiolo, Lamu and Samburu, milk production continues to fall.

¹ Baringo, Isiolo, Kajiado, Laikipia, Lamu, Samburu, Turkana

The bulletins report outbreaks of critical livestock diseases such as Contagious Bovine Pleuropneumonia (CBPP), Contagious Caprine Pleuropneumonia (CCPP), Foot and Mouth Disease (FMD) and Peste des Petits Ruminants (PPR). These affected the following counties:

	Baringo	Garissa	Isiolo	Kilifi	Narok	Nyeri	Tharaka Nithi	Turkana	Wajir	West Pokot
CBPP										
CCPP										
FMD						<i>suspected</i>				
PPR										

Crop production

The bulletins present a varied picture of the state of crop production in marginal agricultural counties. On the positive side, Embu reports that the condition of pulses in both the mixed farming and marginal mixed farming livelihood zones is good, and that households will soon start early harvesting of cowpeas, green grams and beans. The maize crop in the two livelihood zones is also good to fair and will be ready in two months, reducing families' dependence on the market. Maize, pulses and horticultural crops in West Pokot are also on course. Similarly in Kwale, both maize and pulses are doing well across the livelihood zones, the only problem being some leaching caused by flooding in early May which may reduce the projected production.

Elsewhere, the situation is far less favourable. In the mixed farming livelihood zones of Kitui, the condition of crops is fair, but in the marginal mixed farming zones they wilted during germination. Early cessation of the rains and their poor distribution caused significant moisture stress and consequently a below-normal harvest is expected. Makueni also expects a below-average harvest: while rainfall was above normal, its late onset and poor distribution caused many farmers in the mid and lower zones of the county not to plant. In Tharaka Nithi, crops are in good condition in the mixed farming and rain-fed cropping livelihood zones, and farmers who planted legumes at the onset of the rains expect to harvest in mid-June. However, in the marginal mixed farming zone, crop condition is poor. Crops are also showing signs of water stress in Nyeri, while in Laikipia, late planting is likely to lead to significant crop failure.

Cases of Fall Armyworm and African Armyworm were reported by the following counties: Kitui (Kitui South and Mwingi West), Makueni, Narok (Transmara East and West), Nyeri (Tetu and Othaya), Tharaka Nithi (reportedly contained), and West Pokot.

Access to water

In almost all pastoral counties, and despite some significant reductions on the previous month, distances to water for both households and livestock are still above normal. For example, the average household distance fell by 17 percent in Baringo but remains nearly four times the long-term mean. The distances walked by livestock in all pastoral counties except Tana River were either the same as, or shorter than, the previous month, but in all cases these distances were also longer than normal. The situation in Kajiado,

where the average distance to water for livestock is the same in May as it was in February, perhaps illustrates how little impact the long rains season has had on underlying conditions.

In semi-arid counties there have also been substantial improvements on the previous month. For example, in Lamu, the average household distance to water fell by 87 percent, and the average livestock distance by 46 percent; both are now at or below the long-term mean. In Kitui and Makueni, household distances fell by 41 percent and 32 percent respectively. In most semi-arid counties the distances for livestock are now at or below the long-term mean. However, in half the semi-arid counties the household distances are still above the long-term mean – three times as long in Kilifi, for example, and twice as long in Embu (Mbeere).

Terms of trade

Table 1 summarises the trend in the average prices of cattle, goats and maize across the ASAL counties.

Table 1: Average cattle, goat and maize prices compared with the previous month, May 2017

	No. of counties with price movements			Largest falls on previous month	Largest rises on previous month	Comparison with long-term mean
	Fell	Rose	Stable			
Cattle	7	14	1	Samburu (32%) Tana River (19%)	Lamu (19%) Kajiado (18%)	Below LTM in 13 counties Above LTM in 9 counties
Goats	6	12	4	Embu (25%) Kwale (15%)	Mandera (35%) Lamu (20%)	Below LTM in 14 counties Above LTM in 8 counties
Maize	5	15	2	Garissa (Kshs. 10) Marsabit (Kshs. 6)	Kilifi (Kshs. 28) Baringo (Kshs. 11) Makueni (Kshs. 11)	Above LTM in all counties > Kshs. 20 per kg above LTM in 13 counties

Food prices remain universally high. As in April, the average maize price in May was above the long-term mean in all counties, and more than Kshs. 20 above it in 13 counties (an increase from 8 counties in April). As usual, the highest average price is in Turkana (Kshs. 98 per kg), but it has reached Kshs. 88 in Kilifi, which is more than double the long-term mean of Kshs. 42. Very high prices were recorded in pockets of other counties: up to Kshs. 75 in parts of Taita Taveta, and as high as Kshs. 120 in Mosiro, Kajiado West. There is no sign yet of relief for the marginal agricultural counties; four of the five counties where average maize prices fell on the previous month were pastoral counties.

Livestock prices are continuing the trend set in the previous month. In approximately two-thirds of counties they are rising but still low. Laikipia saw the first increase in cattle prices in nine months, while in Kwale, livestock prices remain below the minimum recorded for the month, as they were in April. The bulletin notes that this is not necessarily a reflection of livestock body condition, which has improved, but rather of increased sales to finance essential non-food needs such as education, which reduced market demand.

Moreover, while livestock prices may be rising in more counties than they are falling, it is important to remember that these are averages. The average cattle price in Narok, for example, is currently Kshs. 17,200, but ranges from a high of Kshs. 28,000 recorded in the mixed farming livelihood zone to a low of Kshs. 8,000 in the pastoral livelihood zone.

Table 2 summarises the terms of trade between goats and maize.² The largest improvements were in Mandera and Marsabit, where terms of trade appreciated by 43 percent and 33 percent respectively, but in almost all counties they are below the long-term mean. Like last month, worsening terms of trade are generally a reflection of rising maize prices rather than falling livestock prices.

Table 2: Terms of trade, May 2017 (data based on 19 counties)

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

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 3).

Table 3: Children at risk of malnutrition (MUAC), May 2017 (data based on 21 counties)

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

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

² 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.

In most counties the trend is improving or stable. However, in all arid counties except Turkana the average MUAC rate is well above above the 15 percent threshold of concern, and in Turkana it is only one percentage point below it. The largest movements in the average MUAC rate on the previous month were as follows:

Increase on the previous month		Decrease on the previous month	
Embu (Mbeere)	73%	Nyeri	60% ³
Turkana	27%	Samburu	24%
Tana River	23%	Narok	22%
Garissa	13%	West Pokot	14%

The bulletins illustrate notable differences within counties. For example, the improvement in Narok primarily reflects conditions in the sub-counties of Kilgoris and Emurua Dikirr, where rainfall has been higher and both milk and vegetables are more readily available; the situation has not yet improved in other parts of the county. While the average MUAC rate for Narok is 14 percent, it is as high as 27 percent in parts of the pastoral and agro-pastoral livelihood zones and as low as 1.5 percent in the mixed farming livelihood zone.

Similarly in Marsabit, where the average MUAC rate is stable on the previous month at 18.7 percent, there has been significant improvement in North Horr as a result of blanket supplementary feeding programmes and other interventions, but continuing challenges in Laisamis where the rate has reached 38 percent. Other hotspots include Arsim and Kawop in Samburu North, the agro-pastoral areas of Witu in Lamu, and Marungu ward in Taita Taveta.

There are reports of cholera in the Kakuma refugee camp in Turkana, and of kalazar in Shurr, Logologo and Laisamis in Marsabit.

1.2 Drought phase classification

The indicators discussed in the previous sections determine the drought phase for June (Table 4).

There are two notable changes this month. First, more counties are now in alert than in alarm; there are ten counties in alarm and 12 in alert, compared with 15 in alarm and seven in alert in the previous month. Second, the trend in all but four counties is now either stable or improving.

However, given that key indicators have not yet returned to normal, it is highly unlikely that this improvement will be sustained in the months ahead.

³ The decrease is largely attributed to migrating families having moved out of the county.

Table 4: Drought phase classification, June 2017

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

2 Other food security challenges

The security situation appears to have worsened in May. Multiple incidents in Baringo and Isiolo led to deaths, displacement and the loss of livestock. Inter-communal conflict was also reported in Kitui, Laikipia, Marsabit and the Tana Delta. Insecurity in the border areas of West Pokot continues to curtail access to rangelands and markets, while tension has risen in Lamu with recent attacks by Al Shabaab.

Human-wildlife conflict was reported by four counties – Baringo, Laikipia, Taita Taveta and Tana River – and was said to be increasing across all livelihood zones in Laikipia.

Flooding was reported in the north and west of Turkana, in Marsabit, and in Kilifi. This caused the deaths of nine people in Marsabit and the loss of crops along the rivers Sabaki and Nzovuni in Kilifi.

3 Response

The NDMA coordinated a mid-season assessment which concluded that the drought-affected population has reached 3.5 million, an increase from the current figure of 2.7 million. The government has developed a budget for the next phase of the response, between July and December 2017, which totals Kshs. 11.1 billion. Annex 2 contains a summary of the requirements by sector.

⁴ Pastoral all-species livelihood zone: alarm

⁵ Pastoral cattle and all-species livelihood zones: alarm

⁶ Mixed farming livelihood zone: worsening

⁷ Marginal mixed farming livelihood zone: worsening

Annex 3 shows the allocation of drought contingency finance by the NDMA between July 2016 and May 2017. A total of Kshs. 605 million has been disbursed in 21 counties since July, supporting interventions in seven sectors: water, livestock, agriculture, education, health and nutrition, security, and coordination. A further Kshs. 210 million has been committed.

Once again, the VCI in April was severe enough to trigger emergency cash transfers the following month in the Hunger Safety Net Programme counties of Turkana, Marsabit, Mandera and Wajir. These transfers total Kshs. 224 million and will benefit 82,828 households across the four counties. They are being financed by the European Union.

4 Projected food security situation

As the long rains season ends, many parts of the ASALs are still experiencing a severe deficit in vegetation condition, lengthy distances to water, unusually high food prices, and worrying levels of malnutrition.

In pastoral areas, the level of recovery in rangeland conditions and livestock productivity has not been sufficient to see families through the coming dry period. Despite some improvements against some indicators in some areas, the situation is far from normal. Any relief from drought stress in the immediate aftermath of the rains is likely to be short-lived. A difficult dry season stretches ahead.

In marginal agricultural areas, the late onset of the season and the poor distribution of rainfall mean that the prospects for the next harvest in a number of counties are poor. There is already heavy dependence on markets, where food prices are abnormally high, and no sign yet of these prices coming down. In counties where the long rains performed better, harvests in June and July will provide some relief. But for others, food insecurity is likely to worsen.

5 Recommendations

- 1. Scale up drought preparedness and response measures through the coming dry season and beyond.** Key priorities include conflict resolution and negotiation in areas where livestock are converging, as well as measures to improve the readiness to respond, such as maintenance of equipment (e.g. water bowsers and vehicles for rapid conflict response) and pre-positioning of supplies (e.g. spare parts and supplementary feeds for people and livestock).
- 2. Take steps to ensure that drought response continues unimpeded across the year end and throughout the election period.** County governments will need access to funds for essential services such as health, nutrition, and the control of crop and livestock diseases.
- 3. Ensure that the Kenya Vision 2030 Medium Term Plan III contains the necessary measures to reduce drought risk,** and that these are integrated in the relevant sector and county plans and budgets.

Annex 1 Vegetation Condition Index, 29th May 2017

COUNTY	Sub-County	VCI 3-month 24 th April 2017	VCI 3-month 29 th May 2017	Color	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
BARINGO	County	10.72	18.02	A general improvement is recorded across all sub-counties, although the vegetation greenness is well below the normal ranges expected for the period. If some off-season rains are received in June-July (as often happens) then the drought situation will further improve.		
	Central	18.27	29.91			
	Eldama	7.86	10.95			
	Mogotio	0.7	8.66			
	North	8.99	17.97			
	South	12.52	21.71			
	Tiaty	12.9	18.92			
MANDERA	County	11.72	32.7	The rains received in early May eventually increased the vegetation greenness in many areas. As a result, the VCI has considerably improved in all sub-counties, with only Mandera East still in the severe deficit band.		
	Banissa	7.5	32.98			
	Mandera East	8.58	18.13			
	Lafey	9.83	26.25			
	Mandera North	8.27	30.26			
	Mandera South	20.43	42.41			
	Mandera West	11.06	34.17			
TURKANA	County	20.93	18.7	This county received most of its rainfall in April, which led to some improvement in vegetation conditions at the end of April. However, this trend was not maintained in May, since the vegetation greenness is now stable or worsening, with four out of six sub-counties now in the severe deficit band.		
	Turkana Central	30.02	21.3			
	Turkana East	15.29	16.33			
	Loima	22.23	17.84			
	Turkana North	18.46	20.23			
	Turkana South	21.69	17.85			
	Turkana West	23.65	18.41			
MARSABIT	County	10.14	14.73	Significant improvements recorded in Saku and Moyale sub-counties while the situation remains critical in North Horr and Laisaimis.		
	Laisaimis	10.88	15.19			
	Moyale	6.25	22.41			
	North Horr	10.66	12.14			
	Saku	11.04	21.65			
WAJIR	County	9.63	21	There has been a substantial improvement in most sub-counties although a severe deficit is still recorded in Wajir South. For the first time in many months the vegetation greenness is normal in one sub-county (Wajir North).		
	Wajir East	11.38	22.36			
	Eldas	12.25	21.75			
	Wajir North	13.18	37.07			
	Wajir South	4.7	12.59			
	Tarbaj	15.64	32.12			
	Wajir West	10.05	11.58			
SAMBURU	County	7.36	15.71	Some improvements recorded, but all three sub-counties are still in the severe vegetation deficit band.		
	Samburu East	5.25	14.4			
	Samburu North	9.71	16.34			
	Samburu West	7.89	18.94			
GARISSA	County	10.73	15.89	Vegetation conditions are still very poor across all sub-counties, but a significant improvement on previous months was recorded in Daadab sub-county (VCI from 4.86 to 17.55).		
	Balambala	13.58	17.55			
	Daadab	4.86	17.55			
	Fafi	10.53	16.91			
	Ijara	14.25	13.84			
	Lagdera	10.91	11.1			
	Dujis	15.11	31.5			

ISIOLO	County	11.59	11.3	No significant changes from the end of April with all sub-counties in the severe vegetation greenness deficit band.
	Isiolo North	13.42	10.08	
	Isiolo South	8.8	13.18	
TANA RIVER	County	11.68	15.17	The VCI values show a severe vegetation deficit across all sub-counties.
	Bura	11.4	17.08	
	Galole	12.17	15.36	
	Garsen	11.61	13.44	
KAJIADO	County	16.07	21.27	The vegetation greenness has significantly improved from the end of April although the situation is still below the normal ranges for the period.
	Kajiado Central	26.44	27.17	
	Kajiado East	10.39	19.63	
	Kajiado North	25.06	20.12	
	Kajiado South	9.49	17.72	
	Kajiado West	17.78	21.54	
LAIKIPIA	County	7.94	14.13	Insufficient recovery so far, with two out of three sub-counties still in the severe vegetation deficit band.
	Laikipia East	11.52	20.47	
	Laikipia North	7.94	13.31	
	Laikipia West	6.22	12.62	
THARAKA NITHI	County	20.7	36.6	Significant improvements from the end of April, with only one sub-county experiencing moderate deficit at the end of May.
	Chuka	29.94	42.61	
	Maara	43.34	55.71	
	Tharaka	9.98	28.24	
WEST POKOT	County	18.23	25.02	A marked improvement on the previous month with only one sub-county still in the severe deficit band (Sigor).
	Kacheliba	14.73	20.82	
	Kapenguria	24.62	32.43	
	Pokot South	26.88	38.96	
	Sigor	14.07	18.18	
EMBU	County	27.45	41.3	Significant improvements recorded from the end of April with all sub-counties within normal ranges for the period.
	Manyatta	43.03	43.87	
	Mbeere North	22.46	42.5	
	Mbeere South	21.45	37.16	
	Runyenjes	43.68	51.3	
KITUI	County	9.72	25.39	Progressive improvements recorded but the overall vegetation greenness is still moderately below the normal values for the period. However, further improvements are expected in view of the significant rains received during the last week.
	Kitui Central	23.36	39.3	
	Kitui East	9.3	25.72	
	Mwingi Central	12.69	21.88	
	Mwingi North	9.91	30.92	
	Mwingi West	13.1	39.98	
	Kitui Rural	9.51	23.79	
	Kitui South	7.71	21.68	
	Kitui West	10.27	31.73	
MAKUENI	County	18.9	33.52	The VCI is on a positive trend with three sub-counties now in the normal band and three others shifting from the severe to the moderate deficit category.
	Kaiti	41.23	56.23	
	Kibwezi East	16.55	32.89	
	Kibwezi West	11.21	23.63	
	Kilome	21.44	42.77	
	Makueni	18.24	27.78	
	Mbooni	30.39	47.95	
MERU	County	27.01	31.45	The vegetation greenness is normal in three sub-counties and a positive trend for the next weeks is envisaged, considering the additional rains received in the last week.
	Buuri	27.19	26.72	
	Central Imenti	37.33	43.95	
	Igembe Central	20.74	27.95	
	Igembe North	18.08	20.85	

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	Igembe South	23.53	37.17	
	North Imenti	31.35	34.77	
	South Imenti	49.86	57.73	
	Tigania East	22	23.55	
	Tigania West	28.46	30.69	
NYERI	County	33.67	37.64	There has been a good recovery of vegetation condition in the last two weeks, with all the sub-counties now within the normal ranges (apart from Town, which is not so relevant in terms of food security).
	Kieni	29.18	37.45	
	Mathira	44.31	42.35	
	Mukurweini	39.77	40.9	
	Town	30.37	18.42	
	Othaya	41.51	39.83	
	Tetu	34.44	37.64	
KILIFI	County	9.66	10.59	Although some rains were received in May, the overall situation is still critical across all sub-counties. The fact that the county experienced in the last year the worst drought ever recorded makes it difficult for the area to fully recover to the normal vegetation greenness expected for this period. Only additional rains in June/July could further improve the drought situation.
	Ganze	6.17	9.58	
	Kaloleni	-4.69	2.31	
	Magarini	12.76	11.25	
	Malindi	10.08	9.27	
	Kilifi North	6.27	10.41	
	Rabai	6.37	11.22	
	Kilifi South	15.66	23.58	
KWALE	County	4.63	6.25	As above.
	Kinango	5.75	10.63	
	Lungalunga	-2.4	-4.06	
	Matuga	8.96	1.86	
	Msambweni	13.92	15.1	
LAMU	County	11.26	12.06	As above.
	Lamu East	11.57	14.58	
	Lamu West	11.09	10.58	
TAITA TAVETA	County	13.16	16.88	No significant improvement recorded.
	Mwatate	8.84	13.02	
	Taveta	14.78	20.62	
	Voi	13.74	15.85	
	Wundanyi	13.08	23.53	
NAROK	County	29.61	27.74	VCI showing some moderate deficit in three sub-counties, while the VCI in Narok East is still in the severe deficit band.
	Narok East	18.43	17.59	
	Emurua Dikirr	45.95	36.08	
	Kilgoris	49.28	44.43	
	Narok North	27.64	30.31	
	Narok South	21.19	23.3	
	Narok West	32.55	27.74	

Annex 2 Drought response budget, July-December 2017

Sector	Interventions	Total cost
Food & safety nets	Food aid	2,465,217,391
	Cash transfers	1,620,000,000
	Sector sub-total	4,085,217,391
Livestock	Livestock feeds & supplements	1,500,000,000
	Livestock offtake	540,000,000
	Animal services	48,000,000
	Sector sub-total	2,088,000,000
Agriculture	Pre-positioning of assorted drought-resistant seeds	230,000,000
	Sector sub-total	230,000,000
Water	Water trucking	90,000,000
	Rehabilitation & maintenance of water facilities	150,000,000
	Fuel subsidies for motorised boreholes	45,000,000
	Water storage tanks	15,000,000
	Sector sub-total	300,000,000
Health & nutrition	Hygiene & sanitation promotion	11,500,000
	Supplies for severe acute malnutrition – Ready to Use Therapeutic Feeds	90,000,000
	Supplies for moderate acute malnutrition – Ready to Use Supplementary Feeds	720,000,000
	Blanket supplementary feeding programme in five counties	2,400,000,000
	Sector sub-total	3,221,500,000
Education	Hygiene & sanitation in learning institutions	15,000,000
	Food to subsidise school fees in boarding secondary schools	720,000,000
	Sector sub-total	735,000,000
Peace & security	Intra/inter-community dialogue & resource use agreements in conflict hotspots	72,000,000
	Coordination of peace & security activities in insecure counties	360,000,000
	Sector sub-total	432,000,000
Coordination	Supporting county and sub-county steering groups	51,000,000
	Sector sub-total	51,000,000
	TOTAL	11,142,717,391

Annex 3 Drought contingency fund approvals and disbursements, 2016-17

	Agriculture	Coordination	Education	Health & Nutrition	Livestock	Security	Water	County Total	Total Disbursements July 2016 to May 2017	FRF Balance (Committed as at 31st May 2017)
Baringo	75,000	1,901,300	1,404,400	1,226,200	28,232,160	399,400	4,611,200	37,849,660	26,837,505	11,012,155
Garissa		3,178,900	7,732,200	5,256,800	64,235,000		7,484,700	87,887,600	47,319,609	40,567,991
Isiolo		1,574,800	11,130,205	2,074,500	12,769,200	1,898,400	6,668,550	36,115,655	34,267,620	1,848,035
Kajiado		2,088,300		1,523,900	15,191,360		9,310,800	28,114,360	10,729,800	17,384,560
Kilifi		627,900		2,963,700	22,137,600	160,950	4,934,600	30,824,750	23,609,350	7,215,400
Kitui		931,200		1,076,100	4,699,600		1,060,300	7,767,200	4,162,600	3,604,600
Kwale		689,575		4,870,550	12,760,250	93,000	2,632,568	21,045,943	19,513,782	1,532,161
Laikipia		940,800	1,100,000	2,701,000	4,595,100		2,141,900	11,478,800	6,650,350	4,828,450
Lamu		1,314,800	5,800,300	567,800	40,317,924	677,700	4,464,400	53,142,924	29,229,124	23,913,800
Makueni		784,700		1,362,600	2,046,800		862,300	5,056,400	4,166,400	890,000
Mandera		2,417,800		1,337,700	49,947,800		7,553,500	61,256,800	35,106,077	26,150,723
Marsabit		3,988,000		4,420,600	74,301,300	2,865,200	4,843,400	90,418,500	43,861,060	46,557,440
Narok		810,980			6,169,954		7,657,230	14,638,164	4,329,884	10,308,280
Nyeri		722,500			4,958,650			5,681,150	1,676,950	4,004,200
Samburu		2,676,000		764,340	38,330,900		2,778,650	44,549,890	43,754,990	794,900
Taita Taveta		2,482,500		1,883,950	15,539,810	653,100	4,101,880	24,661,240	11,716,685	12,944,555
Tana River		1,334,400	3,580,300	1,623,800	31,264,200	519,000	1,889,600	40,211,300	23,069,700	17,141,600
Tharaka Nithi		633,000	3,150,000	1,580,000			2,182,000	7,545,000	3,188,800	4,356,200
Turkana		1,734,800		1,125,800	57,440,700		3,036,000	63,337,300	42,110,050	21,227,250
Wajir		1,048,500		1,816,200	61,498,400		6,092,000	70,455,100	20,411,100	50,044,000
West Pokot	223,200	1,441,200		5,032,500	4,227,000	1,255,800	3,537,930	15,717,630	12,963,249	2,754,382
ADC Requisition					57,410,600			57,410,600	19,136,867	38,273,733
NDMA HQ (Payments made centrally from HQ for livestock feeds)									137,384,614	-137,384,614
									0	0
Sector Total	298,200	33,321,955	33,897,405	43,208,040	608,074,308	8,522,550	87,843,508	815,165,966	605,196,166	209,969,800

Annex 4 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 2). 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 2: Drought Phase Classification

