National Drought Management Authority
SAMBURU COUNTY

A Vision 2030 Flagship Project

DROUGHT EARLY WARNING BULLETIN FOR APRIL 2019

APRIL 2019 EW PHASE

Drought Situation & EW Phase Classification

Biophysical Indicators

- Heavy rainfall experienced for about 2 to 3 days during the third dekad.
- Further deterioration in vegetation cover across the county compared to March.
- Slight recharge for both surface and underground water sources following the rains.

Socio Economic Indicators Details

- Minimal decrease in trekking distances to water points for both household and livestock recorded.
- Livestock remained within the normal dry season grazing areas.
- Milk production and consumption decreased compared to March.
- Body condition for all livestock species was to fair to good across the entire livelihood zones.
- Market prices for small stock declined but increased for cattle.
- Maize/*posho* prices at market increased compared to March.
- A medium sized goat exchanged with 58.4 kilograms of cereals.
- Significant increase in proportion of children less than 5 years at risk of malnutrition compared to last month.

Early Warning Phase Classification

LIVELIHOOD ZONE	EW PHASE	TRENDS
Agro-pastoral	Alarm	Worsening
Pastoral (North)	Alert	Worsening
Pastoral (East)	Alarm	Worsening
County	Alarm	Worsening

Biophysical Indicators	Value	Normal range/Value
VCI-3month (County)	17.8	35-50
VCI-3month -Samburu East	14.39	35-50
VCI-3month -Samburu North	21.46	35-50
VCI-3month-Samburu West	19.1	35-50
Production indicators	**Value**	**Normal ranges**
Livestock Migration Pattern	Migration to dry season areas	No Migrations
Livestock Body Conditions	Moderate; neither fat nor thin	Good Smooth appearance
Milk Production	1.1	>1.9
Livestock deaths due to drought	Few sheep deaths reported	No death
Access Indicators	**Value**	**Normal ranges**
Terms of Trade (TOT)	58.4	>54.1
Milk Consumption	1	>1.6
Return distance (km) – Household	5.9	<4.8
Return distance (km) – Livestock	13.6	<10.6
Acceptable FCS (percent) – Pastoral	38.8	100
Acceptable FCS (percent) – Agro pastoral	21.7	100
Utilization indicators	**Value**	**Normal ranges**
MUAC (percent)	26.7	<21.89
rCSI – Pastoral	13	<56
rCSI – Agro pastoral	8.3	<56

▪ 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

1.0 CLIMATIC CONDITIONS

1.1 Rainfall Performance

- There was nothing to report on for the first and second dekad of the month as dry, sunny and dusty weather conditions prevailed though on some days, heavy clouds would gather and raise expectations of downpour but still no rain came. During the third dekad, the heavens opened and rainfall fell with a vengeance across the entire county for about two to three days consequently. The rainfall was characterized by lightning and thunderstorm and resulted in flash floods in most areas.
- The high expectations that the delayed onset of the long rains was finally over was short lived as the rains disappeared immediately. However there are places especially in Samburu North which continued receiving heavy, erratic rainfall on different days. The rest of the county has remained fairly dry save for drizzles which have helped in cooling the dust.

1.2 Amount of Rainfall and Spatial Distribution

- Though almost every corner of the county has reported having received some rainfall, the intensity of the downpours has varied. Samburu East reported receiving heavy downpours for about 3 consecutive days with the exception of Wamba North which received light rainfall for a day. Samburu north also received heavy downpour for day except Baragoi which received showers on varying days. Rainfall has been elusive in Samburu Central with rainfall having been experienced for a day though drizzles have been felt on various days.
- According to rainfall estimates (RFE) data, the county experienced above normal precipitation in the third dekad of the month (Figure 1). However, distribution in term of time was poor and unevenly distributed in terms of space.

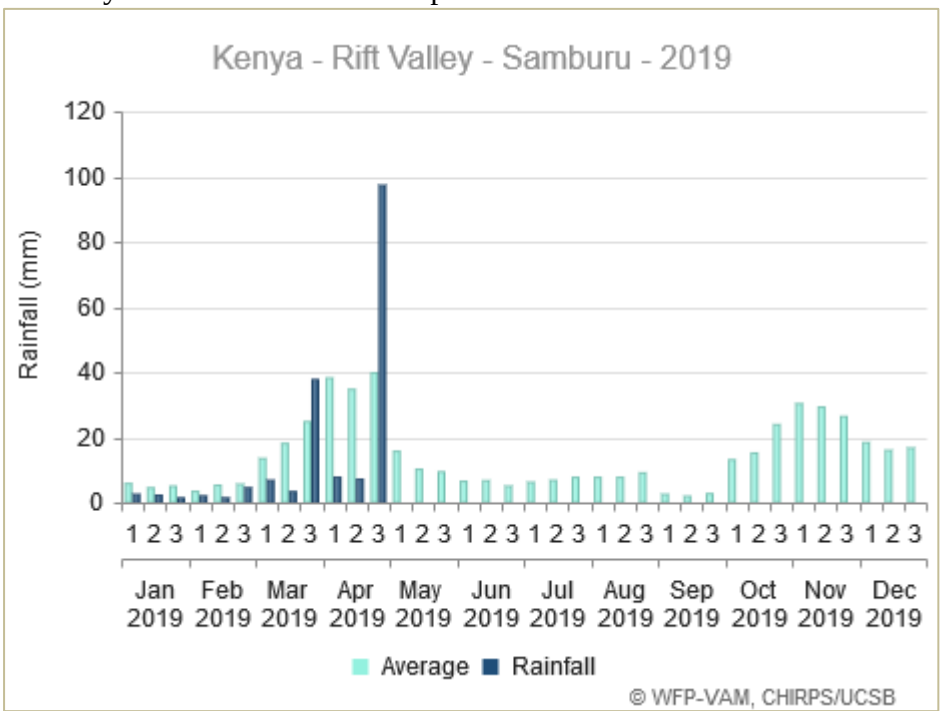


Figure 1: Graph Showing Rainfall Estimates (RFE) Trends for Samburu County
(*Source : WFP-VAM, CHIRPS/UCSB*)

IMPACTS ON VEGETATION AND WATER

2.0 Vegetation Condition

2.1.1 Vegetation Condition Index (VCI)

- Persistent dry condition has resulted into further deterioration in vegetation condition cover in major part of the month across the county. The rangeland greenness content deteriorated by 27 percent compared to last month as measured by the 3-month VCI sliding into severe vegetation deficit (Figure 2). All the sub counties were in severe vegetation deficit except Samburu north sub county that was in moderate vegetation deficit. However, towards the end of April marginal pockets of the county received intermittent and depressed showers that is likely to partially replenish water resources and minimal pasture and browse sprouting.

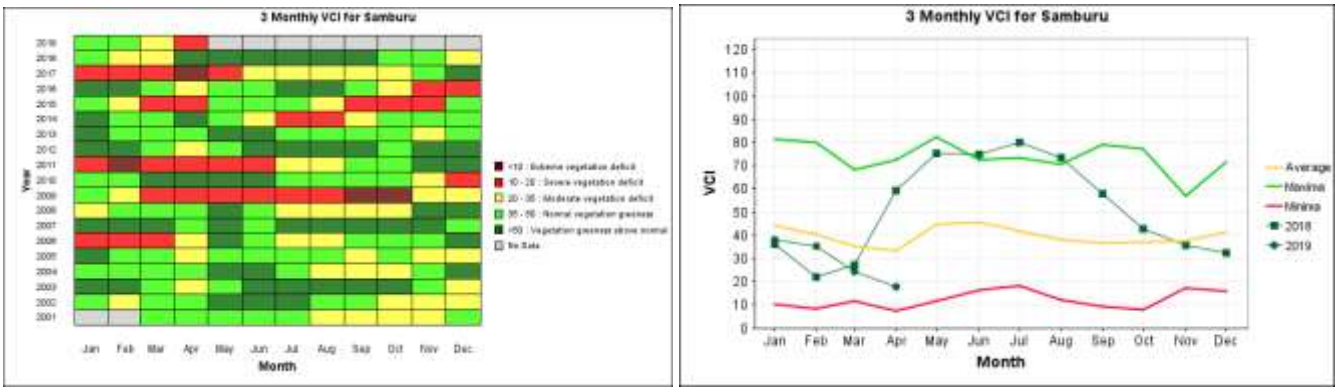


Figure 2: Matrix and Graph Showing VCI Trends for Samburu County
(***Source****: Boku University*)

2.1.2 Field Observations (Pasture and Browse Conditions)

Quality and Quantity

- The showers received have impacted positively on browse across the county despite having been received for a short span. Instant regeneration of shrubs and leaves has been observed especially in Samburu East and Samburu North which received sustained downpours for two to three days.
- Unfortunately very little improvement on pasture has been observed as the land still remains bare though there are areas which have turned green as a result of grass starting to sprout from the ground.
- Significant pasture still exists in dry grazing areas of Mbukoi, Angata Sikira, Kawop and Suiyan in Samburu North and Naishamunye, Losesia and Lojuk in Samburu East. These areas that are considered insecurity prone areas have considerable dry standing hay however access is restricted due to conflicts. The pastures here are dry and have lost their nutritional significance however the rains have brought reprieve in terms of succulent levels.
- In the agro-pastoral zone, pasture is also fair to poor and is available courtesy of a few individual farmers who had cultivated hay in their farms however the farms have been invaded and are now communal.
- Out of the sampled key informants, 60 percent acknowledged that pasture was fair while 40 responded it was poor. For browse, 60 percent responded that it was fair whereas 40 percent responded it was poor (Figure 3)**.**

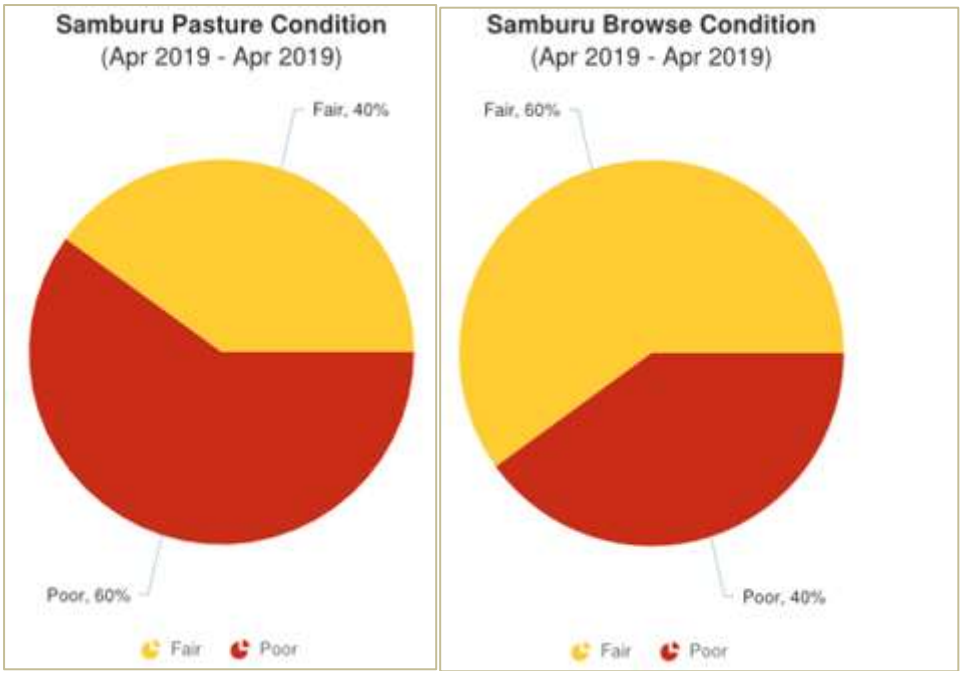


Figure 3: Pasture and Browse Condition

2.2. Water Resource

2.2.1 Sources

- The most notable impact of the rains has been on the water sector. Pools of stagnant rain water have been observed and have been widely utilized as one of the sources though for a short period. Recharge on some pans has also been noted though to a little extent. Overall, the rains have improved water levels both surface and underground sources and has also eased the pressure on sources such as boreholes and hand pumps which were being operated on 24 hour basis and have reportedly been experiencing frequent breakdowns.
- Majority of households interviewed relied on boreholes as their major source at 34.5 percent. Traditional river wells and shallow wells was relied upon by 20.7 percent respectively. 13.8 percent of households preferred water from pans and dams. The rest of the sampled households utilized water from springs at 10.3 percent (Figure 4).

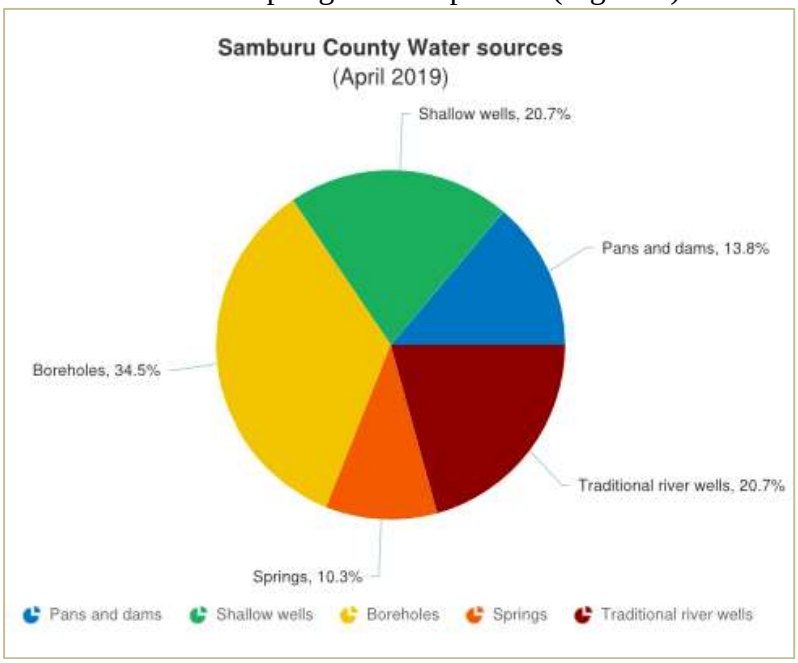


Figure 4: Common Water Sources

2.2.2 Household Access and Utilization

- The rains have brought much relief for households and have also prevented the likelihood of water borne disease break out. The distance households used to trek to access water has reduced by 9 percent from 6.5 km in March to 5.9 km in April.
- High trekking distances were recorded in Wamba West and Nachola ward of between 6 km to 7 km whereas Arsim the least of around 1km.
- There are still areas such as Nairimirimo which are in dire need of water as they received very little rainfall and have been requesting for water tankering. NDMA water boozer has been on the ground ensuring no community within Wamba north has lacked water.
- Despite the decrease, trekking distances remained above long term average by 18 percent (Figure 5).

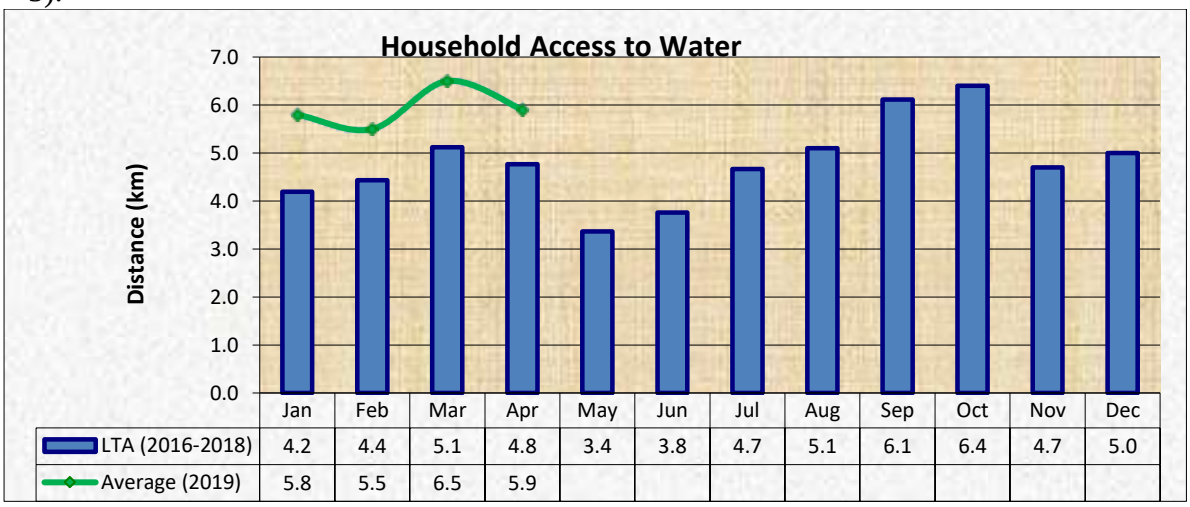
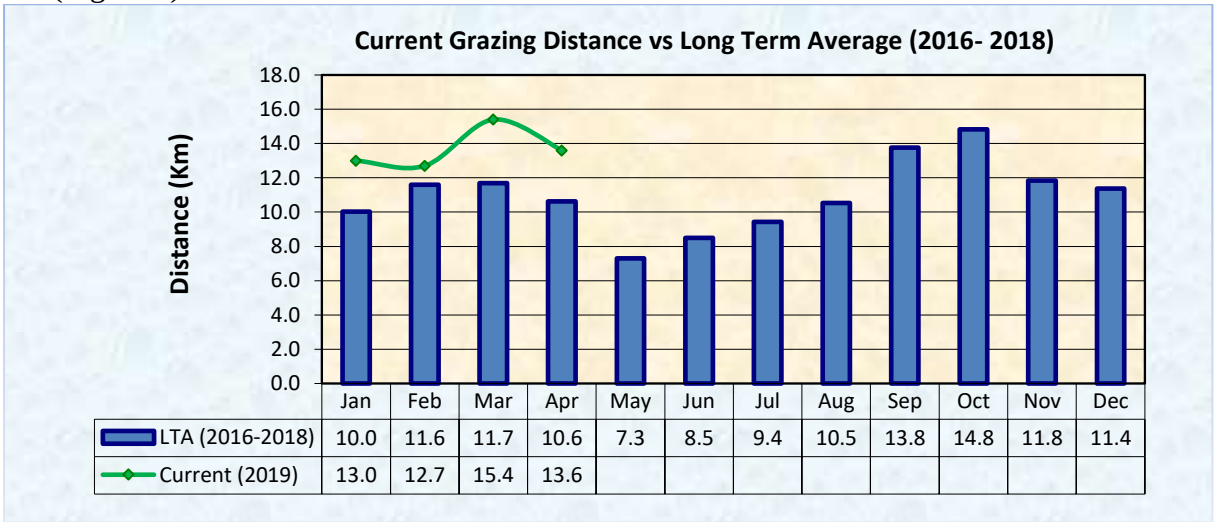


Figure 5: Average Distance Travelled by Households in Search of Water

2.2.3 Livestock Access (Grazing Distances to Water Points)

- Livestock also got some reprieve following the rains as the distance they trekked to quench their thirst from their grazing fields slightly reduced by 11 percent from 15.4 km trekked in March to 13.6 km in April.
- High trekking distance of above 10 km was recorded in Wamba North, Wamba West and Nachola ward. Suguta ward and Arsim sentinel site in Ndoto recorded the least distances of between 2 km to 4 km respectively attributed to close proximity of water sources like pans and boreholes for the case of Suguta and Ndoto mountains for the case of Arsim.
- The drinking frequency for cattle in pastoral is once in two days whereas for small stock is after every two days. In agro-pastoral zones the livestock access water is on a daily basis.
- The current average distance was 22 percent above the long term average at this time of the year (Figure 6).



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2016-2018)	10.0	11.6	11.7	10.6	7.3	8.5	9.4	10.5	13.8	14.8	11.8	11.4
Current (2019)	13.0	12.7	15.4	13.6								

Figure 6: Distance Travelled from Grazing Areas to Water Points

3.0 PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- Livestock of all species have somehow managed to maintain fair to good body condition despite environment conditions going haywire such as vegetation and rainfall for over two months now. Majority of cattle and sheep still exhibit moderate condition that is neither thin nor fat whereas a few exhibit borderline conditions (fore-ribs not visible, 12th & 13th ribs visible).
- Grazers are exhibiting body condition characterized by good smooth and moderate (neither fat nor thin) appearance thanks to availability of browse following the showers received. (***Refer to table 1 in annex***).

3.1.2 Livestock Diseases and Deaths

- Clinical signs of Peste des petits ruminants (PPR) and Foot and mouth disease (FMD) were reported by farmers. Endemic diseases which include Contagious Caprine Pleuropneumonia (CCPP) and tick-borne diseases such as East Coast Fever (ECF) continued to be reported across the livelihood zone.
- Deaths of sheep in Wamba west as a result of drought was reported during the beginning of the month before the rains. Towards the end of the month of April, heavy downpour experienced on 22nd April occasioned deaths of weak and emaciated sheep particularly in Samburu central sub county.

3.1.3 Milk Production

- Since the beginning of the year, milk production has been below long term attributed to the carrier effects from recurrent drought the last two years and this year which has made livestock not recover properly thus affecting their breeding patterns and consequently herd size numbers.
- Production reduced from 1.5 litres in March to 1.1 litres in April and was mainly from camels and lactating goats. Few households in agro pastoral livelihood that breed graded animals also had access to milk.
- The current production per household was 42 percent below the long-term value at the same period of the year (Figure 7).

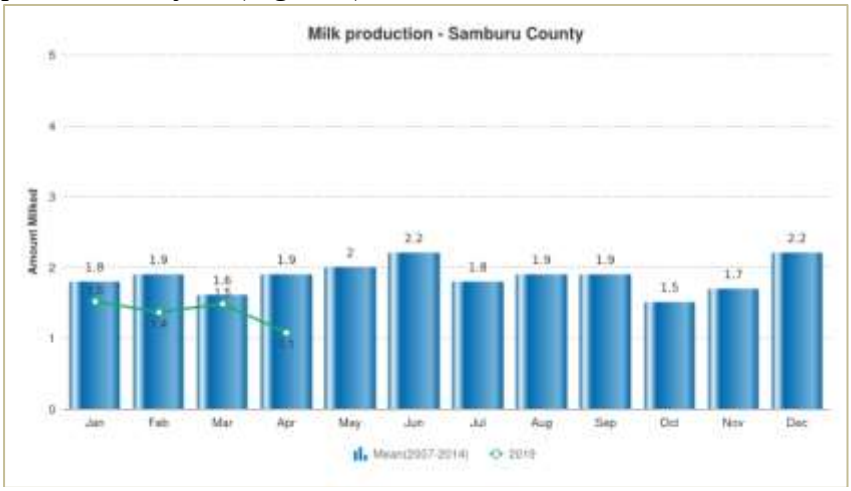


Figure 7: Trends in Milk Production per Household

3.2 Rain Fed Crop Production

3.2.1 Stage and Condition of Food Crops

- Farmers in agro-pastoral zone have cultivated their farms and few dry planted while majority are still awaiting the rainfall onset to fully set in.

3.2.2 Harvest of Crop

- There is no harvest currently on going.

4.0 MARKET PERFORMANCE

4.1 Livestock Prices

4.1.1 Cattle Prices

- Despite the prolonged dry spell, markets are still vibrant and functioning well as was evident by stable in cattle prices remaining at Ksh 19,000 compared to Ksh 18,545 in March. The good prices can be attributed to fair body condition and also high demand considering few are brought to the markets as most are in dry season grazing areas.
- Markets recorded almost similar prices with the least price being Ksh 18,000 and the highest being Ksh 22,500 recorded in Lolkuniani.
- The current average cattle market price remained above LTA by 9 percent at similar period of the year (Figure 8).

Figure 8: Graph Showing Cattle Selling Price Trends at Market Level

4.1.2 Goat Prices

- There has been steady, marginal decline in goat prices since January attributed to market forces although body condition for goats remains good to fair. Average price fell by 3 percent in April from Ksh 2794 in March to Ksh 2706 in April. The decline was also attributed to reopening of schools which might have seen influx of goats in the market thus pushing down the prices.
- Illaut market fetched the least price at Ksh 2000 whereas Lolkuniani fetched the highest at Ksh 4200. Other markets prices ranged in between the highest and lowest.
- In comparison to LTA, the current average price was within the three year average at this time of the year (Figure 9).

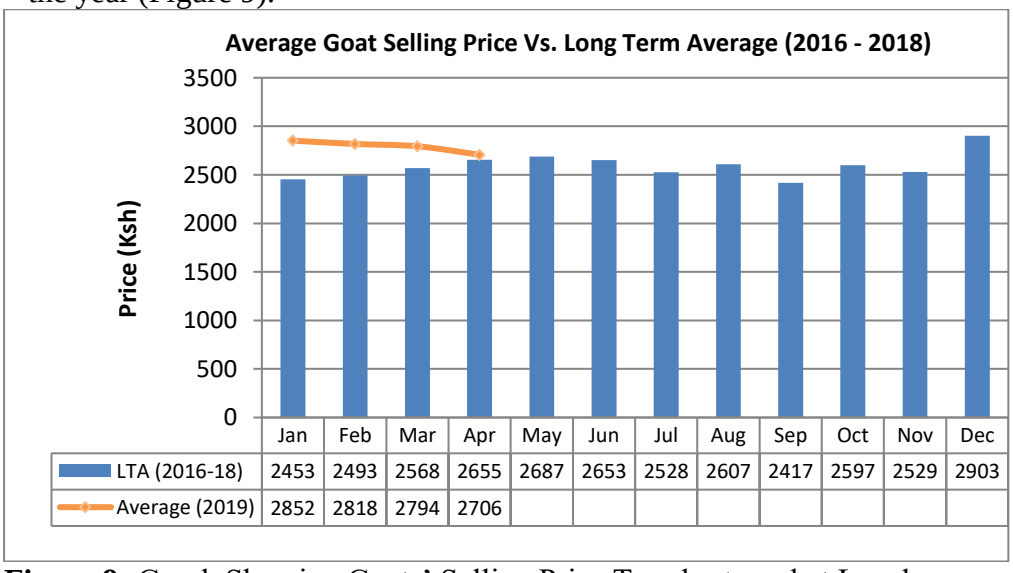
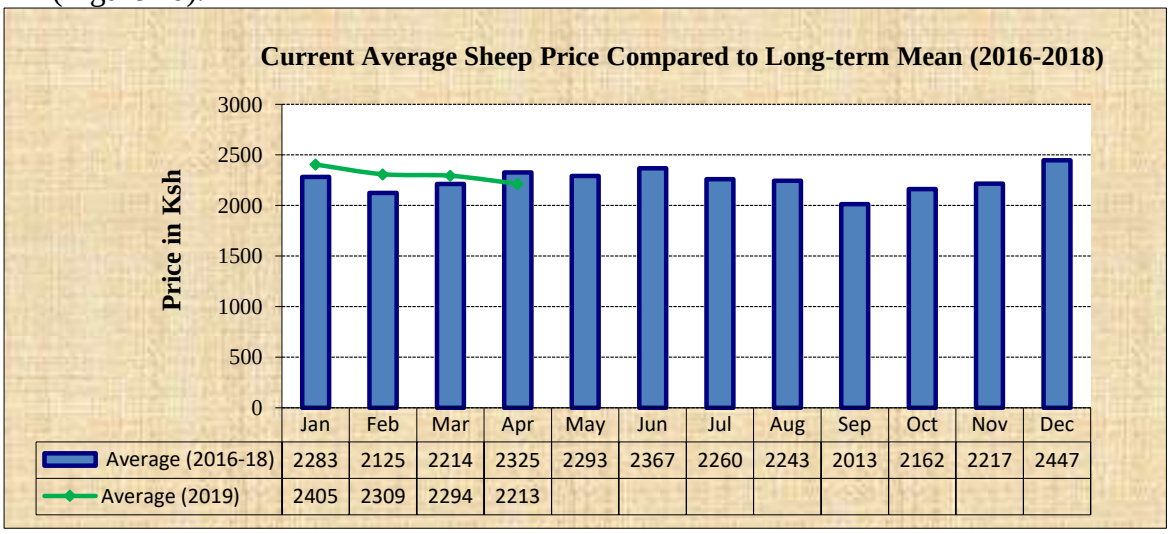


Figure 9: Graph Showing Goats' Selling Price Trends at market Level

4.1.3 Sheep Prices

- Similarly like goat prices, sheep prices have also been on the decline since the beginning of the year despite good to fair body condition. Average price fell by 3 percent in April from Ksh 2294 in March to Ksh 2213 in April. The decline was also attributed to reopening of schools which might have seen influx of sheep in the market thus pushing down the prices.
- Lolkuniani market recorded the highest price of between Ksh 3,200 and Ksh 3,500 while Illaut recorded the least between Ksh 1,500 and Ksh 1,700. Other markets recorded average of between Ksh 2,000 to Ksh 2,200.
- In comparison to LTA, the current average was 4 percent below LTA at this time of the year (Figure 10).



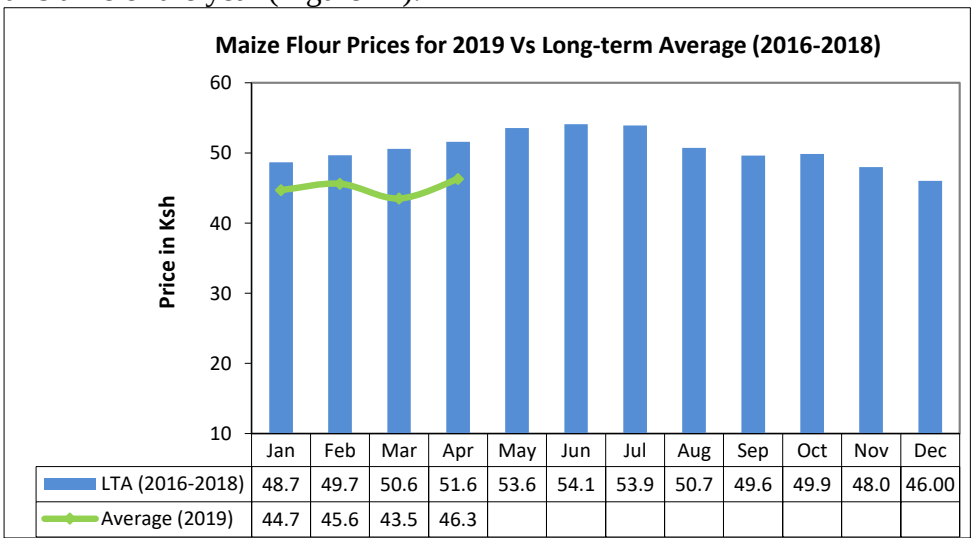
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average (2016-18)	2283	2125	2214	2325	2293	2367	2260	2243	2013	2162	2217	2447
Average (2019)	2405	2309	2294	2213								

Figure 10: Graph Showing Sheep Selling Price Trends at Market Level

4.2 Crop Prices

4.2.1 Posho (Milled Maize)

- There was an increase in maize prices by 6 percent from Ksh 43.5 in March to Ksh 46.3 in April. Likelihood that there might be rainfall failure and subsequently little production has created jitters of maize shortages across the country. Traders have taken advantage of the situation hiking the price of the precious commodity.
- Nevertheless, most of the markets sampled recorded average price of between Ksh 40 to Ksh 50.
- Despite the increase, the current prices remained below the LTA approximately by 10 percent at this time of the year (Figure 11).

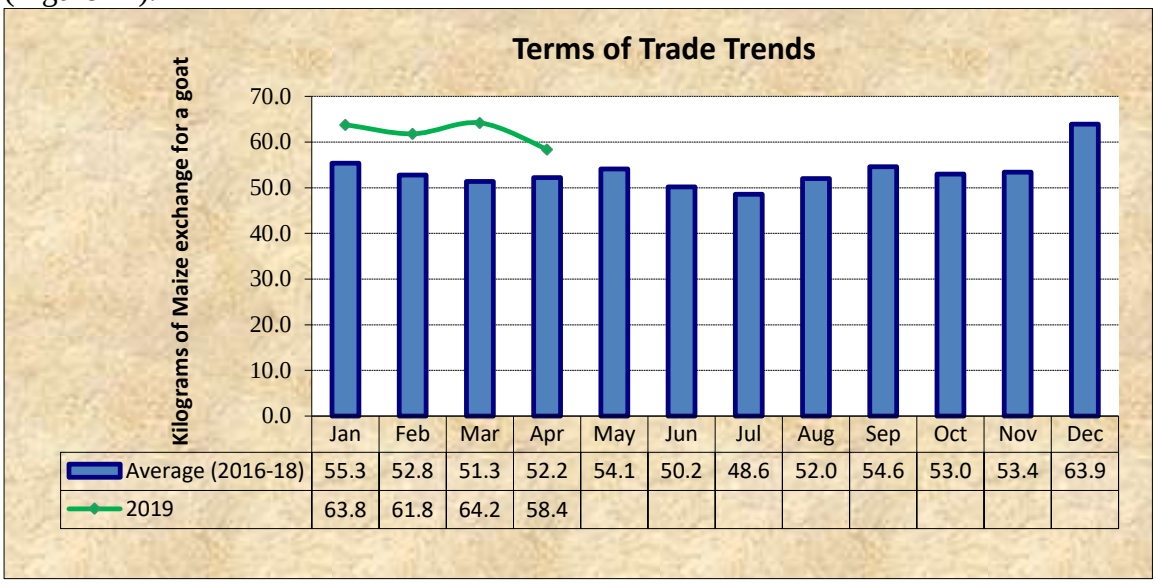


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2016-2018)	48.7	49.7	50.6	51.6	53.6	54.1	53.9	50.7	49.6	49.9	48.0	46.00
Average (2019)	44.7	45.6	43.5	46.3								

Figure 11: Graph Showing Maize Meal Price Trends

4.3 Livestock Price Ratio/Terms of Trade (TOT)

- From the sale of a medium sized goat, a pastoralist was able to purchase 58.4 kg of cereals. This was a reduction of 9 percent compared to March. The decrease was attributed to increase in cereal prices versus declining goat prices.
- Households in pastoral and agro pastoral livelihood received 58.3 kilograms and 57.9 kilograms respectively from income of a similar, medium sized goat.
- Despite the decline, the TOT remained above the LTA by 10 percent at this time of the year (Figure 12).



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average (2016-18)	55.3	52.8	51.3	52.2	54.1	50.2	48.6	52.0	54.6	53.0	53.4	63.9
2019	63.8	61.8	64.2	58.4								

Figure 12: Trends in Terms of Trade (TOT)

5.0 FOOD CONSUMPTION AND NUTRITION STATUS

5.1 Milk Consumption

- Households are forced to do away with milk from their diets since it's unavailable or in limited quantity. Almost all milk produced was consumed at household level. Total consumption was 1 litre down from 1.5 litres recorded in March.
- Milk was shared amongst households and was mostly used to make tea rather than consumed as whole milk.
- Consumption was 37.5 percent above the long term average (Figure 13).

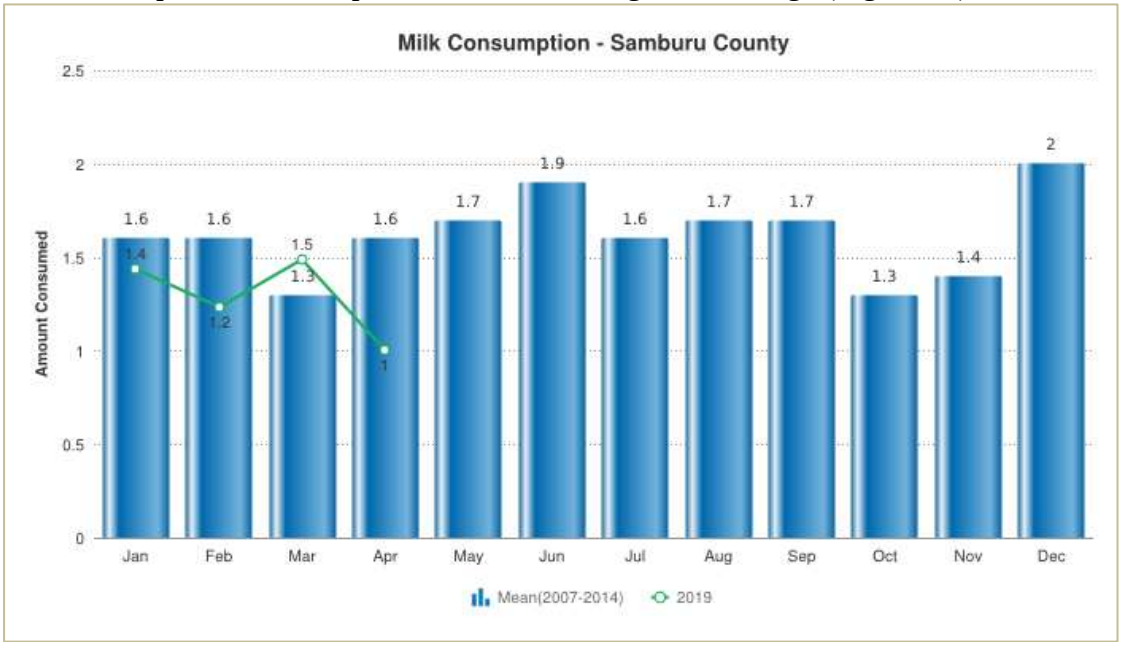


Figure 13: Trends in Milk Consumption per Household

5.2 Food Consumption Score (FCS)

- Majority of households in both agro pastoral and pastoral livelihood are consuming staples and vegetables everyday accompanied by oil and pulses a few times a week as indicated by borderline FCS of 78.3 percent and 53.4 percent respectively.
- In agro pastoral and pastoral livelihood zones, 21.7 percent and 38.8 percent of households respectively were categorized as having acceptable FCS. This implied they consumed staples and vegetables everyday frequently accompanied by oils and pulses and occasionally by meat and dairy products.
- The proportion of households with poor food consumption was 7.8 percent in pastoral livelihood an indication that the households were not consuming staples and vegetables regularly and rarely or never consuming meat or dairy. None of the households in agro pastoral was classified as having poor FCS and this can be attributed to the fact households here also practice farming and most still are having maize and beans in their granaries harvested between August and October (Figure 15).

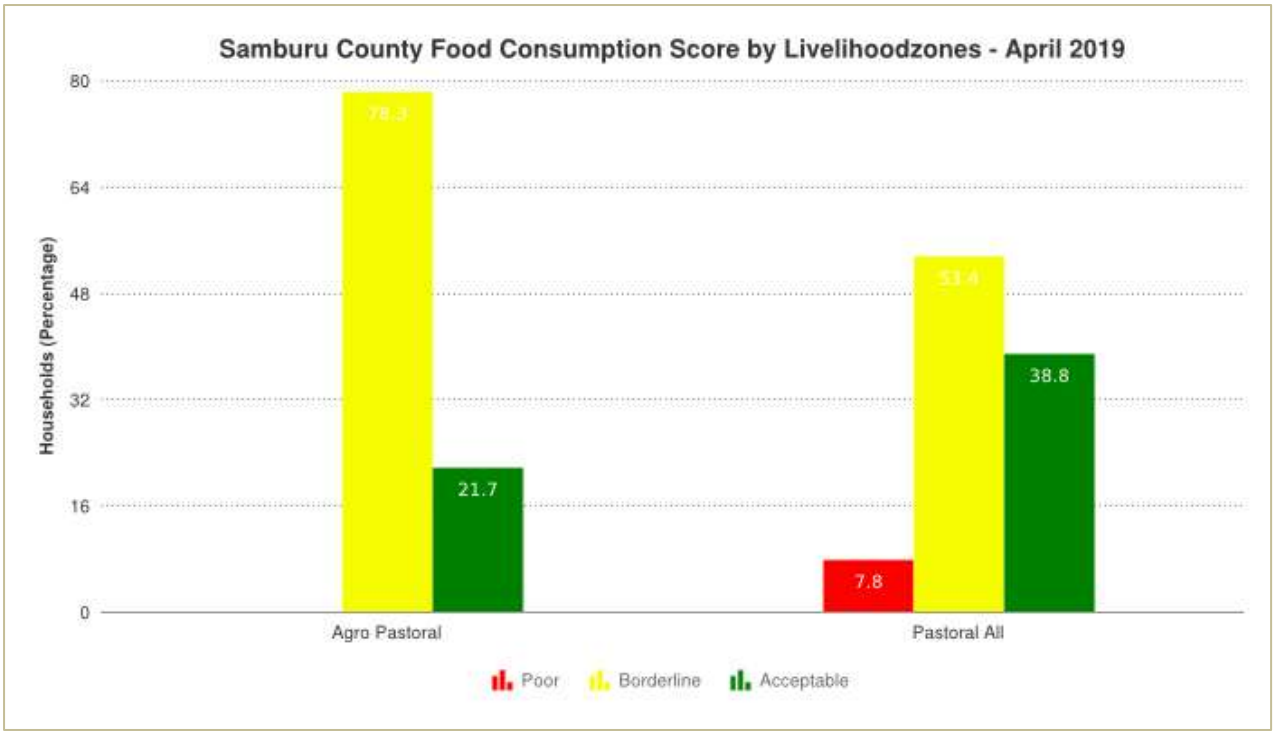
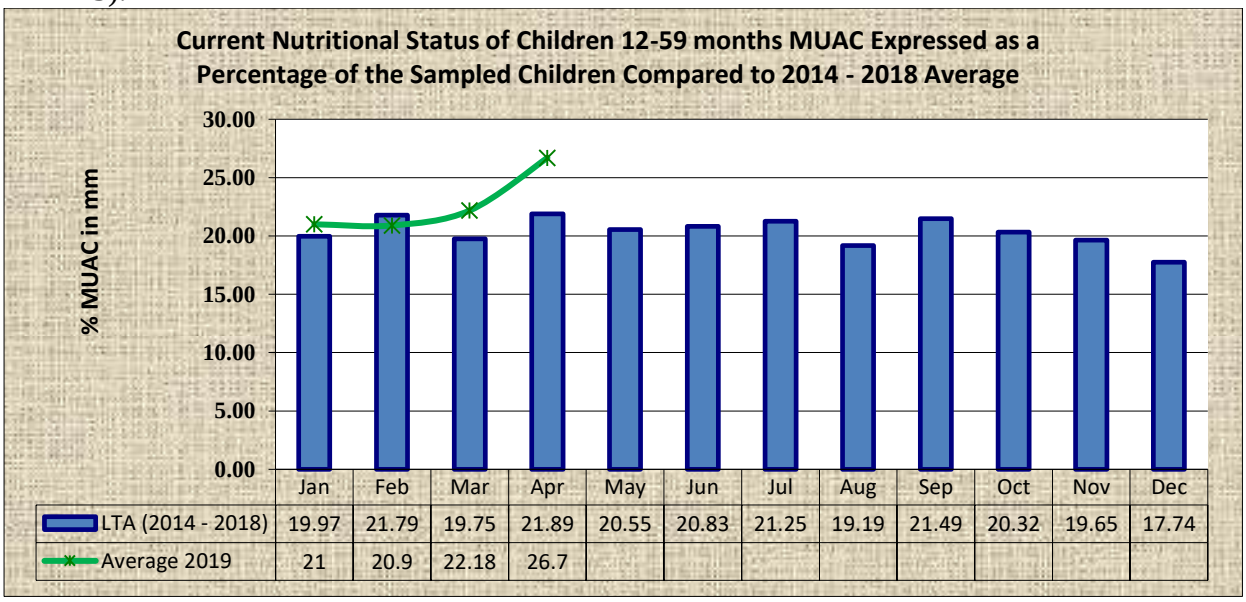


Figure 14: Bar chart showing FCS per livelihood zone

5.3 Health and Nutrition Status

5.3.1 Mid Upper-Arm Circumference (MUAC 125-134 mm)

- Regular monitoring of sampled children below 5 years showed the proportion at risk of being malnourished increased by 5 percent from 20.9 percent in February to 22.18 percent in March. The increase was attributed to unavailability of milk at household and also inadequate dietary intake. Furthermore disease prevalence also contributed to deteriorating health condition.
- Wamba West and Ndoto reported highest prevalence of 33.3 percent and 32.3 respectively followed by Wamba North at 28.3 percent, Suguta at 20.2 percent and Nachola at 11 percent.
- The current proportion of under-five at risk of malnutrition was 18 percent above LTA (Figure 15).



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTA (2014 - 2018)	19.97	21.79	19.75	21.89	20.55	20.83	21.25	19.19	21.49	20.32	19.65	17.74
Average 2019	21	20.9	22.18	26.7								

Figure 15: Graph showing average Nutritional status (MUAC)

5.3.2 Health

- Majority of health facilities recorded high number of both children under five years and general population with Upper Respiratory Tract Infections of about 13,022 followed by diarrhoea with 2,362, Pneumonia (2,352) and confirmed malaria (only positive cases) at 1,372 as per the DHIS data. According to sentinel sites data, 11 percent of the sampled children reported to have suffered fever with chills like malaria and three percent suffered diarrhoea.
- Most households visited public health centres seeking treatment while others used local herbs for treating the ailments.

5.4 Reduced Coping Strategies Index(rCSI)

- The prolonged dry spell, high cereal prices and declining livestock prices forced households to employ various strategies to address either shortage of food or money to purchase food. In pastoral livelihood, the rCSI was 13 whereas in agro pastoral livelihood, the rCSI was 8.3 (Figure 16).

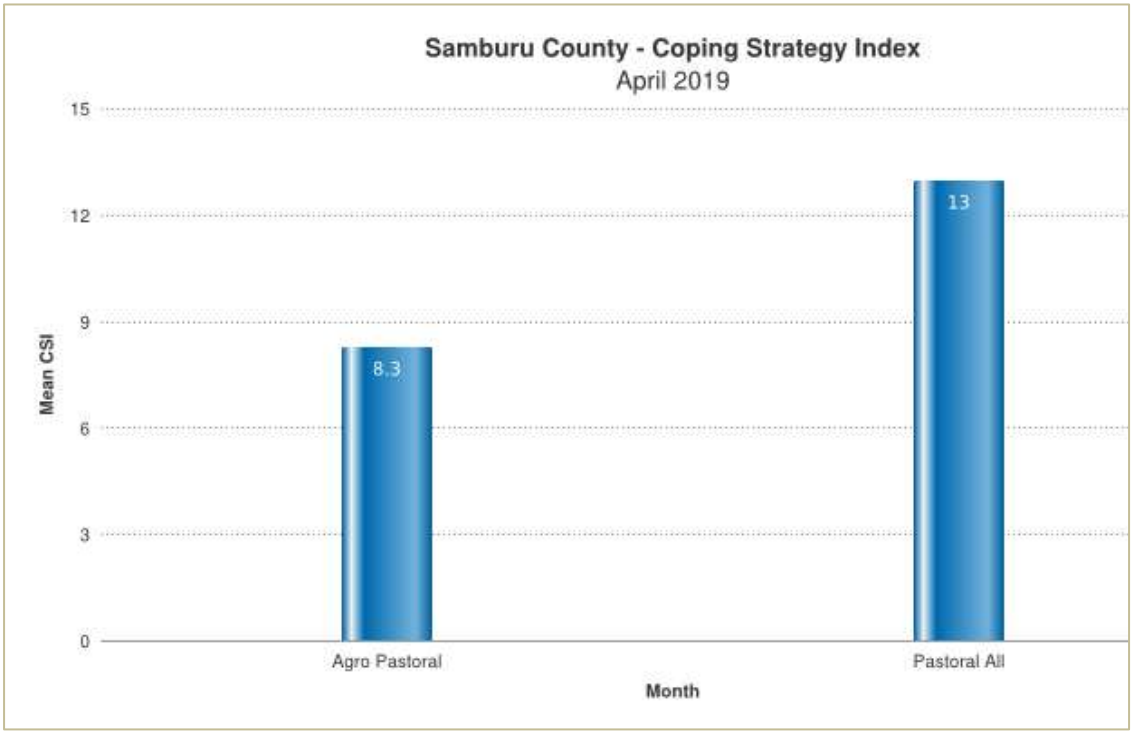


Figure 16: Bar chart showing CSI per livelihood zone

6. 0 CURRENT INTERVENTIONS AND RECOMMENDATIONS

6.1 Non-Food On-going Interventions

Table 1: Non-food On-going Interventions

SECTOR	INTERVENTION	IMPLEMENTERS
Water	• Water trucking in Samburu East	NDMA and Water department
Livestock	• Vaccination against PPR	County department of livestock
Health & Nutrition	• Integrated community health outreaches	MOH and partners
Social Protection	• Cash transfers to vulnerable households under sustainable food systems program	WFP
Peace meeting	• Peace meetings along Samburu – Isiolo border	County department of Special programs

7.0 EMERGING ISSUES

7.1 Insecurity/Conflict/Human Displacement

- Incidences of cattle rustling were reported in Suiyan area of Samburu north sub county where allegedly unknown numbers of cattle were stolen. Aftermath of recovery of the animals resulted to loss of one security personnel and injuries to others. Also in Mbukoi, there have been several incidences of gunshots fired which raised a lot of tension in the surrounding area.
- The rest of the sub county remained relatively calm.

7.2 Migration

- Livestock have maintained their position they held the previous months. Livestock from Samburu east have congregated at Losesia, Loijuk, Naishamunye and Mathew ranges. Livestock from Wamba north ward in Samburu east sub county are now resident in Loibashai of Samburu north sub county. In Samburu north, livestock are concentrated in Angata Sikira, Suiyan, Kawop and Marti plains while others have moved to Suguta valley. In Samburu central majority of livestock from Suguta and loosuk wards have moved to Kirimun plains where 3 to 4 days precipitation was received that minimally replenished rangeland resources.

7.3 Food Security Prognosis

- The county may have dodged a bullet for now thanks to the rains which have brought little reprieve to communities. Some water has been recharged making water easily accessible to households. Browse has also been rejuvenated and browsers are currently having their fill. If the rains progresses, body condition may further improve and consequently result to high market prices thus increased purchasing power for households. However the rains have not impacted on pasture rejuvenation anyhow and have so far ceased. This means livestock will remain further away from homesteads searching for pasture and browse denying the family access to milk. It will also mean that body condition will continue deteriorating which will negatively impact on household purchasing power
- Farmers have a lot to worry about as they are still waiting for significant amount of rain to start planting. They are also skeptic that the delay has been long and might cease early leading to crop failure which will compromise household food security and entire county at large.

8.0 RECOMMENDATIONS

Table 2: Proposed Interventions per Sector

SECTOR	INTERVENTION
Livestock	• Provision of livestock concentrates
	• Upscale vaccination and treatment of reported livestock diseases especially FMD,CCPP and PPR
Health	• Up scaling of integrated outreaches.
	• Up scaling of CLTS and WASH programs
Water	• Advocacy for roof water harvesting in institutions
	• Upscale water trucking in Samburu East and North
Agriculture	• Promotion of drought tolerant crops

Annexes

Table 3: Livestock Body Condition Scoring Chart

Score	Body Condition	Warning Stage
1	Emaciated, little muscle left	Emergency
2	Very thin no fat, bones visible	
3	Thin fore ribs visible	Alert Worsening/Alarm
4	Borderline fore-ribs not visible. 12th & 13th ribs visible	Alert
5	Moderate. neither fat nor thin	Normal/Alert
6	Good smooth appearance	
7	Very Good Smooth with fat over back and tail head	Normal
8	Fat, Blocky. Bone over back not visible	
9	Very Fat Tail buried and in fat	