National Drought Management Authority
MAKUENI COUNTY
DROUGHT EARLY WARNING BULLETIN FOR JUNE 2017

NDMA

A Vision 2030 Flagship Project

KENYA VISION 2030

JUNE EW PHASE

Early Warning (EW) Phase Classification

Livelihood Zone	Phase	Trend
Mixed farming coffee/dairy	Normal	Stable
Mixed farming Food Crop/Livestock	Normal	Worsening
Marginal Mixed Farming	Alert	Worsening
County	Alert	Worsening

Biophysical Indicators	Value	Normal Ranges
VCI-3Month	50.53	>35
State of Water Sources	5	5

Production indicators	Value	Normal
Crop Condition	Poding/Tussling	Fair
Livestock Body Condition	4-Moderate	6-Normal
Milk Production	1. 7L	1.8 Litres
Livestock Migration Pattern	Normal	Normal
Livestock deaths (from drought)	No death	No death

Access Indicators	Value	Normal
Terms of Trade (ToT)	67	>80
Milk Consumption	0.8 L	1.2 litres
Return distance to water sources	4.5 Km	3.4 Km
Cost of water at source (20 litres)	KSh 3-5	KSh 3

Utilization indicators	Value	Normal
Nutrition Status, MUAC (% at risk of malnutrition)	5.8	<12.9
Coping Strategy Index (CSI)	11.1	<10

Drought Situation & EW Phase Classification
Biophysical Indicators
- Generally the month was characterized by hot sunny days .
- The County experienced normal vegetation greenness (VCI of 50.53) apart from some pockets where there was moderate drought.
- The quantity and quality of pasture ranged from fair to good in the Mixed farming zone while in the Marginal mixed farming zone it was fair.
- The state of water sources in rivers, pans and dams was fair to good mostly in both Mixed farming (Coffee/Dairy) and Mixed farming (Livestock/Food Crop) while in the Marginal mixed farming zone it was fair.

Socio Economic Indicators (Impact Indicators)
- Livestock body condition ranged from fair to good across all the livelihood zones.
- Compared to the long term, Terms of trade were unfavorable at 57 which is below normal.
- The percentage of children at risk of malnutrition was 5.8 which is within the normal range.
- CSI for the County was 11.1 implying high coping mechanisms for most households.

Seasonal Calendar

▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation	▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase	▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept)	▪ Short rains ▪ Planting/weeding
Jan Feb Mar	Apr May Jun	Jul Aug Sept Oct	Nov Dec

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE
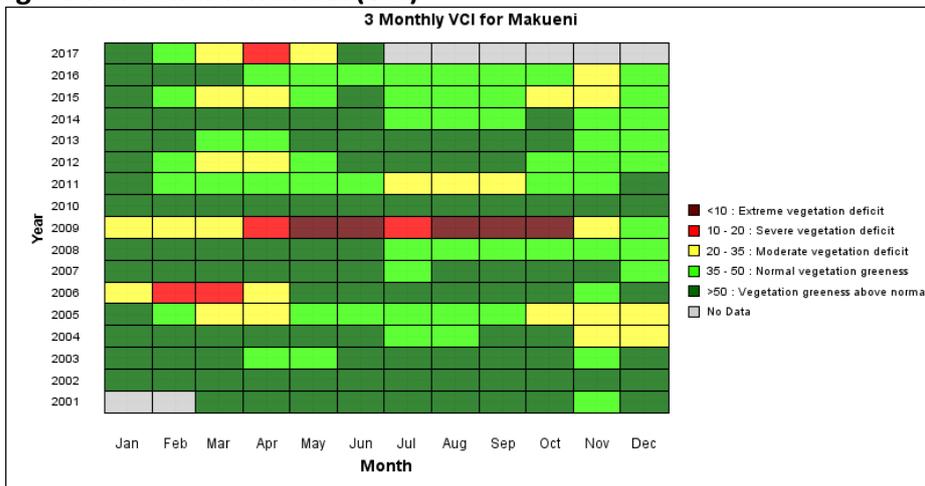
- Generally the month was characterised by hot sunny days and Cold nights. An average of 2.8mm of rain was recorded on the first dekad.
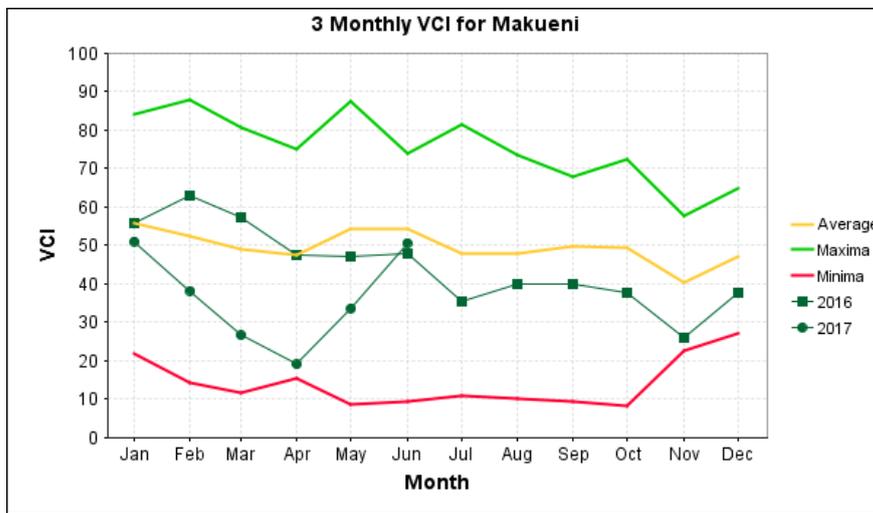
.

Kenya - Eastern - Makueni - 2017
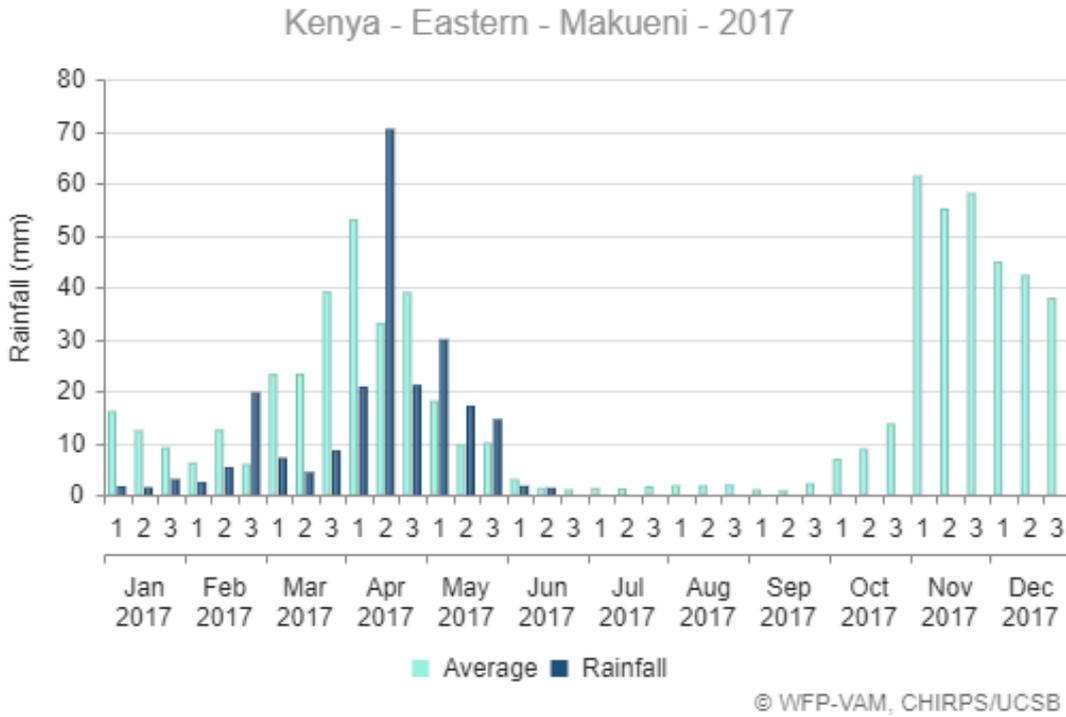
2. IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1 1 Vegetation Condition Index (VCI)

3 Monthly VCI for Makueni

3 Monthly VCI for Makueni

- The 3-month average VCI for the County was 50.53, an improvement from 33.52 that of last month.
- The 3-month average VCI for Makueni, Kibwezi West and East was 47.9, 42.53 and 46.74 respectively implying normal vegetation greenness for the County.
- The improvement in VCI can be occasioned 2017 MAM long rains where there was significant amounts of rain received mostly during the last month.

2.1.2 Pasture and Browse

- The quantity and quality of Pasture and browse ranged from fair to good in the mixed farming (Coffee/Dairy) and mixed farming (Livestock/Food Crop) livelihood zone while in the marginal mixed farming zone the condition of pasture was fair and poor in some few Pockets.
- An improvement was recorded in the pasture condition (Good 14.3% and fair 85.7%) and no household reported on poor conditions 0%
- Browse condition was good in mixed farming (Coffee/Dairy) and fair in mixed farming (Livestock/Food Crop) and Marginal mixed farming livelihood zones.
- The improvement in pasture and browse condition in mixed farming (Coffee/Dairy) and parts of mixed farming (Livestock/Food Crop) is as a result of the MAM long rains received in the last two months.
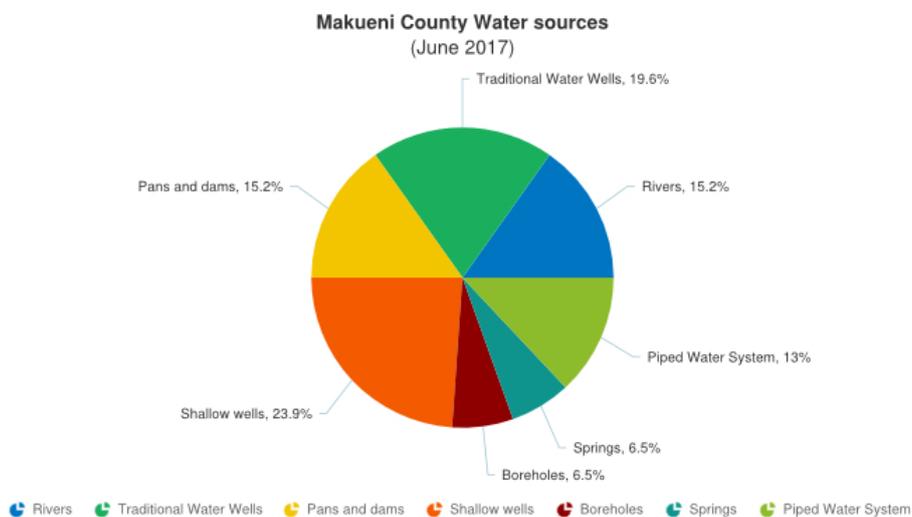

Makueni Pasture Condition
(Jun 2017 - Jun 2017)
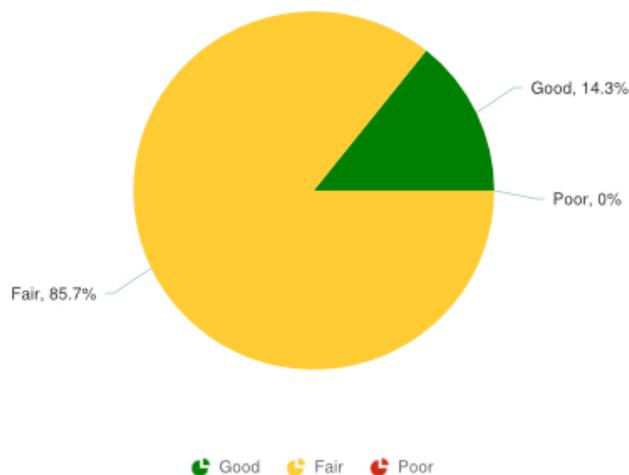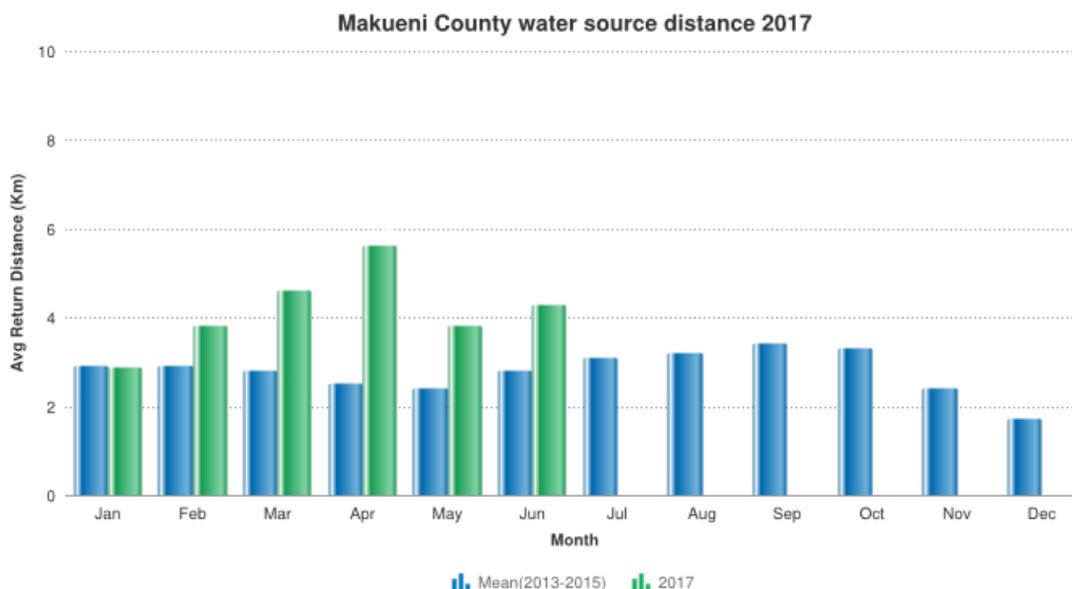
2.2 WATER RESOURCE

2.2.1 Sources

- Main sources of water for the month were: shallow wells at 23.9%, traditional River wells at 19.6%, rivers at 15.2%, Pan and dams 15.2%, piped water schemes at 13%, boreholes and springs each at 6.5%.

Makueni County Water sources
(June 2017)

- Traditional Water Wells, 19.6%
- Rivers, 15.2%
- Pans and dams, 15.2%
- Piped Water System, 13%
- Springs, 6.5%
- Boreholes, 6.5%
- Shallow wells, 23.9%

Legend: Rivers, Traditional Water Wells, Pans and dams, Shallow wells, Boreholes, Springs, Piped Water System

- The state of water sources was 4-5 –Normal in mixed farming (Coffee/Dairy) and mixed farming (Livestock/Food Crop) livelihood zones implying the availability of water at the moment is normal since recharge of open water sources was good in this zone and the situation is below normal in the marginal mixed farming livelihood zone since minimal rain was received in this zone.
- Households along the Athi belt still had to walk for longer distances in search of water.
- The average cost of a 20 litre Jerry can at the water kiosks was between 3 to 5 Shillings.

2.2.2 Household access and Utilization of water

- **Distances to water sources for household consumption**

Makueni County water source distance 2017

Y-axis: Avg Return Distance (Km), X-axis: Month

Legend: Mean(2013-2015), 2017

- The average household return distance increased from 3.8Km to 4.3Km compared to a similar time last year the distances were slightly higher.
- Compared to last month the situation is worsening.

2.2.3 Livestock access to water

Makueni County water source distance from grazing area - 2017
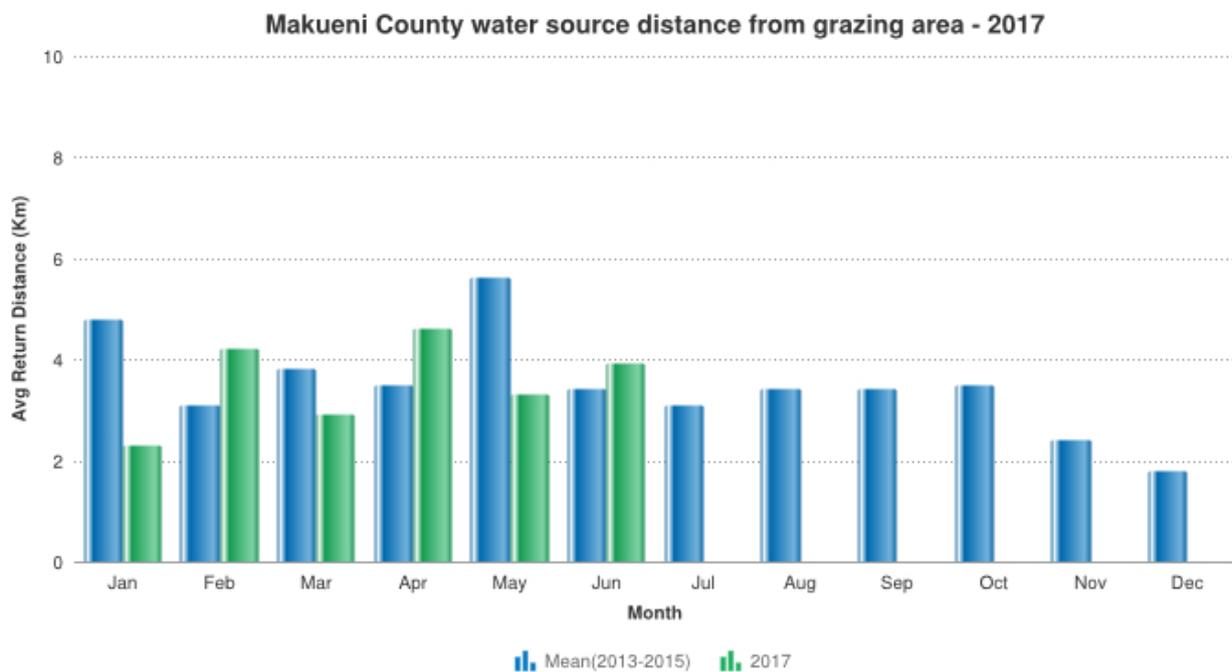
- Distances to water sources for livestock increased by 18% that is from 3.3Km to 3.9km.
- The distances are expected to increase more in the next 1-2 months as the available volume of water in open water sources continue to decline.

3.0 PRODUCTION INDICATORS
3.1 LIVESTOCK PRODUCTION
3.1.1 Livestock Body Condition
- The current livestock body condition for cattle was at the borderline; fore-ribs not visible to moderate and good for shoats across all the livelihood zones.

3.1.2 Livestock Diseases
- No major livestock disease outbreaks reported.

3.1.3 Milk Production
Milk availability
- Milk availability in all the livelihood zones was low but normal.
- Compared to last month the situation is at least better due to the availability of pasture and water for the livestock.

Marginal mixed Farming zone:
- Households in this zone were more reliant on goats' milk whose yield was between 0.1-0.3lts per day. Local Zebu also produced 0.2-0.5lts but the situation is expected to improve more with the availability of pasture and water.

Mixed farming (Food Crop/Livestock):
- In this zone Zebu cattle and crossbreeds accounted for most milk produced. Availability was approximately 0.4-0.6lts compared to a normal of 0.5lts.

Mixed Farming (Coffee/Dairy):
- The production of milk per day per household ranged from 0.75-1.5 lts per day against a normal of 1litre.
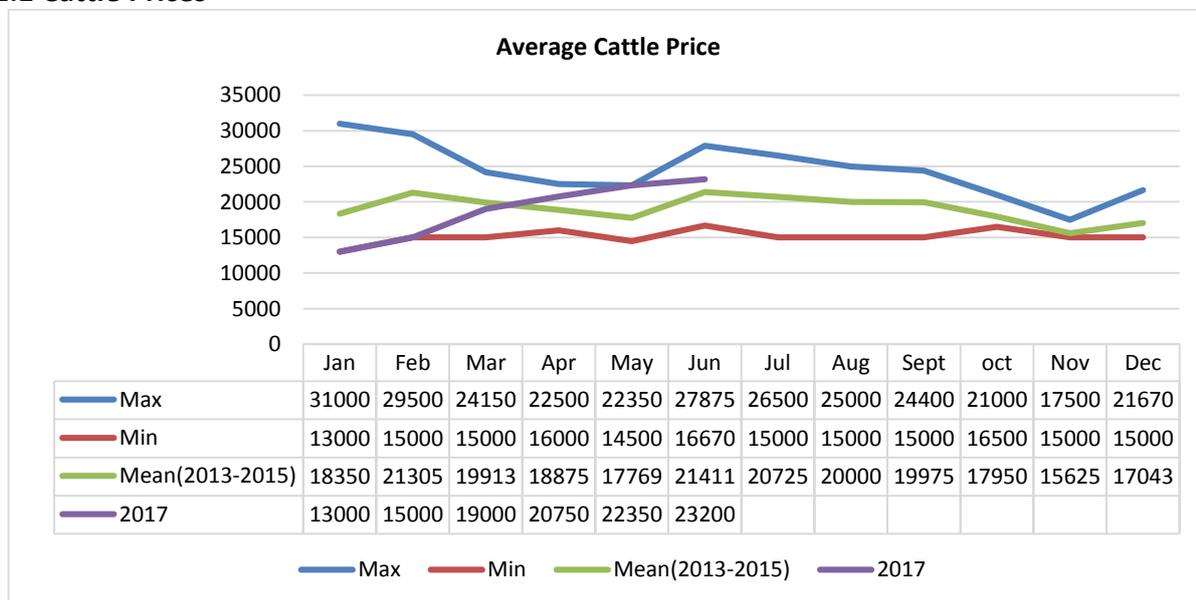
3.2 RAIN-FED CROP PRODUCTION
3.2.1 Stage and Condition of food Crops
- Two main crops that were planted in the marginal mixed farming zone were cowpeas and green grams while in the mixed farming (Coffee/Dairy) and Mixed Farming (Food Crop/ Livestock) livelihood zone was maize, beans and cowpeas.
- Crops were at their various vegetative stages of growth. Cereals like maize in the hilly masses were at the grain filling stage and in some parts it was at the harvesting stage though in smaller percentage while legumes were at the harvesting Stage.
- In the marginal mixed farming zone Crops had performed poorly while for Cereals it was fair.
- High Cases of Elephants invading and destroying legumes (Cowpeas and green grams) was reported in areas bordering Kyullu and Tsavo National Park.
- Below normal harvest is expected across all the livelihood zones and this is attributed to the moisture stress that was being experienced across all the livelihood zones mostly for Cereals.

4.0   MARKET PERFORMANCE
4.1   LIVESTOCK MARKETING

4.1.1 Cattle Prices

Average Cattle Price

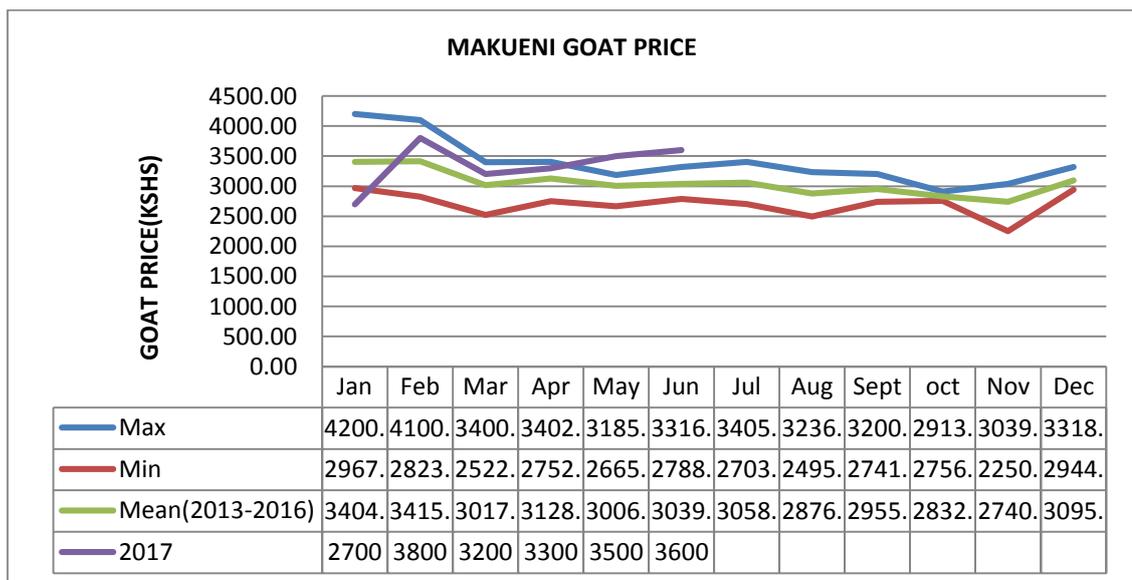|	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
Max	31000	29500	24150	22500	22350	27875	26500	25000	24400	21000	17500	21670
Min	13000	15000	15000	16000	14500	16670	15000	15000	15000	16500	15000	15000
Mean(2013-2015)	18350	21305	19913	18875	17769	21411	20725	20000	19975	17950	15625	17043
2017	13000	15000	19000	20750	22350	23200						

- Average farm gate prices of cattle increased slightly by 4% from KSh22350 to Ksh23200. Compared to the (2013-2015) long term average, the current price was higher than that of last month. This was attributed to the improvement in body condition due to the availability of pasture and water for livestock mostly in the mixed farming livelihood zones.

- The price of cattle at different markets was as follows.

Makueni County Cattle Prices by Markets
(Jun 2017 - Jun 2017)

4.1.2 Goat Prices

MAKUENI GOAT PRICE

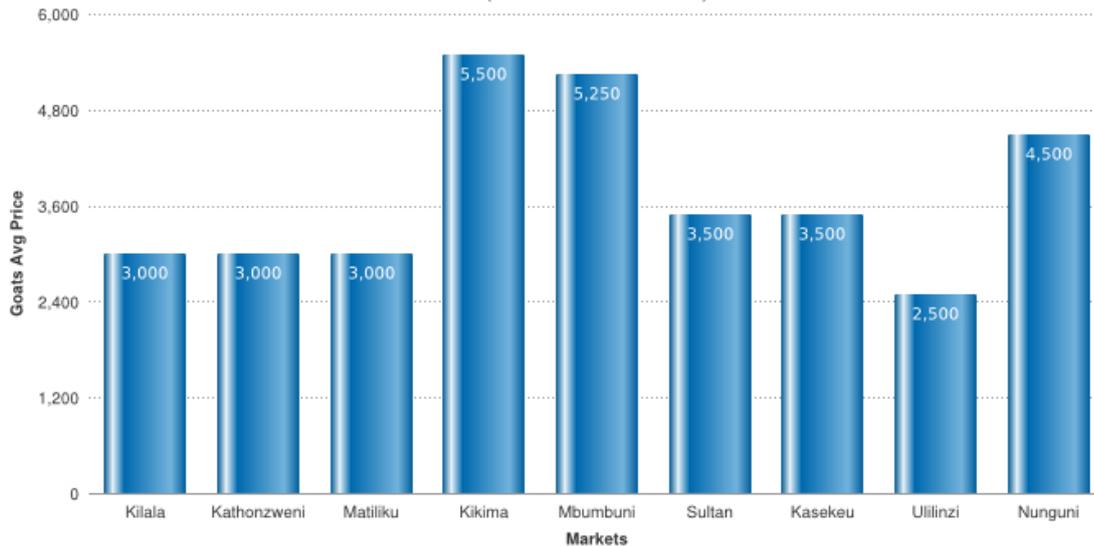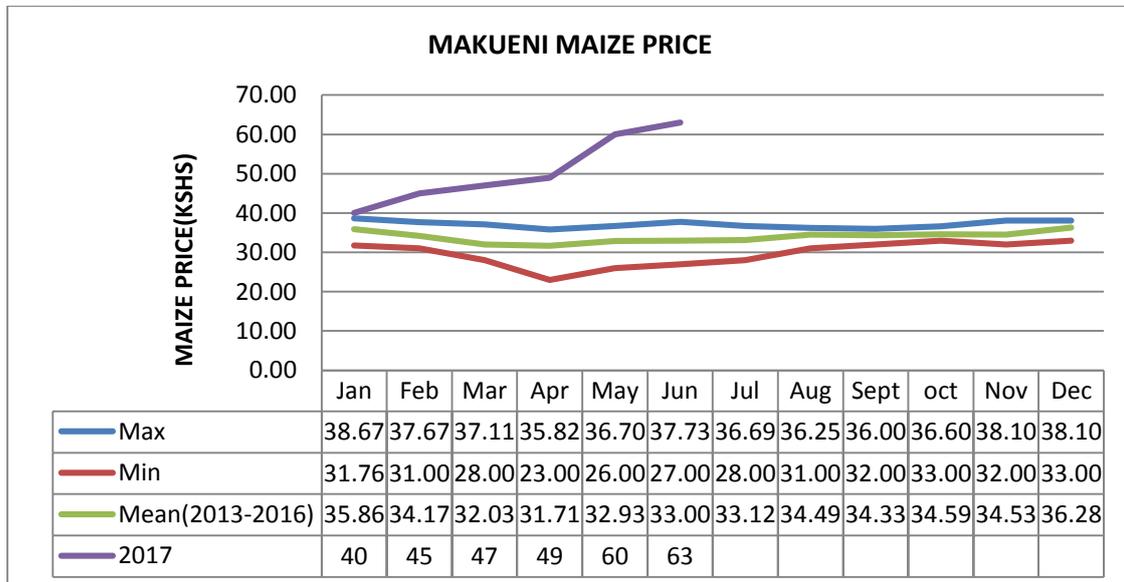|	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
Max	4200.	4100.	3400.	3402.	3185.	3316.	3405.	3236.	3200.	2913.	3039.	3318.
Min	2967.	2823.	2522.	2752.	2665.	2788.	2703.	2495.	2741.	2756.	2250.	2944.
Mean(2013-2016)	3404.	3415.	3017.	3128.	3006.	3039.	3058.	2876.	2955.	2832.	2740.	3095.
2017	2700	3800	3200	3300	3500	3600						
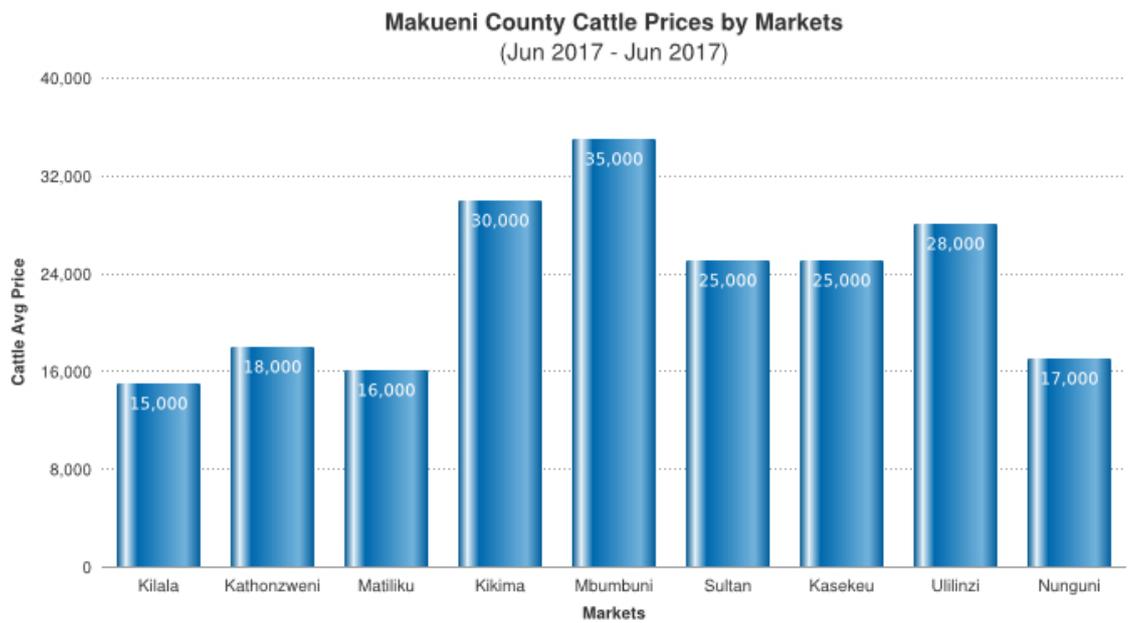
- The average farm-gate price of a goat increased by 2.9% from Ksh3500 to Ksh3600 and was higher than the (2013-2016) long-term mean and that of last month. This is attributed to the good body condition of shoats due to the availability of browse.
- Average goat market price was as follows in various markets across the county.

Makueni County Goat Prices by Markets
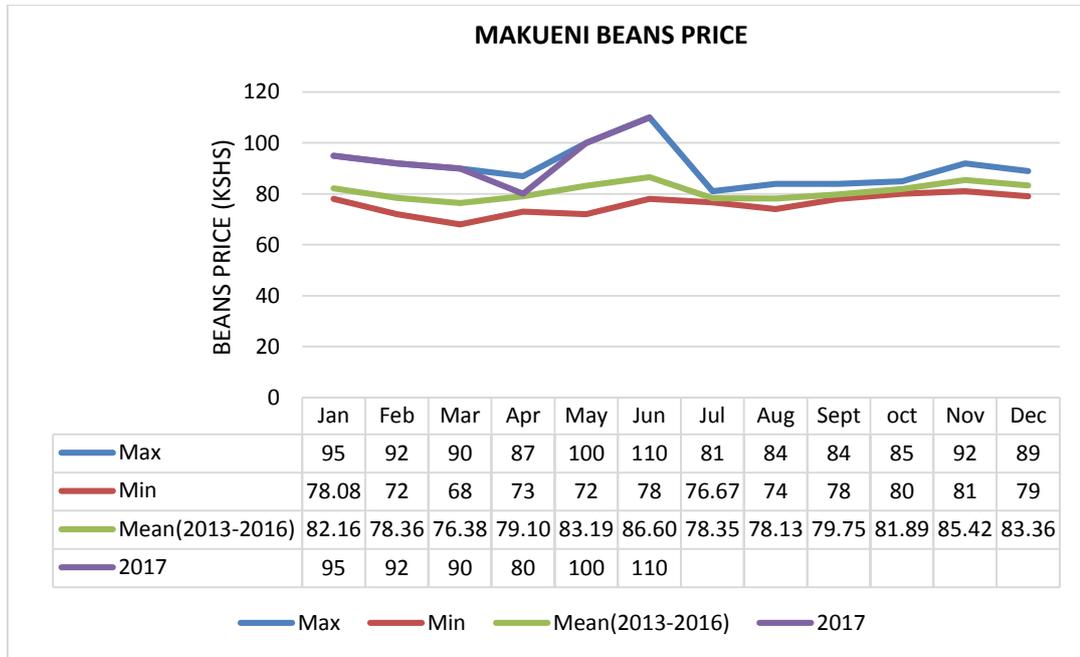(Jun 2017 - Jun 2017)

4.2 CROP PRICES

4.2.1 Maize

MAKUENI MAIZE PRICE

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
Max	38.67	37.67	37.11	35.82	36.70	37.73	36.69	36.25	36.00	36.60	38.10	38.10
Min	31.76	31.00	28.00	23.00	26.00	27.00	28.00	31.00	32.00	33.00	32.00	33.00
Mean(2013-2016)	35.86	34.17	32.03	31.71	32.93	33.00	33.12	34.49	34.33	34.59	34.53	36.28
2017	40	45	47	49	60	63						

- The average market price of maize increased by 3% from Ksh60 to Ksh63 from the previous month. The price remained relatively high than the (2013-2016) long-term average and that of last month.
- The high prices is attributed to the depletion of stocks, restricted importation of the commodity from Tanzania and the high prices from traditional sources of North rift and western Kenya.
- Compared to the long term mean, the price is high and this is above normal at this time of the year.
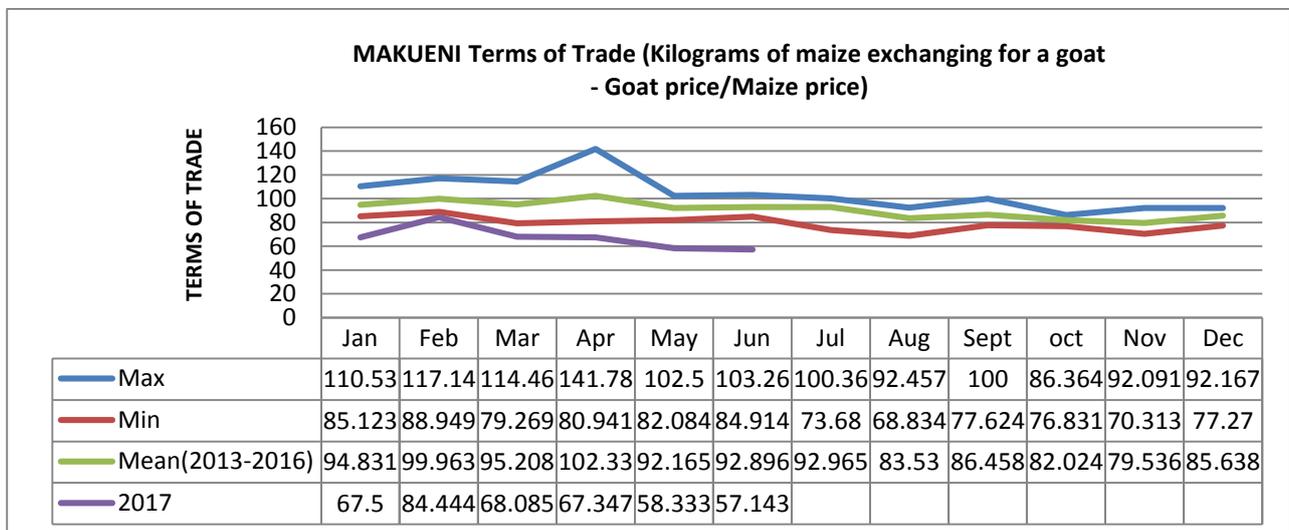
4.2.3 Beans

MAKUENI BEANS PRICE

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
Max	95	92	90	87	100	110	81	84	84	85	92	89
Min	78.08	72	68	73	72	78	76.67	74	78	80	81	79
Mean(2013-2016)	82.16	78.36	76.38	79.10	83.19	86.60	78.35	78.13	79.75	81.89	85.42	83.36
2017	95	92	90	80	100	110						

- The average price of beans increased by Ksh10 to Sh110 in most parts of the County. The high prices are as a result of diminished household stocks and shortage of the commodity in other parts of the Country.
- Compared to the mixed farming zone the prices were higher in the marginal mixed farming zone.

4.2.3.1 Other outstanding observations.
4.3 Livestock Price Ratio/Terms of Trade

MAKUENI Terms of Trade (Kilograms of maize exchanging for a goat - Goat price/Maize price)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
Max	110.53	117.14	114.46	141.78	102.5	103.26	100.36	92.457	100	86.364	92.091	92.167
Min	85.123	88.949	79.269	80.941	82.084	84.914	73.68	68.834	77.624	76.831	70.313	77.27
Mean(2013-2016)	94.831	99.963	95.208	102.33	92.165	92.896	92.965	83.53	86.458	82.024	79.536	85.638
2017	67.5	84.444	68.085	67.347	58.333	57.143						

- Terms of trade reduced slightly from 58 to 57 implying that from a sale of one goat, a farmer could purchase 57Kg of maize from the earnings of a goat. The ToT remained relatively low due to the high maize prices.
- The below average in terms of trade can be attributed to the high prices of maize which has become a scarce commodity in the County.

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

Marginal mixed Farming zone

- Milk produced was equivalent to milk consumed in this zone, an average of 350-450mls (Which was below normal).
- Current milk price was between Ksh60 to Ksh70 per litre against the normal of Ksh55 and this has limited accessibility to majority of the households.

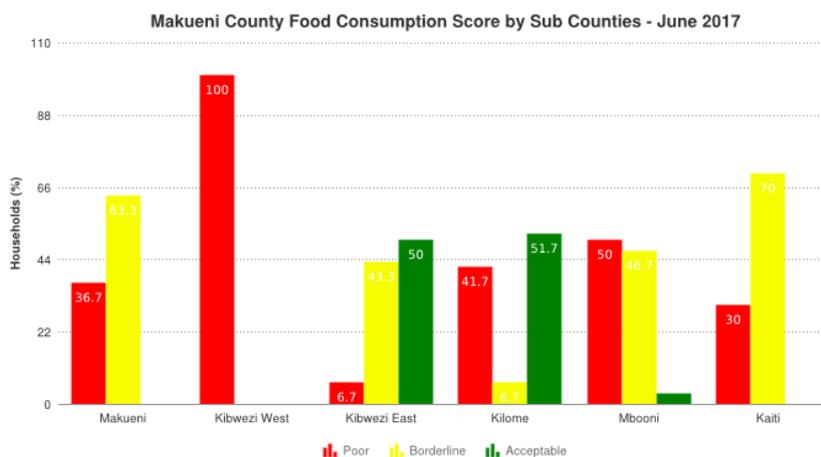### Mixed farming Zone (Food crop/Livestock).

- Milk consumption per day in this zone was between 300mls to 500mls which was below normal.
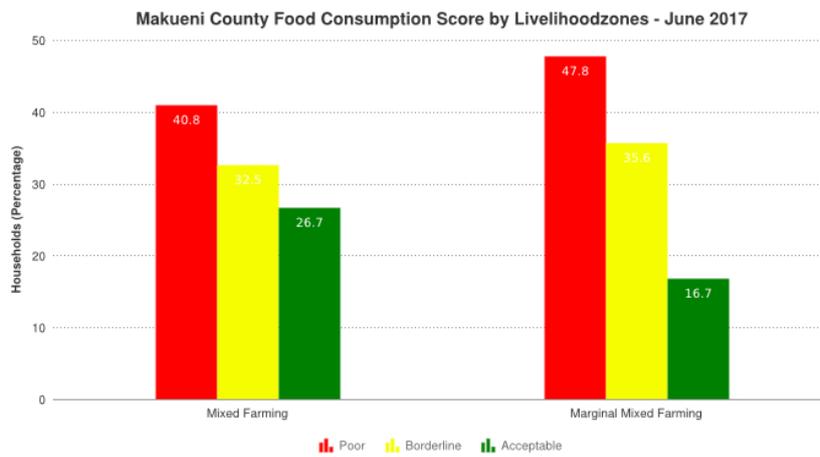- The current milk price is between Ksh55 to Ksh60 against the normal of Ksh50.

Mixed Farming Zone (Coffee/Dairy)

- Milk consumption is about 500mls to 700mls which is below normal. The average milk price was between Ksh48 to Ksh60 against the normal of Ksh45.

5.2 FOOD CONSUMPTION SCORE

- From the 210 households sampled, 92 were found to have a poor consumption score, 71 were found to be at the borderline while 47 had an acceptable Food consumption score. Majority of the households had a poor dietary diversity and this mainly comprised of maize, beans and other legumes.
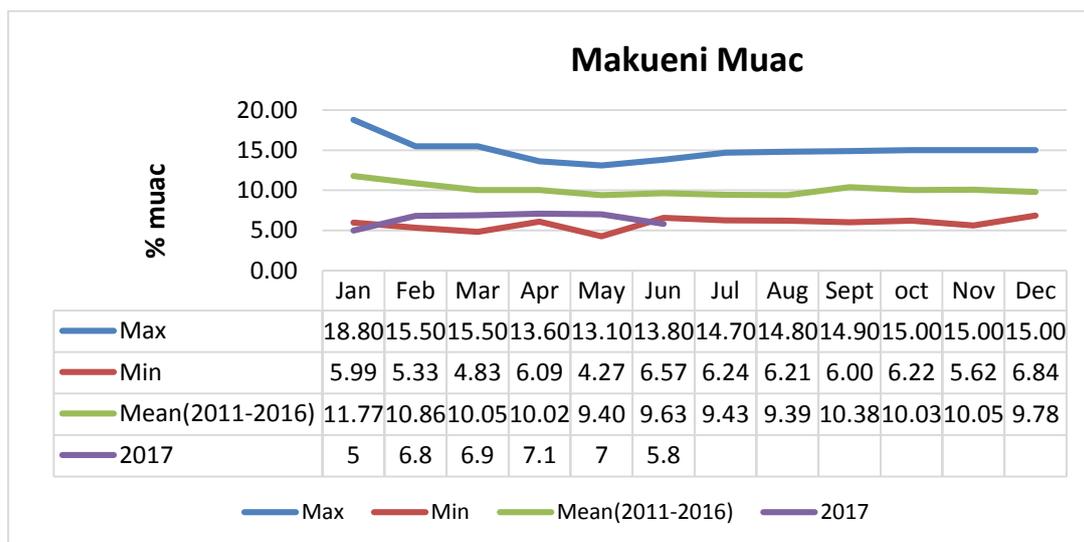

Makueni County Food Consumption Score by Sub Counties - June 2017

Makueni County Food Consumption Score by Livelihoodzones - June 2017

5.3 HEALTH AND NUTRITION STATUS

5.3.1 Nutrition Status

- The proportion of children at risk of malnutrition declined from 7.0 percent in May to 5.8 percent in June but remained within the normal ranges.
- The situation is expected to improve with the availability of 'kunde' and milk mostly in the mixed farming zone.
- The current proportion of children at risk of malnutrition is below the long term mean as indicated in the figure below.

Makueni Muac

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	oct	Nov	Dec
Max	18.80	15.50	15.50	13.60	13.10	13.80	14.70	14.80	14.90	15.00	15.00	15.00
Min	5.99	5.33	4.83	6.09	4.27	6.57	6.24	6.21	6.00	6.22	5.62	6.84
Mean(2011-2016)	11.77	10.86	10.05	10.02	9.40	9.63	9.43	9.39	10.38	10.03	10.05	9.78
2017	5	6.8	6.9	7.1	7	5.8						

5.3 COPING STRATEGIES

- The CSI in Mixed farming livelihood zone was 6.2 while in the Marginal mixed farming zone it was 16 implying that more coping mechanisms were being employed in MMF zone than MF zone.
- Most households across all the livelihood zones were employing livelihood based coping strategies.

Makueni County - Coping Strategy Index
June 2017
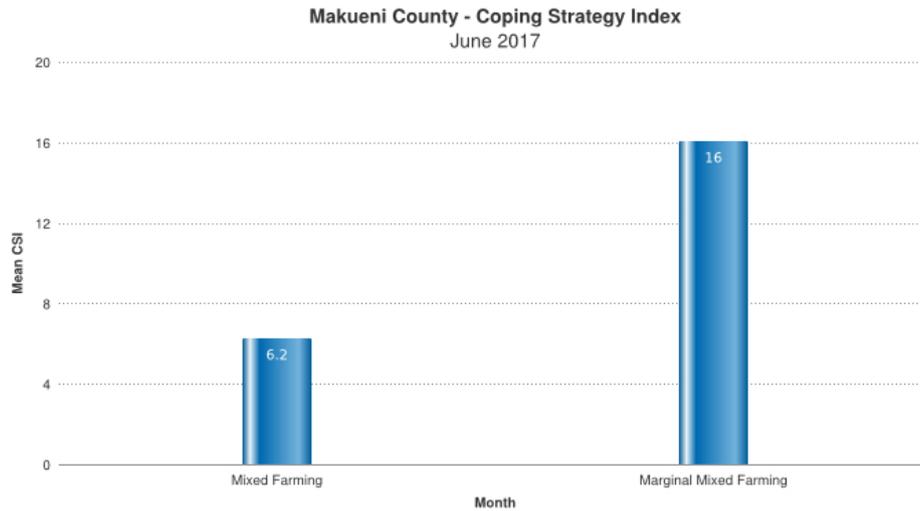
6.0   CURRENT INTERVENTION MEASURES (ACTION)

6.1   NON-FOOD INTERVENTIONS
- Asset Creation Projects by GoK/WFP/World Vision/Kenya Red Cross Society/NDMA in Makueni, Mbooni, Kibwezi East and West sub counties targeting 61,000 beneficiaries.
- Targeting of beneficiaries 'Chakula Kwa Jamii initiative' implemented by WFP and partners in Mbooni (selected wards), Makueni (Wote ward), Kilome (Kiu-Kalanzoni ward), Kibwezi East and West sub counties a total of 27,567 beneficiaries.
- Up scaling of Irrigation along major rivers in the County by the county government.
- Post-harvest management (green grams and cowpeas in marginal mixed farming zone and Pulses in mixed farming zone) by the department of Agriculture
- Soil and water conservation by the County government
- Pest and Disease control for Horticultural and Citrus crops by the county government.
- Feed supplements and range cubes were given to livestock keepers by the department of livestock.

6.2 FOOD AID
- Food aid was received and distributed during the month under review.

7. EMERGING ISSUES

7.1   Insecurity/Conflict/Human Displacement
- Cases of elephants attacking people's farms was reported in Masongaleni, Mtito and Makindu (Areas bordering Kyullu Hills and Tsavo park).

7.2   Migration.
- Cases of livestock migration from the neighbouring County of Kajiado was reported in Mukaa and Makindu (areas bordering Kyullu Hills). Large herds of Camels were also spotted in areas of Makindu.

8. RECOMMENDATIONS
- Promotion of growth of Traditional High Value Crops (THVCs) which are best suited to grow in the area and have a good harvest.

- Enhancement of Water harvesting technologies to include structures that run round the year.
- Asset creation projects to be expanded to other parts of the County.