

National Drought Management Authority
KITUI COUNTY
DROUGHT EARLY WARNING BULLETIN FOR APRIL 2017



A Vision 2030 Flagship Project



Early Warning (EW) Phase Classification

| Livelihood Zone | Phase | Trend |
|-------------------------|--------------|------------------|
| Marginal Mixed Farming | Alarm | Improving |
| Mixed Farming | Alarm | Improving |
| Formal/Urban Employment | Alarm | Improving |
| COUNTY | Alarm | IMPROVING |

Drought Situation & EW Phase Classification

Biophysical Indicators

- The onset of the long rains was late in the first week of April compared to third week of March normally and progression has been poor
- The county experienced extreme vegetation greenness deficit (VCI of 9.72) but the onset of rains triggered recovery.
- The state of water in main water points is inadequate compared to the long term mean.

Socio Economic Indicators (Impact Indicators)

- Normal livestock migration patterns were reported.
- The livestock body condition is fair for cattle and good for goats in most areas of the county.
- Milk production and consumption was below long term average
- Terms of Trade were unfavourable compared to long term mean.
- Percentage of children at risk of malnutrition was slightly above the normal range.
- Households moderately applied consumption based coping strategies.

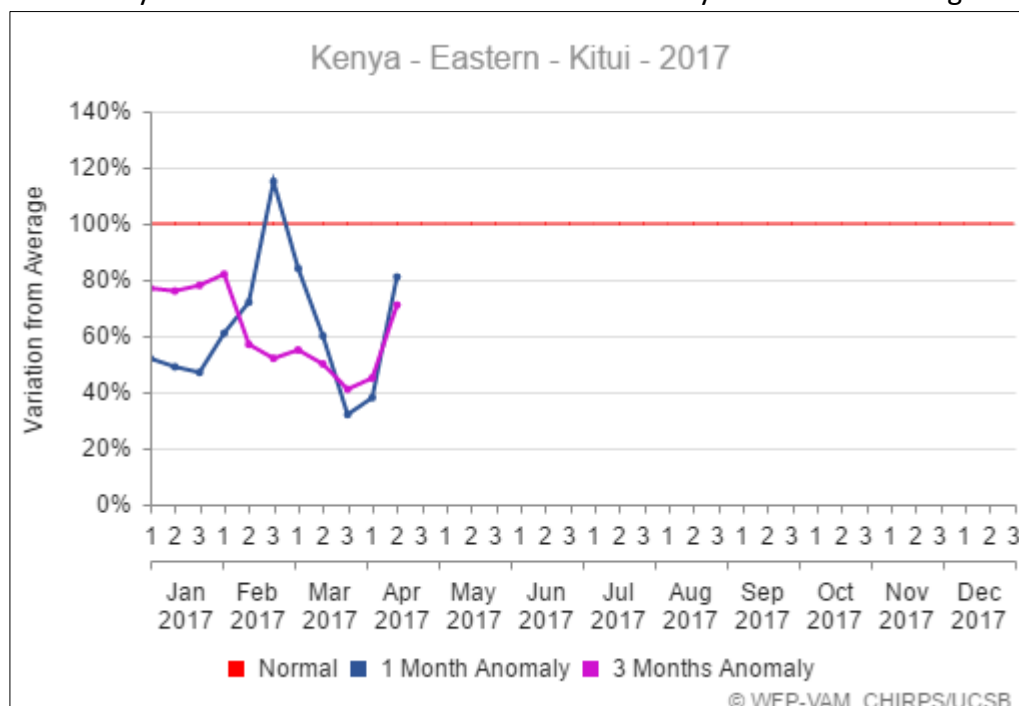
| Biophysical Indicators | Value | Normal Range/Value |
|--|------------|--------------------|
| VCI-3 month | 9.72 | >35 |
| State of Water Sources | 4 | 5-6 |
| Vegetation Condition | Poor | Good |
| Production indicators | Value | Normal |
| Livestock Migration Pattern | Normal | Normal |
| Livestock Body Conditions | Borderline | Normal |
| Milk Production (in litres) | 1.1 | >1.6 |
| Livestock death(Drought) | No deaths | No deaths |
| Crops Condition | Fair | Good |
| Access Indicators | Value | Normal |
| Terms of Trade (ToT) | 57 | >83 |
| Milk Consumption (in litres) | 1.0 | >1.4 |
| Return distance to water sources | 2.7Km | <3.0Km |
| Utilization indicators | Value | Normal |
| Nutrition Status, MUAC (% at risk of malnutrition) | 8.6 | <8.0 |
| Coping Strategy Index (CSI) | 7.03 | N/A |

| | | | | | | | | | | | |
|--|---|---|---|-----|-----|-----|-----|------|-----|-----|-----|
| <ul style="list-style-type: none"> ▪ Short rains harvests ▪ Short dry spell ▪ Reduced milk yields ▪ Increased HH Food Stocks ▪ Land preparation | <ul style="list-style-type: none"> ▪ Planting/Weeding ▪ Long rains ▪ High Calving Rate ▪ Milk Yields Increase | <ul style="list-style-type: none"> ▪ Long rains harvests ▪ A long dry spell ▪ Land preparation ▪ Increased HH Food Stocks ▪ Kidding (Sept) | <ul style="list-style-type: none"> ▪ Short rains ▪ Planting/weeding | | | | | | | | |
| | | | | | | | | | | | |
| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |

1.0 CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

- The onset of the long rains was late during the first week of April compared to third week of March normally.
- The county received 71% of 3 months rainfall anomaly as shown in the figure below.



1.2 AMOUNT OF RAINFALL AND SPATIAL DISTRIBUTION

- Rainfall amount varied across the livelihood zones with most of the areas receiving between 2 to 10 wet days as shown in the figure below. Temporal distribution was fair in mixed farming livelihood zone and poor in marginal mixed farming livelihood zone while spatial distribution was uneven.
- Mixed farming livelihood zone recorded the highest cumulative amount of rainfall as represented by Kitui ATC rain gauge (341.9mm in 10 days) in Kitui Central Sub County and Kitui West Agri. rain gauge (315.4mm in 5 days) in Kitui West Sub County.
- Marginal mixed farming livelihood zone recorded the lowest cumulative amount of rainfall as represented by Ikutha (38.5mm in 2 days) and Nuu (46mm in 2 days) rain gauges in Kitui South and Mwingi Central Sub Counties respectively.

| Rainfall Station/gauge | March | | April | | MAM Total | |
|-----------------------------|--------|----------|--------|----------|-----------|----------|
| | Amount | Wet Days | Amount | Wet Days | Amount | Wet Days |
| Migwani town rain gauge | 5.7 | 1 | 267.2 | 4 | 272.9 | 5 |
| Mwingi central agric office | 0 | 0 | 65.7 | 5 | 65.7 | 5 |
| Nuu | 0 | 0 | 46 | 2 | 46 | 2 |
| Kyuso | 0 | 0 | 134 | 4 | 134 | 4 |
| Ngomeni | 0 | 0 | 75.4 | 3 | 75.4 | 3 |
| Katse | 0 | 0 | 238 | 5 | 238 | 5 |
| Tharaka | 0 | 0 | 170 | 4 | 170 | 4 |
| Tseikuru | 0 | 0 | 205.7 | 4 | 205.7 | 4 |

| | | | | | | |
|---|------|---|-------|---|-------|----|
| Kitui West Agric Office | 37 | 1 | 278.4 | 4 | 315.4 | 5 |
| Matinyani agric office | 0 | 0 | 185 | 3 | 185 | 3 |
| Kavuta R/gauge | 5.2 | 1 | 126.6 | 7 | 131.8 | 8 |
| Tiva Rain Gauge | 0 | 0 | 249.8 | 8 | 249.8 | 8 |
| Kitui ATC | 16.5 | 2 | 325.4 | 8 | 341.9 | 10 |
| Mutomo Agric Office | 8.5 | 1 | 65.2 | 3 | 73.7 | 4 |
| Endau | 19 | 2 | 47.5 | 5 | 66.5 | 7 |
| Ikutha | 0 | 0 | 38.5 | 2 | 38.5 | 2 |
| Yatta | 1.5 | 1 | 150.4 | 5 | 151.9 | 6 |
| <i>Source: County Ministry of Agriculture, Water and irrigation</i> | | | | | | |

1.3 OTHER EVENTS

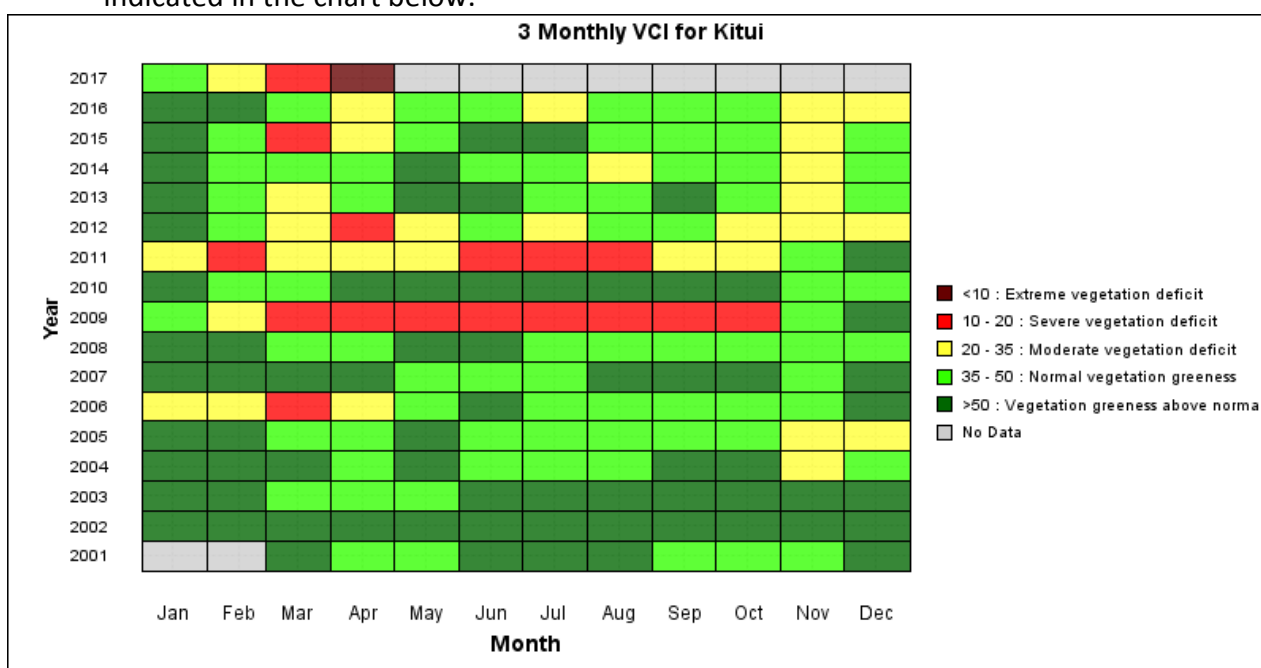
- The rains received was of high intensity and produced a lot of run-off that washed away rural access roads and some farms were washed away in Tseikuru Ward in Mwingi North Sub County and in Kauwi and Kwamutonga/Kithumula Wards in Kitui West Sub counties
- Flash flooding was experienced along Tiva River in Kitui Rural, Parts of Tseikuru in Mwingi North and Nguutani in Mwingi West Sub County leading to washing away of farms and destruction of irrigated crops along river banks.

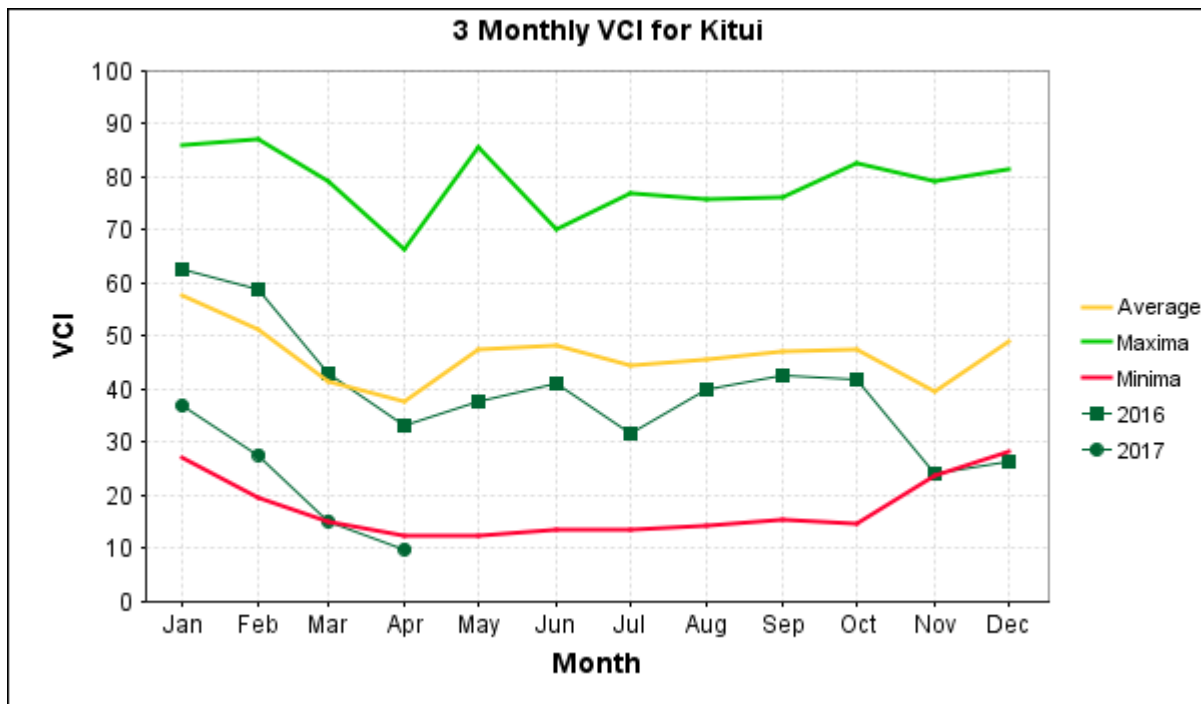
2.0 IMPACTS ON VEGETATION AND WATER

2.1 VEGETATION CONDITION

2.1.1 Vegetation Condition Index (VCI)

- Generally, the county was experiencing extreme vegetation greenness deficit as depicted by a three month VCI of 9.72. This was mainly attributed to late onset of the long rains and progression that has been characterised by poor temporal and uneven spatial distribution.
- The situation varied across the sub counties with Kitui Central experiencing moderate vegetation greenness deficit, Kitui West, Mwingi West and Mwingi Central recording severe vegetation greenness deficit while Kitui East, Mwingi North, Kitui Rural and Kitui South had extreme vegetation greenness deficit. The latter constitute the bulk of the marginal mixed farming livelihood zone and the current situation is likely to impact livestock production negatively. The current VCI is below the minima for the period as indicated in the chart below.





2.1.2 Field Observations (Pasture and Browse Condition)

2.1.2.1 Pasture

- Pasture condition ranged from poor to fair. From community interviews, 38.7 percent observed pasture to be in fair condition while 61.3 percent reported pasture condition to have been poor. Relatively pasture situation was better in mixed farming livelihood zone compared to the marginal mixed farming livelihood zone. The situation is particularly bad in sections of Kitui East, Kitui South, Kitui West Mwingi Central (Ukasi) and Mwingi North Sub Counties.
- The current situation is expected to slightly improve if the rains resume

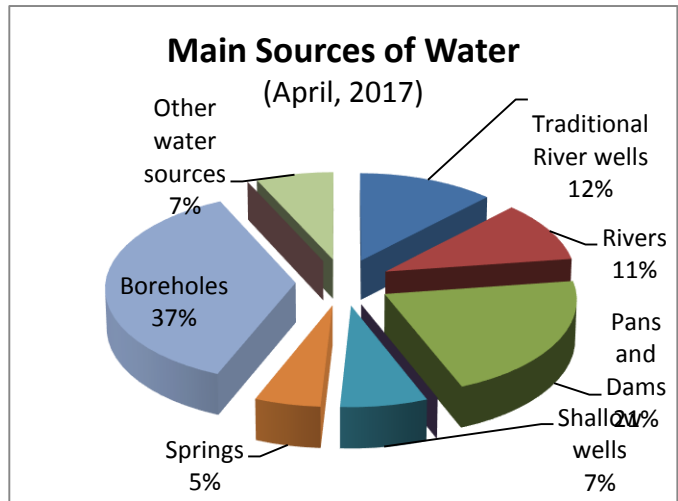
2.1.2.2 Browse

- Browse condition ranged from fair to good. From community interviews, 51.6 percent indicated browse to be in good condition while 48.4 percent observed browse condition to be in fair condition.
- Relatively, the situation is better in mixed farming livelihood zone compared to marginal mixed farming livelihood zone. Rainfall onset was one week earlier and heavier in mixed farming livelihood zone thus triggering early regeneration of browse.

2.2 WATER RESOURCE

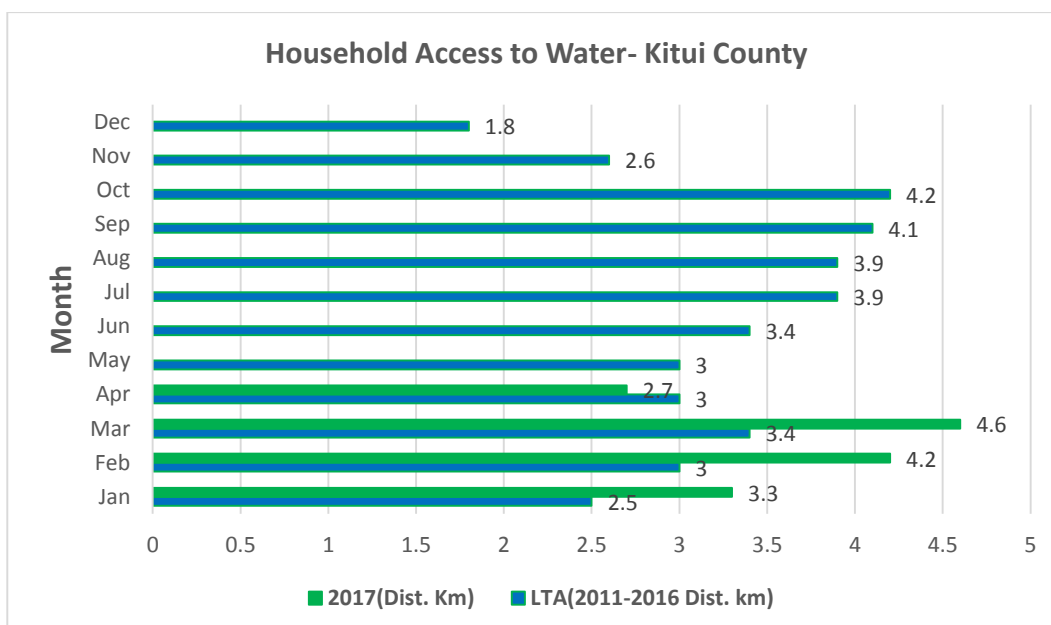
2.2.1 Sources

- The main water sources currently in use by both human and livestock are Boreholes, Pans & dams, and traditional river wells at 37%, 21% and 12% respectively as shown in the figure.
- Most places in mixed farming livelihood zone reported over 70% recharge of open surface water facilities.
- Minimal recharge of water facilities was observed in marginal mixed farming livelihood zone (Nuu, Nguni, Ngomeni, Endau/Malalani, Mutha and Ikutha wards).



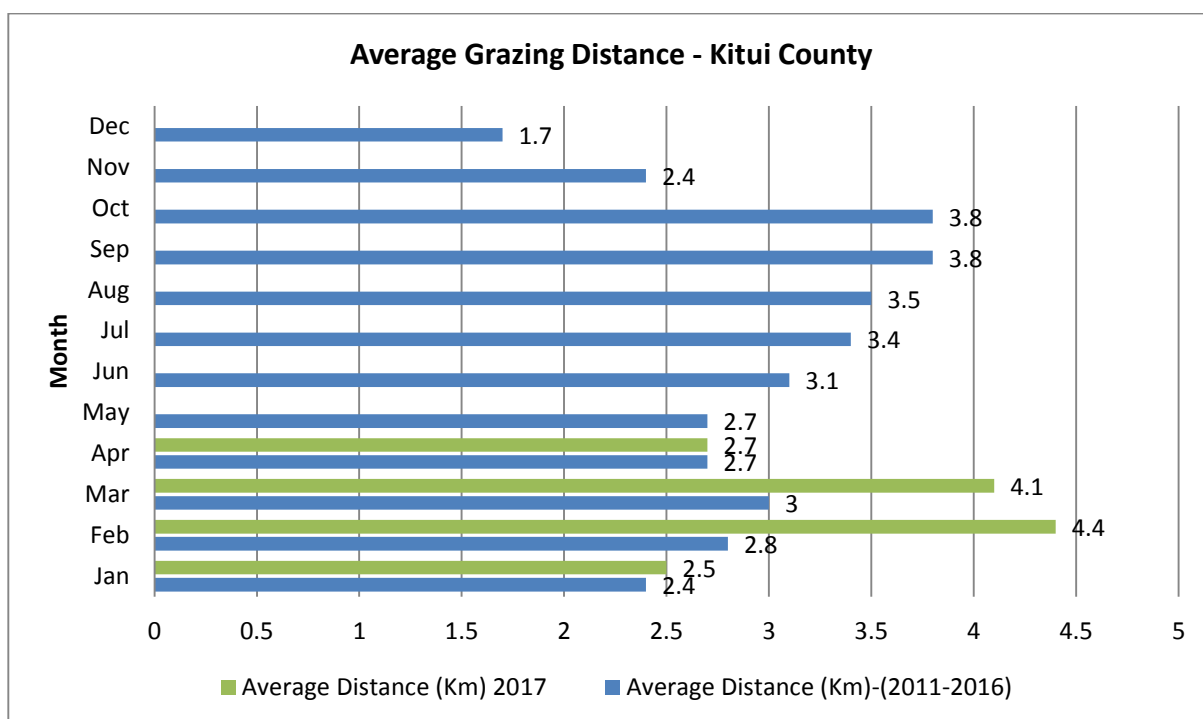
2.2.2 Household access and Utilization

- Following the onset of rains during the month, the average return distance to water points reduced from 4.6km in March to 2.7 km. The distance varied across the livelihood zones with marginal mixed farming livelihood zone recording a higher distance of 3.7km compared to 2km in mixed farming livelihood zone. Exceptional return distances of six kilometres were reported in Ikutha and Tseikuru Wards (Kathiani) in marginal mixed farming livelihood as a result of delayed onset of rainfall and poor spatial distribution.
- Household interviews indicated that 80.5 percent were not treating water while 3, 0.2 and 16 percent employed boiling, filtration and water treatment chemicals respectively.
- The average water consumption per household per day was approximately three 20l jerry cans and prices ranged from 1-5Ksh, except in parts of Tseukuru and Endau ward where price ranged between 10-15 Ksh at privately owned shallow wells.
- The current water distances are slightly below long term mean as shown in the figure below.



2.2.3 Livestock access

- The average return distance from livestock grazing areas to main water sources declined to 2.7km in April from 4.1km in March. The distance varied across the livelihood zones with marginal mixed farming livelihood zone recording a higher grazing distance of 3.5km compared to 2.1km in mixed farming livelihood zone.
- In the mixed farming livelihood zone livestock were watered daily while in the marginal mixed farming livelihood zone they were watered once in two days and this was mainly attributed to below normal recharge of water facilities.
- The current average grazing distance is normal compared to the long term mean as shown in the figure below.



3.0 PRODUCTION INDICATORS

3.1 LIVESTOCK PRODUCTION

3.1.1 Livestock Body Condition

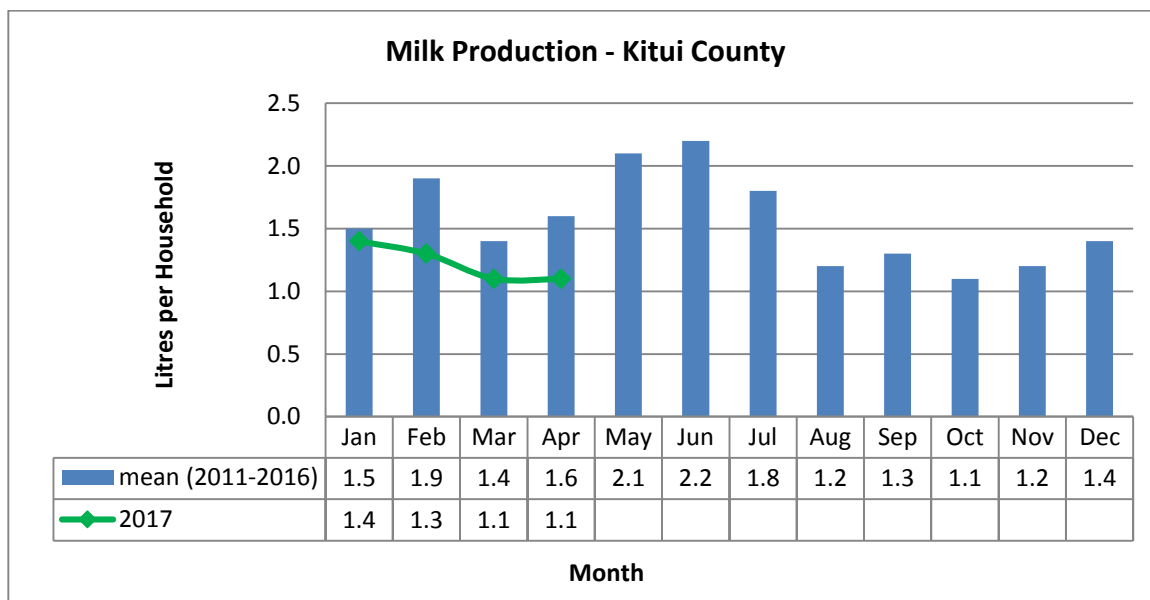
- The current livestock body condition for cattle is borderline; fore-ribs not visible and good to fair for goat across the livelihood zones. This body condition is expected to improve following reduction of water distances, and development of pasture and browse.

3.1.2 Livestock Diseases

- No unusual cases of livestock disease outbreak were reported in the county.

3.1.3 Milk Production

- The average milk production per household remained stable at 1.1 litres in April as it was last month. The current milk production per household is below normal compared to long term mean as shown in the figure below.



3.2 RAIN-FED CROP PRODUCTION

3.2.1 Stage and Condition of food Crops

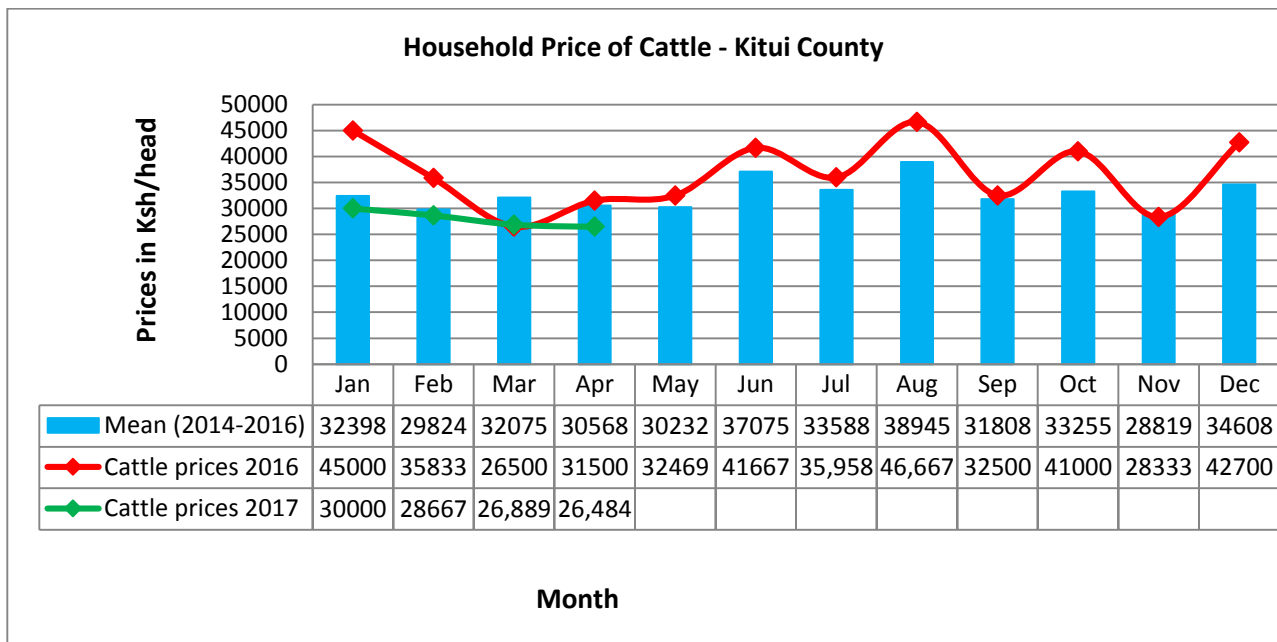
- The three main crops planted in the marginal mixed farming livelihood zone were Cowpeas, Green grams and Millet while in mixed farming livelihood zone communities had mainly planted maize, beans and green grams.
- The early planted crops were at different stages of growth; maize was approximately 30cm high while green grams cowpeas and beans had developed the second set of leaves. However, upon germination they were exposed to moisture stress that derailed their development but trend is expected to improve with resumption of rains towards the end of the month in the mixed farming livelihood zone. In marginal mixed farming livelihood zone, the crop situation is critical and the situation may be worsened by the prevailing dry spell.
- In sections of marginal mixed farming livelihood zone, due to late onset of rainfall farmers were engaged in late planting.
- The heavy rains experienced in Tseikuru ward led to flash floods which washed away farms forcing affected farmers to embark on replanting.
- Cases of crop attack by Army Worms was reported in Kitui South Sub County and the same is spreading to Kitui Rural, Kitui East and Kitui Central Sub Counties.

4.0 MARKET PERFORMANCE

4.1 LIVESTOCK MARKETING

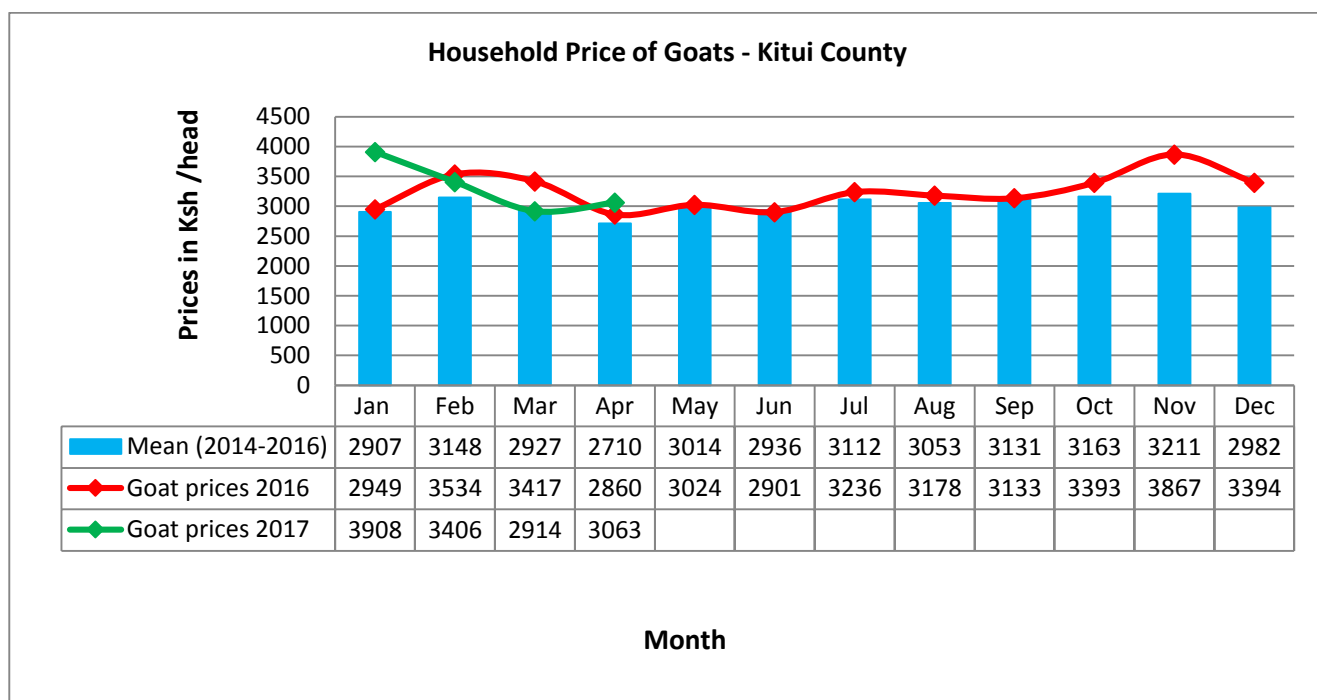
4.1.1 Cattle Prices

- The average household price of cattle declined slightly to Ksh.26,484 in April from Ksh.26,889 in March and this was mainly attributed to deteriorating livestock body condition especially in marginal mixed farming livelihood zone (Ikutha and Endau wards).
- A higher average cattle price of Ksh.29,167 was recorded in mixed farming livelihood zone compared to Ksh.24,354 recorded in marginal mixed farming livelihood zone.
- The current average cattle price is below normal compared to long term mean and similar period in 2016 as shown in the figure below.



4.1.2 Small Ruminants Prices (Goat price)

- The average price of goat was fairly stable at Ksh.3,063 in April compared to Ksh.2,914 in March. This stability was attributed to the prevailing good body condition for goats and uninterrupted market operations. The prices were higher in mixed farming livelihood zone at Ksh.3, 175 compared to Ksh.2, 950 in marginal mixed farming livelihood zone.
- The current goat price is above normal compared to long term mean and same period in year 2016 as shown in the figure below.



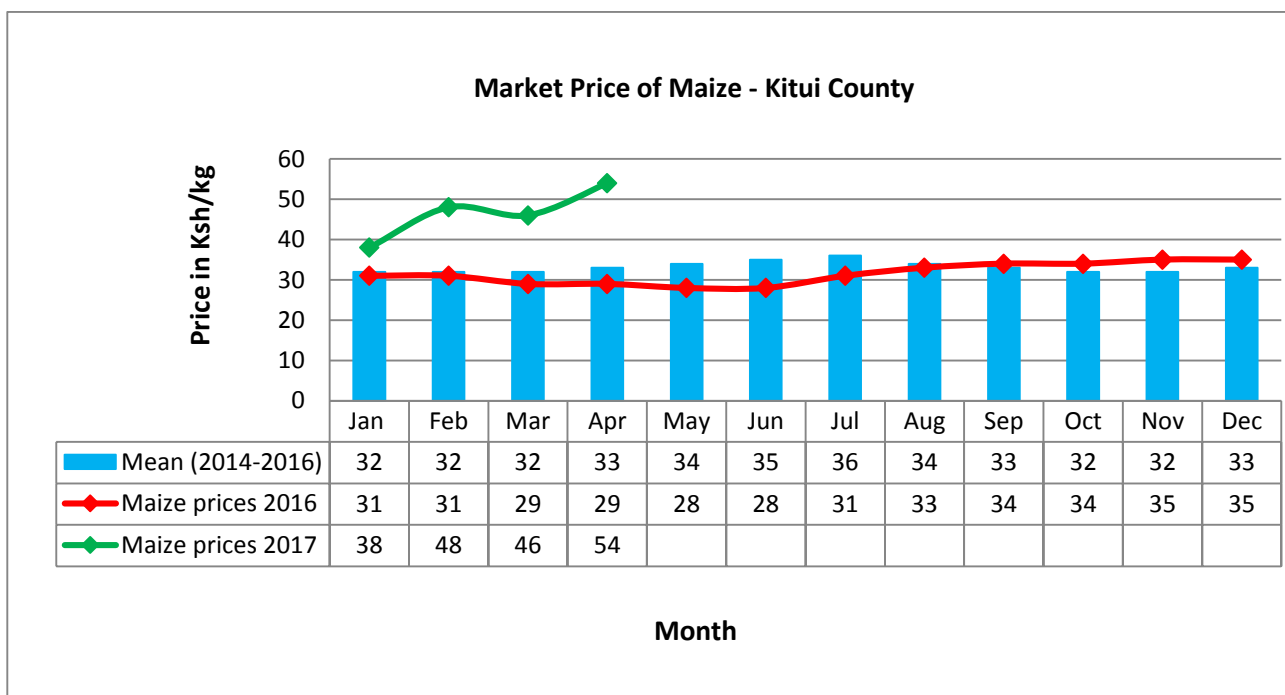
4.2 CROP PRICES

4.2.1 Maize

- The average price of maize per kilo rose to Ksh.54 in April from Ksh.46 in March. The prices were higher in mixed farming livelihood zone at Ksh.55 compared to Ksh.53 in marginal

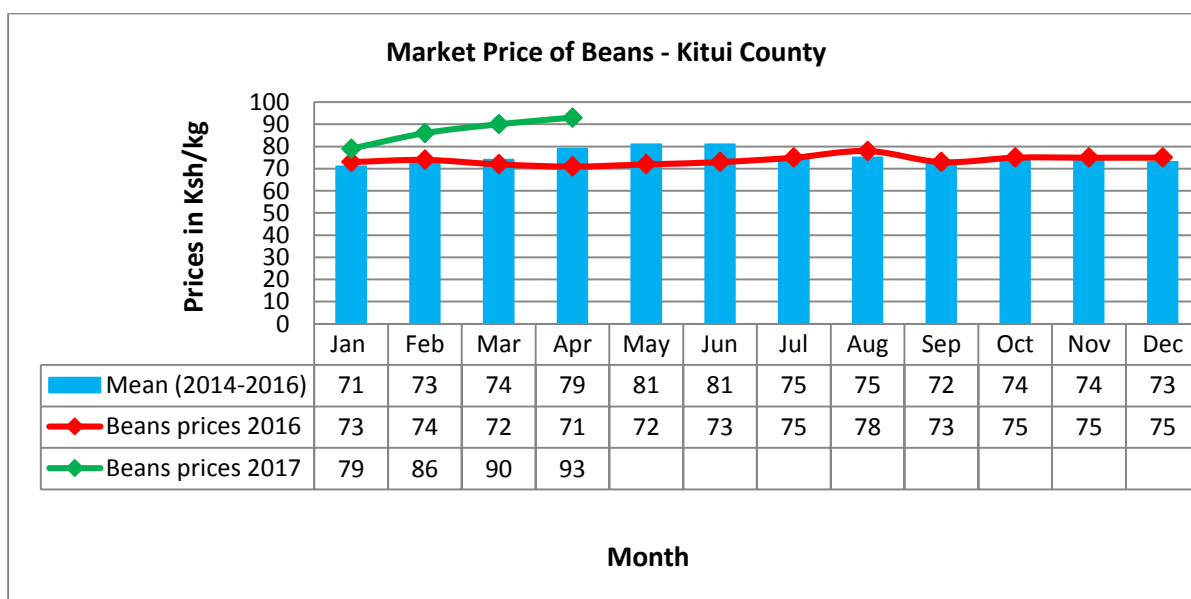
mixed farming livelihood zone. Average Maize price was at Ksh.60 in both Kabati and Tiva Markets in Kitui West and Kitui Central Sub Counties respectively.

- The current maize price is above normal compared to long term mean and this is mainly attributed to a rise in commodity prices from the source markets in parts of Rift Valley and Western Kenya.



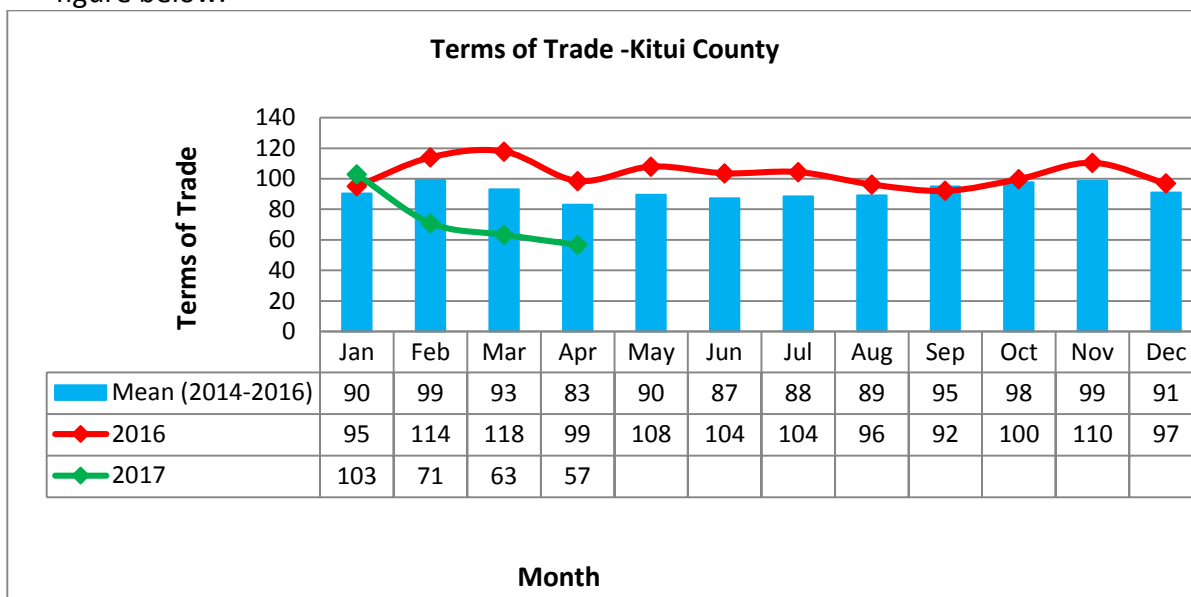
4.2.3 Beans

- The average market price of beans rose to Ksh.93 in April from Ksh.90 in March and this was mainly attributed to increased demand of the commodity from the market.
- Average beans prices were higher in marginal mixed farming livelihood zone at Ksh.95 compared to Ksh.90 in mixed farming livelihood zone.
- The current beans prices is above normal compared to the long term mean as shown in the figure below.



4.3 Livestock Price Ratio/Terms of Trade

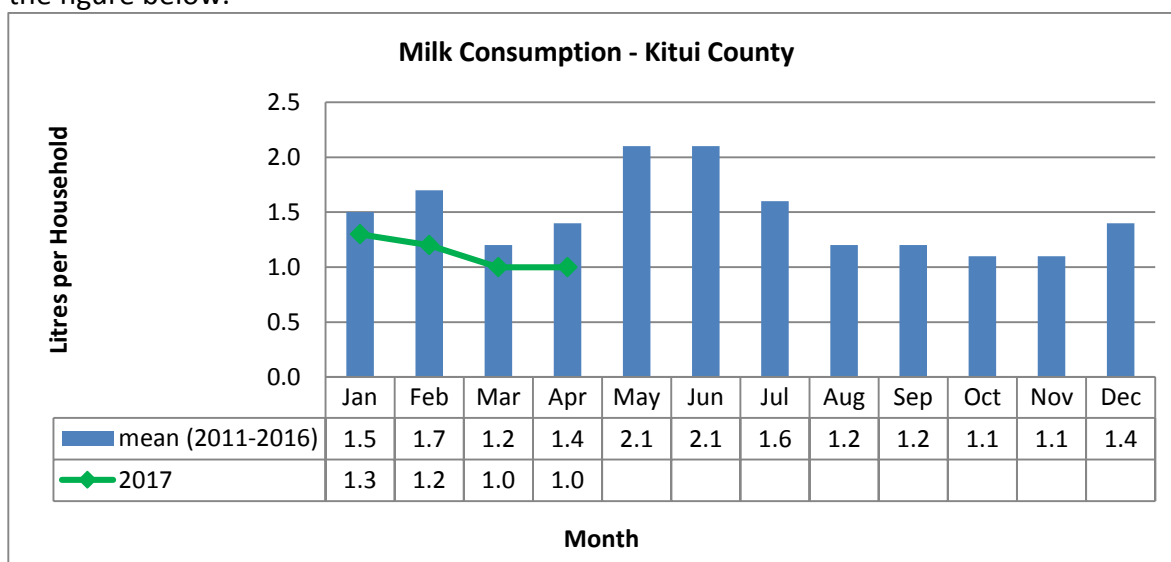
- Terms of trade were unfavourable at a value of 57 in April compared to 63 in March. This implies that, the earnings from a sale of a goat could purchase 57kgs of maize in April compared to 63kgs in March.
- The current terms of trade are below normal compared to long term mean as shown in the figure below.



5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 MILK CONSUMPTION

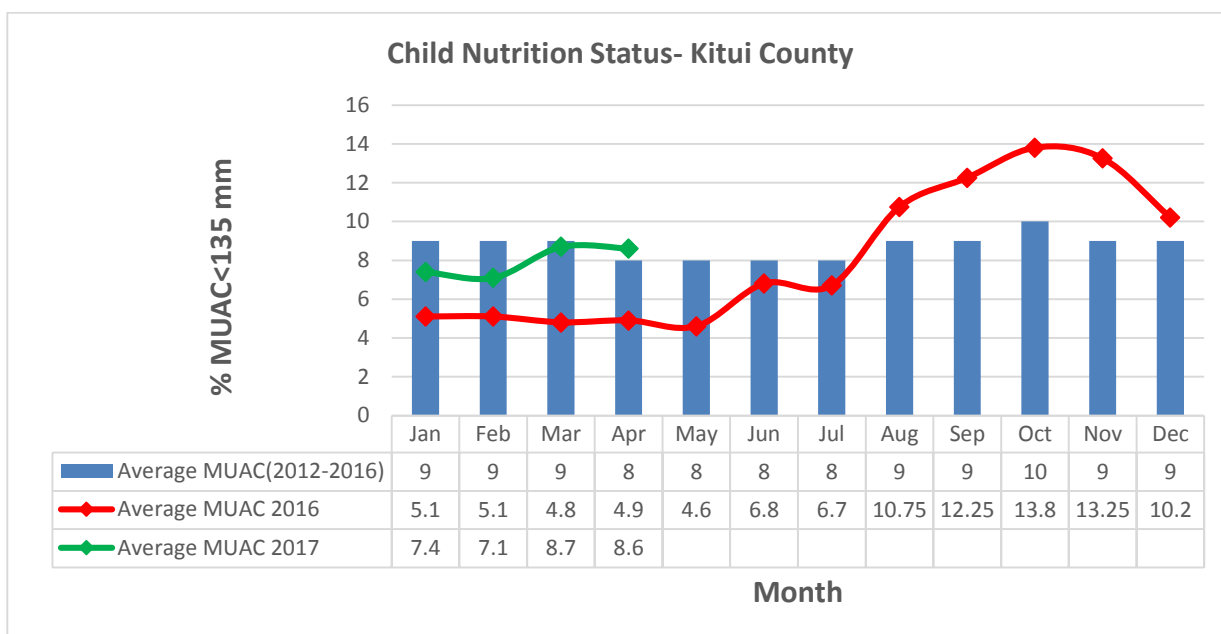
- Average milk consumption per household remained stable at 1.0 litre in April as it was last month. Milk consumption was higher in Kitui Rural Sub County at 2.0 litres per household and lower in Kitui East Sub County at 0.8 litres per household.
- The current milk consumption is below normal compared to long term mean as shown in the figure below.



5.2 HEALTH AND NUTRITION STATUS

5.2.1 Nutrition Status

- The proportion of children at risk of malnutrition as measured by mid upper arm circumference (MUAC) remained stable at 8.6 percent in April compared to March. Data from the revised early warning system indicated that 8.12, 0.37 and 0.074 of the sampled 1227 children were mid at risk, moderately malnourished and severely malnourished categories respectively.
- The proportion of children at risk of malnutrition is slightly above the long term average by 0.6 and above the same period in year 2016 by 3.7 indicating a relatively worse situation as indicated in the figure below.

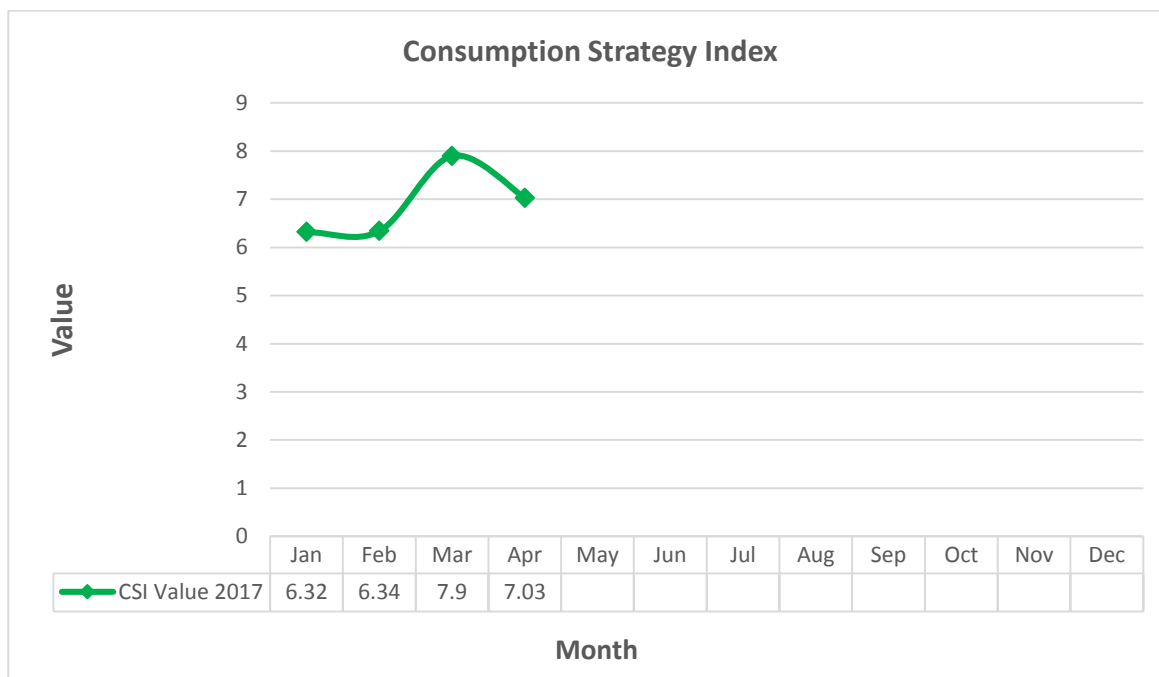


5.2.2 Health

- No major human disease outbreak was reported across the livelihood zones.

5.3 COPING STRATEGIES

- The coping strategy index (CSI) for the month of April was 7.03 implying families were moderately applying consumption based coping strategies and the main one included; relying on less preferred food, reduction in the number of meals eaten per day and reducing the portion size of meal by 59.8, 47 and 49.6 percent respectively of the households sampled.
- For livelihood based coping strategies, 10.5 percent of the population engaged in reducing non-food expenses on health(including drugs) and education
- Compared to the previous month the CSI slightly declined as indicated in the chart below;



6.0 CURRENT INTERVENTION MEASURES

6.1 NON-FOOD INTERVENTIONS

- Outpatient Therapeutic Programme (OTP).
- Cash for Asset Programme.
- Integrated health and nutrition management.
- Repair and maintenance of strategic water points.
- Peace building and conflict management activities.

6.2 FOOD AID

- Supplementary Feeding Programme.
- Relief food distribution
- Ukoa Uhai Cash transfer initiative beneficiary targeting

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Conflict over grazing and water resources were reported in Tseikuru and Ngomeni wards in Mwingi North Sub County and the situation is watch.

7.2 Migration

- No unusual livestock migration was reported in the county.

7.3 FOOD SECURITY PROGNOSIS

The ongoing long rains have triggered the drought recovery process which is likely to improve the food security situation through recharge of water facilities, regeneration of pasture and browse and production of food crops albeit with limitation due its low amount in marginal mixed farming livelihood zone, poor temporal and uneven spatial distribution. The prices of the main food crops are likely to remain high over the next month and compromise the purchasing power of

households. It will also be important to monitor conflict along the border as flare-ups might disturb the recovery process.

8.0 RECOMMENDATIONS

- Initiate early commercial livestock off-take campaigns
- Expand the school meals programme to mixed farming livelihood zone and cover early childhood education and development units
- Procurement and supply of army worm control pesticides
- Repair and serving of water facilities across the county.
- Support integrated health and nutrition outreach programme
- Promote conflict and peace building initiatives along the border and among the local communities.