



**THE PRESIDENCY
MINISTRY OF DEVOLUTION AND PLANNING**

National Drought Early Warning Bulletin

May 2017



Summary

Rainfall received in April across many parts of the ASALs has provided some reprieve, replenishing water sources and regenerating pasture and browse to some degree. Distances to water are reducing but are still well above normal. Livestock body condition and milk production are starting to improve, particularly among browsers, although the effect of the season on livestock productivity should be more apparent next month. However, any positive impacts are likely to be modest and short-lived, since the rains have generally been below normal and poorly distributed and therefore unlikely to sustain recovery throughout the coming dry period. Moreover, some areas have received very little rainfall, even none.

One of the most striking features of the April bulletins is the large rise in the price of basic foodstuffs, particularly in semi-arid counties. Marginal agricultural counties are already dealing with the cumulative impact of past poor seasons. The late start to the current season and its erratic performance thus far suggests that the long rains crop will also be poor.

Consequently, there is no sign yet that the current drought period is coming to an end, but rather every indication that sustained assistance will be required, possibly right through the next two dry seasons until March/April 2018.

1 Drought status

1.1 Drought indicators

Rainfall

The long rains season has continued to perform below par in ASAL counties. Most areas have received around 50 percent of normal rainfall or less. Some of the worst affected counties include Isiolo, where the pastoral areas received no rainfall in April, and Tana River, where rainfall was negligible. The temporal and spatial distribution of the rainfall, with one or two exceptions, has also been poor. Flash flooding has caused livestock deaths in Marsabit and damaged rural access roads and farms in Kitui.

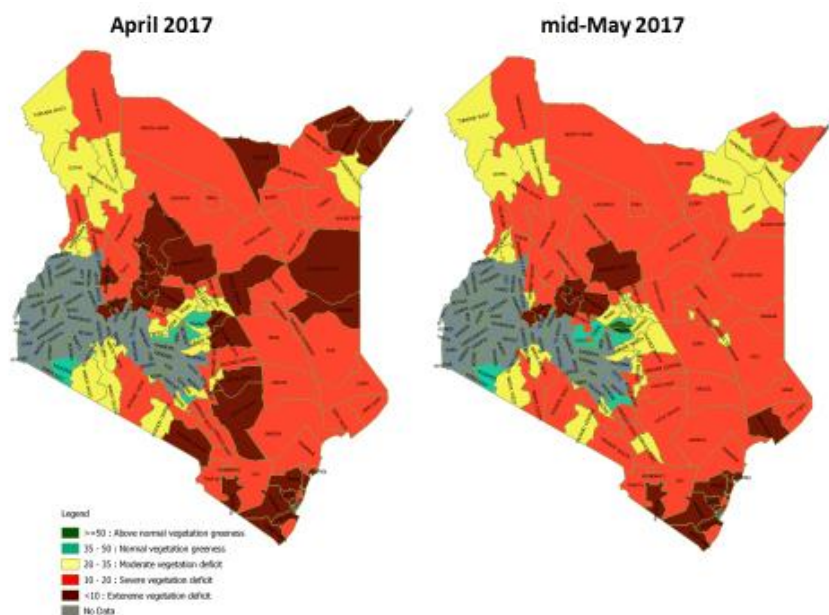
Vegetation condition

In almost all ASAL counties the condition of vegetation is still well below the normal ranges for the period. There has been some improvement on the previous month, as shown in Figure 1, and the situation could further improve in areas which received good rainfall in early May (such as parts of the coast). However, the outlook is far from promising, since at this point in the year most rangeland should have recovered. Another difficult dry season is expected. Detailed VCI values for mid-May are in Annex 1.

Water sources

The rainfall has been sufficient to recharge water sources to some degree, improving the quality of water and reducing distances and waiting times. For example, most pans and dams in Narok are almost back to their normal levels except in a few areas in Narok East, while most pans in Mandera have also impounded water.

Figure 1: VCI, April and mid-May 2017



However, in other areas severe water shortages persist. Isiolo remains water-stressed, particularly Sericho, Merti and Garbatulla, while in the marginal mixed farming livelihood zones of Kitui and Tharaka Nithi there has been minimal recharge of open sources and seasonal rivers. Water trucking continues in parts of Baringo, Isiolo, Kilifi, Mandera and Wajir.

Livestock production

Milk production rose slightly on the previous month in several counties and by a significant margin in a few: by 71 percent in Narok, for example. However, for the most part, it remains far from normal. It is just three percent of the long-term mean in Tana River and Mandera, and in the latter is also less than the minimum recorded for the month. In Turkana, average milk production fell to one percent of the long-term mean. It also fell in Samburu, where households are refraining from milking in order to leave the little available milk for the new-born stock.

Livestock body condition shows signs of improving. In Kwale, for example, 89 percent of households in April reported it as ‘fair’ and 11 percent as ‘good’, when in March all households were reporting it as ‘poor’. The number of counties experiencing drought-related livestock mortality fell from 13 in March to eight in April: these were Garissa, Isiolo, Laikipia, Lamu (where the rate is falling), Mandera, Marsabit, Samburu (where the rate is rising) and Tana River. Elsewhere, livestock were lost to cold weather, a changing diet, or flash flooding. The number of counties reporting unusual livestock migration also fell from 15 to 12.

The distribution of critical livestock diseases in April was as follows:

Foot and Mouth Disease	Baringo, Isiolo, Laikipia (unconfirmed), Kwale, Narok
Contagious Bovine Pleuropneumonia (CBPP)	Marsabit, Narok, Turkana, Wajir, West Pokot
Contagious Caprine Pleuropneumonia (CCPP)	Baringo, Isiolo, Kilifi, Kitui, Marsabit, Tharaka Nithi, Turkana, Wajir, West Pokot
Peste des Petits Ruminants	Baringo, Garissa (suspected), Marsabit, Wajir, West Pokot

Crop production

More counties in April were affected by the Fall Armyworm, including Kitui, Kwale, Makueni, Tharaka Nithi and West Pokot. County Departments of Agriculture are taking measures to contain it, but close monitoring and quick response will be essential to counter its spread.

The late onset and poor performance of the season has had an impact on crop production. For example:

- Moisture stress has affected the early-planted crop in Kitui and Makueni.
- Crops are performing poorly in the marginal mixed farming zones of Embu and Kitui, in Kieni West, and in parts of the agro-pastoral zone of Meru.
- Some farmers in Igembe North, Igembe Central and Tigania West in Meru chose not to re-plant after their germinated crops dried up, because this happened well into the season, and because of the high cost of inputs and the uncertainty of rainfall progression.
- Both Tharaka Nithi and Narok expect below-average harvests given current rainfall trends.
- Horticultural production has fallen in West Pokot.

On the other hand, crops are performing well in Kieni East, which has enjoyed near-normal rainfall, and in Kwale.

Access to water

Return distances to water for both households and livestock have generally reduced on the previous month. There were slight rises for households in Baringo, Laikipia, Lamu and Makueni, but in all other counties the distances were stable or fell. Even so, in all but a few counties, household distances to water remain above the long-term mean, sometimes by a significant margin: around four times as long in Meru (North), around three times as long in Baringo, Embu (Mbeere) and Kilifi, and around twice as long in Garissa, Makueni and Samburu.

Average livestock distances are also well above normal: more than three times as long in Garissa, and more than twice as long in Baringo, Embu (Mbeere), Meru (North) and Tana River. Intra-county differences can also be substantial: in the drought reserves of Isiolo, livestock are trekking twice as far as the county average, while in Mosiro, Magadi and Mbirikani, the trekking distance is up to five times the average for Kajiado.

Terms of trade

Like last month, the most striking feature of the market analysis in the April bulletins is the sharp rise in food prices. Table 1 summarises the most significant price movements on the previous month.

The average maize price is now above the long-term mean in all ASAL counties. The largest increases have been in semi-arid counties, where in all but two (Nyeri and Taita Taveta) the average price per kg is now more than Kshs. 17 above the long-term mean. In the south-eastern marginal agricultural counties, the average price per kg is now Kshs. 50-60 compared with a normal range of Kshs. 30-40. Average prices have reached Kshs. 60 at the coast and Kshs. 65-78 in the southern rangelands.

Table 1: Average cattle, goat and maize prices compared with the previous month, April 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	6	14	2	Baringo (22%) Kwale (19%)	Wajir (40%) Tana River (28%)	Below LTM in 13 counties Above LTM in 9 counties
Goats	6	15	1	All price falls were marginal	Garissa (76%) West Pokot (20%)	Below LTM in 15 counties Above LTM in 7 counties
Maize	1	17	4	Tana River (Kshs. 1)	Narok (Kshs. 31) Embu (Kshs. 18) Kilifi (Kshs. 14)	Above LTM in all counties > Kshs. 20 per kg above LTM in 8 counties

Livestock price movements on the previous month were generally modest, particularly for goats. In most counties livestock prices are rising. While this may reflect improved body condition, particularly of small stock, it does not necessarily indicate any underlying change. Price rises may be caused by the impact of destocking programmes, or by owners holding on to their stock in the expectation that conditions will improve and thereby pushing up demand. Livestock prices in Kwale are notably low: both cattle and goat prices are now below the lowest recorded for the month.

Average livestock prices may also conceal significant intra-county differences. In Marsabit, for example, the average goat price rose slightly on the previous month to Kshs. 2,366 as body condition in Saku and Moyale improved; but in parts of the pastoral livelihood zones, such as Balesa and North Horr, the price collapsed to as little as Kshs. 500.

Table 2 summarises the trend in the terms of trade between goats and maize compared with the previous month.¹ Worsening terms of trade are generally the result of rising maize prices rather than falling livestock prices.

Table 2: Terms of trade, April 2017 (data based on 18 counties)

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

¹ 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.

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). Unlike last month, when half the counties were on a worsening trend, the situation in most counties is now either stabilising or improving, although the rate is generally still above the long-term mean.

The largest movements in the MUAC rate on the previous month were as follows:

Increase on the previous month		Decrease on the previous month	
Samburu	34%	Turkana	35%
Narok	30%	West Pokot	21%
Tana River	17%	Kilifi	18%
Kwale	17%		

Table 3: Children at risk of malnutrition (MUAC), April 2017

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

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

The situation in Narok continues to worsen: the average MUAC rate has risen steadily from 7.7 percent in January to 18 percent in April; in parts of the pastoral and agro-pastoral livelihood zones it has reached 23 percent. This is attributed to increased cases of fever, poor dietary diversity, low milk consumption, and high market prices. Similar factors lie behind the large spike in Samburu. In Laikipia, the MUAC rate is now double what it was in January (seven percent against 3.5 percent). In Nyeri, the comparatively high rate for Kieni relates to households which have migrated into the area. More positively, the improving trend in Turkana and West Pokot in recent months has been sustained.

Milk consumption has improved slightly in some counties but generally remains unusually low. Average milk consumption in Lamu is only six percent of the long-term mean. In Garissa it nearly doubled on the previous month but is still just one-fifth of the long-term mean and below the minimum recorded for the month.

1.2 Drought phase classification

The indicators discussed in the previous sections determine the drought phase for May (Table 4). The principal changes on the previous month are that:

- One county (Narok) has moved from alarm to alert.
- The trend in ten counties is now improving rather than worsening – Baringo, Embu (Mbeere), Kajiado, Kitui, Makueni, Lamu, Mandera, Marsabit, Taita Taveta and Wajir – while in another (Tharaka Nithi) it has stabilised. While this is welcome, it demonstrates that the current situation is far from normal since at this point in the season all counties would normally be on an improving trend.

Table 4: Drought phase classification, May 2017

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

2 Other food security challenges

Insecurity and conflict were reported by slightly fewer counties this month. The worst incidents were still in Baringo, West Pokot and Laikipia, but in Isiolo and Samburu the situation has improved. In Isiolo, while there was still tension around Belgesh and in the Kom rangelands, insecurity reduced as herders returned to neighbouring counties. Samburu remained relatively calm expect for some highway banditry in Samburu East. Resource-based conflict was reported in parts of Kitui, Meru and Tana River, and in the drought fall-back areas of Marsabit.

Human-wildlife conflict affected four counties: Baringo, Lamu, Taita Taveta and Tana River. It was reported to be increasing in Lamu and reducing in Taita Taveta, now that water and forage within the park have improved.

² Pastoral livelihood zone: alarm

³ Marginal mixed farming zone: worsening

3 Response

3.1 Drought contingency fund

Annex 2 shows the use of drought contingency finance between July 2016 and April 2017. An additional Kshs. 98 million has been allocated since last month. Since July, a total of Kshs. 886 million has been approved across seven sectors in 21 counties, of which Kshs. 519 million has been disbursed.

3.2 Shock-responsive transfers

The March VCI was severe enough to trigger emergency cash transfers for April in the Hunger Safety Net Programme counties of Turkana, Marsabit, Mandera and Wajir. A total of Kshs. 196 million was transferred to the bank accounts of 72,618 households on 2nd May 2017, with funds provided by the European Union.

4 Projected food security situation

Any improvement in environmental conditions and livestock productivity is likely to be modest and short-lived, since rainfall has so far been generally depressed and poorly distributed. In crop-producing counties there is every sign that the long rains harvest will be poor, adding to the cumulative impact of previous poor seasons and the current pressure caused by high food prices.

The NDMA has initiated a mid-season food security assessment which is underway across all ASAL counties. The report will be ready by mid-June and will guide interventions over the coming months. There is every indication that sustained assistance in drought-affected areas will be required for some time to come, possibly right through the next two dry seasons until March/April 2018.

5 Recommendations

- 1. Be prepared to scale up drought response measures through the coming dry season and beyond.** This is most urgent in areas of poor rainfall. But even in areas of good rainfall, relief measures such as livestock feeds or slaughter destocking may still be required if the regeneration of forage has been late or poor or if animals are too weak to survive the rains. Efforts to keep water sources operational, manage security, ensure adequate access to health and nutrition services, and protect children's rights to education, are all still critical.
- 2. Plan on the basis that households in predominantly crop-producing counties will remain highly market-dependent throughout 2017,** and possibly until the next short rains harvest in early 2018.
- 3. Ensure that households are protected from new risks,** such as the Fall Armyworm. County Departments of Agriculture should take urgent measures to monitor and control outbreaks.
- 4. Maintain focus on the long-term,** by integrating measures that will reduce drought risk and vulnerability within sector and county plans and budgets, in the context of the Kenya Vision 2030 Medium Term Plan III.

Annex 1 Vegetation Condition Index, 15th May 2017

COUNTY	Sub-County	VCI 3-month, 24 th April 2017	VCI 3-month, 15 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	13.09	There has been some marginal improvement (except in Mogotio) but the overall vegetation greenness is well below the normal range for the period. However, good rains were received during the week of 6 th May, which should significantly improve the VCI by the end of May.		
	Central	18.27	22.97			
	Eldama	7.86	7.29			
	Mogotio	0.7	2.71			
	North	8.99	12.32			
	South	12.52	16.59			
	Tiaty	12.9	14.64			
MANDERA	County	11.72	22.99	Near-normal rainfall received in April with significant improvement recorded in all sub-counties, although the VCI is still in the severe deficit band in four sub-counties. The positive trend should continue since the rains received in early May should eventually increase the vegetation greenness in many areas.		
	Banissa	7.5	19.41			
	Mandera East	8.58	13.65			
	Lafey	9.83	17.91			
	Mandera North	8.27	19.01			
	Mandera South	20.43	34.96			
	Mandera West	11.06	23.46			
TURKANA	County	20.93	19.74	This county received most of the rainfall in April, which led to some improvement in vegetation conditions by the end of that month. However, this trend has not been recorded in mid-May, since the VCI has remained stable or slightly worsened.		
	Turkana Central	30.02	25.02			
	Turkana East	15.29	14.58			
	Turkana Loima	22.23	21.22			
	Turkana North	18.46	18.48			
	Turkana South	21.69	19.2			
	Turkana West	23.65	22.55			
MARSABIT	County	10.14	11.21	Slight improvement from the end of April but all sub-counties are still experiencing a severe vegetation deficit.		
	Laisimis	10.88	11.47			
	Moyale	6.25	13.4			
	North Horr	10.66	10.32			
	Saku	11.04	14.54			
WAJIR	County	9.63	17.09	There have been substantial improvements in most of the sub-counties although the overall situation is well below the normal ranges for the period. However, most parts of Wajir South and West have not received sufficient rainfall and as a result their VCI is still very low and close to the extreme deficit band.		
	Wajir East	11.38	19.11			
	Eldas	12.25	18.82			
	Wajir North	13.18	24.74			
	Wajir South	4.7	11.03			
	Tarbaj	15.64	27.14			
	Wajir West	10.05	11.8			
SAMBURU	County	7.36	10.41	Only slight improvements have been recorded, with all three sub-counties experiencing a severe vegetation deficit.		
	Samburu East	5.25	9.87			
	Samburu North	9.71	10.64			
	Samburu West	7.89	11.85			

GARISSA	County	10.73	14.44	Vegetation conditions are still very poor across all sub-counties but improvements are expected where rains were received at the beginning of May.
	Balambala	13.58	16.58	
	Daadab	4.86	13.58	
	Fafi	10.53	15.51	
	Ijara	14.25	13.24	
	Lagdera	10.91	11.43	
	Dujis	15.11	26.16	
ISIOLO	County	11.59	11.13	No significant changes from the end of April, with all sub-counties in the severe vegetation deficit band.
	Isiolo North	13.42	11.53	
	Isiolo South	8.8	10.51	
TANA RIVER	County	11.68	13.04	The VCI values show a severe vegetation deficit across all sub-counties.
	Bura	11.4	14.73	
	Galole	12.17	13.13	
	Garsen	11.61	11.56	
KAJIADO	County	16.07	18.29	The VCI is still well below the normal ranges for the period in all sub-counties.
	Kajiado Central	26.44	28.17	
	Kajiado East	10.39	15.14	
	Kajiado North	25.06	20.17	
	Kajiado South	9.49	12.53	
LAIKIPIA	County	7.94	9.77	No sufficient recovery has occurred so far with two out of three sub-counties still in the extreme vegetation deficit band.
	Laikipia East	11.52	16.84	
	Laikipia North	7.94	8.61	
	Laikipia West	6.22	8.53	
THARAKA NITHI	County	20.7	30.4	Significant improvements from the end of April, with only one sub-county experiencing moderate deficit.
	Chuka	29.94	37.56	
	Maara	43.34	51.46	
	Tharaka	9.98	20.98	
WEST POKOT	County	18.23	23.01	The situation has improved in all sub-counties but it is still severe in two sub-counties. However, some significant rainfall was received in the first two weeks of May which should improve the vegetation greenness in the coming weeks.
	Kacheliba	14.73	18.17	
	Kapenguria	24.62	31.71	
	Pokot South	26.88	34.7	
EMBU	County	27.45	35.07	Significant improvement with only one sub-county (Mbeere South) still with moderate deficit.
	Manyatta	43.03	45.12	
	Mbeere North	22.46	34.48	
	Mbeere South	21.45	28.72	
	Runyenjes	43.68	48.88	
KITUI	County	9.72	17.18	Progressive improvements have been recorded but the overall vegetation greenness is still well below the normal values for the period.
	Kitui Central	23.36	30.48	
	Kitui East	9.3	17.24	
	Mwingi Central	12.69	18.16	
	Mwingi North	9.91	22.41	
	Mwingi West	13.1	26.78	
	Kitui Rural	9.51	13.29	
	Kitui South	7.71	13.13	
Kitui West	10.27	19.86		

MAKUENI	County	18.9	24.41	The VCI is on a positive trend but there is still a severe deficit in two sub-counties.
	Kaiti	41.23	47.35	
	Kibwezi East	16.55	23.69	
	Kibwezi West	11.21	14.58	
	Kilome	21.44	32.97	
	Makueni	18.24	19.63	
	Mbooni	30.39	37.9	
MERU	County	27.01	27.63	The vegetation greenness is normal in two sub-counties but a severe deficit is still recorded in Igembe North.
	Buuri	27.19	24.16	
	Central Imenti	37.33	39.72	
	Igembe Central	20.74	22.86	
	Igembe North	18.08	17.74	
	Igembe South	23.53	31.03	
	North Imenti	31.35	27.82	
	South Imenti	49.86	55.07	
	Tigania East	22	20.65	
	Tigania West	28.46	26.32	
NYERI	County	33.67	36.27	There has been a good recovery of vegetation conditions in the last two weeks, with all the sub-counties now within the normal ranges (apart from Town, which is less relevant in terms of food security).
	Kieni	29.18	35.21	
	Mathira	44.31	45.15	
	Mukurweini	39.77	36.39	
	Town	30.37	19.68	
	Othaya	41.51	38.62	
KILIFI	County	9.66	7.76	The situation is still very bad with five sub-counties in the extreme category. However, in the second week of May, significant rains were received (although especially in the coastal strip) which should significantly improve the vegetation conditions in the coming weeks.
	Ganze	6.17	3.99	
	Kaloleni	-4.69	-4.75	
	Magarini	12.76	10.87	
	Malindi	10.08	6.42	
	Kilifi-North	6.27	3.9	
	Rabai	6.37	6.2	
	Kilifi-South	15.66	14.88	
KWALE	County	4.63	0.72	As above.
	Kinango	5.75	2.87	
	Lungalunga	-2.4	-7.94	
	Matuga	8.96	1.98	
	Msambweni	13.92	13.41	
LAMU	County	11.26	9.55	As above.
	Lamu East	11.57	11.15	
	Lamu West	11.09	8.62	
TAITA TAVETA	County	13.16	12.73	No significant improvement recorded.
	Mwatate	8.84	8.59	
	Taveta	14.78	16.54	
	Voi	13.74	11.99	
	Wundanyi	13.08	16.74	

NAROK	County	29.61	26.59	VCI is showing some significant vegetation deficit in Narok East.
	Narok East	18.43	13.58	
	Emurua Dikirr	45.95	37.29	
	Kilgoris	49.28	49.06	
	Narok North	27.64	28.59	
	Narok South	21.19	18.38	
	Narok West	32.55	27.09	

Annex 2 Drought contingency fund approvals and disbursements, 2016-17

Counties	Agriculture	Coordination	Education	Health and Nutrition	Livestock	Security	Water	Grand Total	Amount disbursed as at 30th April 2017	RF Balance as at 30th April 2017	
Baringo	75,000	1,901,300	1,404,400	1,226,200	28,232,160	399,400	4,611,200	37,849,660	23,178,205	14,671,455	
Garissa	-	3,178,900	7,732,200	5,256,800	64,235,000	-	7,484,700	87,887,600	27,191,709	60,695,891	
Isiolo	-	1,574,800	11,130,205	2,074,500	20,196,200	1,898,400	6,668,550	43,542,655	19,356,220	24,186,435	
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	21,964,750	8,860,000	
Kitui	-	2,645,800	-	1,076,100	5,370,900	1,112,500	3,138,980	13,344,280	4,162,600	9,181,680	
Kwale	-	689,575	-	4,870,550	20,970,800	93,000	2,632,568	29,256,493	14,306,643	14,949,850	
Laikipia	398,800	940,800	1,100,000	2,701,000	13,740,700	-	2,141,900	21,023,200	6,251,550	14,771,650	
Lamu	-	1,314,800	5,800,300	567,800	40,317,924	677,700	4,464,400	53,142,924	17,426,724	35,716,200	
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	18,023,877	43,232,923	
Marsabit	-	10,960,000	-	4,420,600	74,301,300	2,865,200	4,843,400	97,390,500	31,545,460	65,845,040	
Narok	-	317,180	-	-	6,264,954	-	4,500,250	11,082,384	4,329,884	6,752,500	
Nyeri	-	722,500	-	-	4,958,650	-	-	5,681,150	1,676,950	4,004,200	
Samburu	-	2,676,000	-	764,340	58,615,900	-	5,146,650	67,202,890	40,034,090	27,168,800	
Taita Taveta	-	2,482,500	-	1,883,950	20,240,160	653,100	4,101,880	29,361,590	11,083,110	18,278,480	
Tana River	-	1,334,400	3,580,300	1,623,800	31,264,200	519,000	1,889,600	40,211,300	15,903,100	24,308,200	
Tharaka Nithi	-	546,800	-	1,580,000	-	-	1,062,000	3,188,800	3,188,800	0	
Turkana	-	2,089,700	5,326,800	2,928,800	59,650,150	2,675,000	5,394,900	78,065,350	20,371,800	57,693,550	
Wajir	-	1,048,500	-	1,816,200	61,498,400	-	6,092,000	70,455,100	23,898,120	46,556,980	
West Pokot	223,200	1,441,200	-	3,830,500	4,773,819	1,255,800	3,537,930	15,062,449	12,963,249	2,099,200	
ADC RF	-	-	-	-	57,410,600	-	-	57,410,600	19,136,867	38,273,733	
NDMA HQ (Payments done centrally from HQ for livestock feeds)									0	168,523,766	-168,523,766
Grand Total	697,000	41,783,455	36,074,205	43,809,040	661,365,377	12,310,050	90,372,108	886,411,235	519,413,674	366,997,561	

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 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

