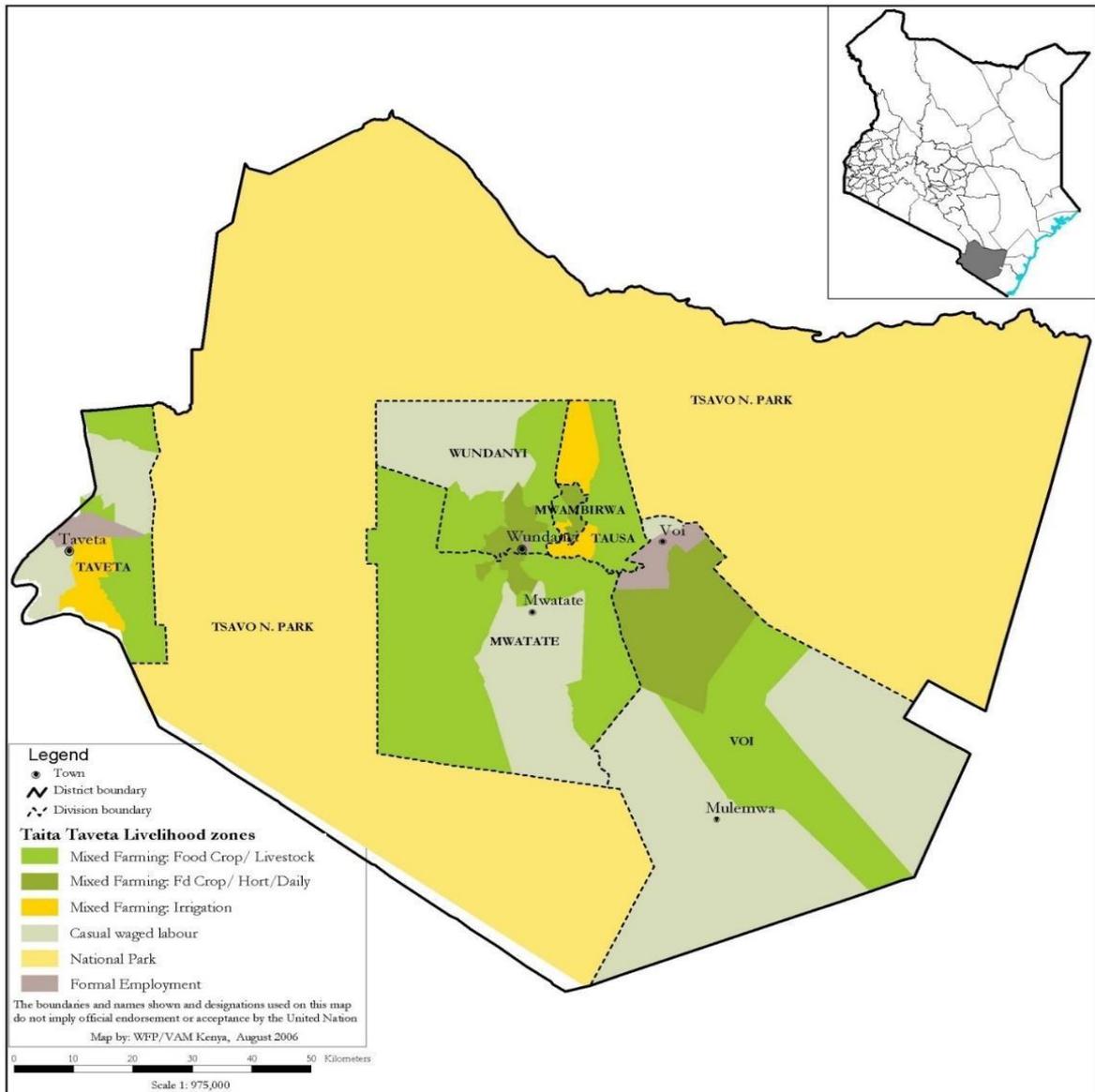


TAITA TAVETA COUNTY

2017 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



A Joint Report of Kenya Food Security Steering Group¹ and Taita Taveta County Steering Group

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EXECUTIVE SUMMARY

The mixed farming-irrigated and livestock livelihood zone are classified under the Minimal phase of the integrated food security phase classification (IPC Phase I) while the mixed farming-crop and livestock & horticulture/dairy and livestock zones are classified in the Stressed phase (IPC Phase 2).

In the irrigated and livestock livelihood zone, the maize stocks are expected to last three to four months, maize price is ranging between Kenya shillings (Ksh) 25 – 30 per kilogram and the market supply of both food and livestock is stable with little or no changes expected in the next three to four months. Average water trekking distance, consumption and costs in the zone are stable compared to normal. The terms of trade (TOT) in this zone is expected to improve due to good body condition of goats and lower maize prices compared to other parts of the County. The above long term average (LTA) projected production of bananas and tomatoes in the zone has ensured stable income sources thereby improving food access for most households in the zone.

Dietary diversity declined in the two livelihood zones. Over 90 percent of households in both livelihood zones mostly consume staples, oils and occasionally proteins. Despite the County maize price averaging at Ksh 41 in January, in the two livelihood zones (crop & horticulture and livestock zone), the market retail prices were higher and ranged between Ksh 40 and 50. The current reduced milk production was attributed to fair pasture condition in the County. Due to the prevailing dry conditions pasture availability is expected to reduce further, while the average water trekking distances especially in the crop and livestock zone are likely to increase. With the projected rain-fed maize production being 87 percent below the LTA and the impact of fall army worms, most households in mixed farming crop and livestock livelihood zone are expected to start relying fully on markets as early as two to three weeks from now. The current water consumption in the two livelihood zones is expected to reduce as the pressure on the available sources increases.

The late onset and early cessation of the short rains that ended a month earlier in most areas are regarded as the main drivers to the current food insecurity situation in the County. The condition was exacerbated by total crop failure during the previous planting season.

1.0 INTRODUCTION

1.1 County Background

Taita Taveta County is one of the five counties located in the Coastal region of Kenya. It borders Tana River, Kitui and Makueni counties to the north, Kwale and Kilifi counties to the east, Kajiado County to the south west and the Republic of Tanzania to the South West. The County covers an area of 17,128.3km² consisting of 62 percent Tsavo East and Tsavo West National Park, 24 percent rangeland and 12 percent land suitable for rain fed agriculture. Administratively, the county is divided into four Sub Counties namely; Taita, Voi, Mwatate and Taveta. The county has a projected (2016) population of 358,173 persons according to 2009 census. The county is divided into three major livelihood zones namely; mixed farming-food crops and livestock (34 percent), mixed farming-horticulture and dairy (21 percent), mixed farming irrigation and livestock (11 percent), others (34 percent) as shown in Figure 1.

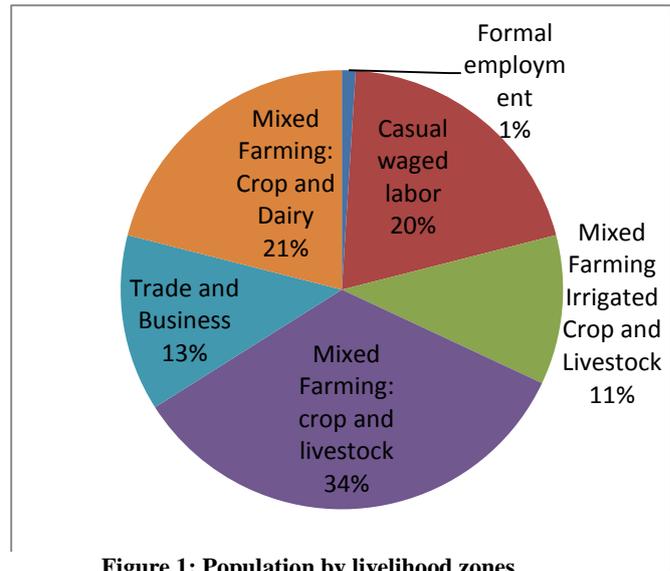


Figure 1: Population by livelihood zones

1.2 Objectives and Approach

The main objective of this short rains assessment is to undertake an evidence-based and transparent food security situation analysis after the Short Rains Season of 2017. The assessment also takes into consideration the cumulative effect of previous seasons and provides the recommendations for possible response options based on the situation analysis. The assessment methodology used the checklists administered by county sector heads and subsequent initial briefings by the County Security Group (CSG) and Kenya Food Security Steering group (KFSSG) representatives. The CSG and KFSSG embarked on a two days transect drive to validate the initial briefing findings considering in mind coverage of the major livelihood zones. The assessment concentrated on three main livelihood zones; mixed farming-crop and livestock livelihood zone, mixed farming-food crop/horticultural and dairy livelihood zone and Mixed Farming-irrigated crop and livestock farming. The assessment team examined the four Sub Counties of Taita, Voi, Mwatate and Taveta by conducting community and market interviews. The team jointly reviewed the data and reports provided earlier as secondary literature and enriched it with field interviews to come with report presented before the CSG for validation and approval.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

The onset of the 2017 short rains was experienced in the 3rd dekad of October 2017 in most parts of the County compared to the normal 1st dekad of October. Most parts of the County received between 75-90 percent of normal rains. The spatial distribution of short rains was uneven, whereas the temporal distribution was poor in most parts of the County. Some section of the Western and Eastern parts of the County received between 90-110 percent of the normal rainfall with some areas in the central and north-eastern part of the county receiving between 50-75 percent of the normal rainfall. Cessation was early in the 1st dekad of December compared to the normal 3rd dekad of December.

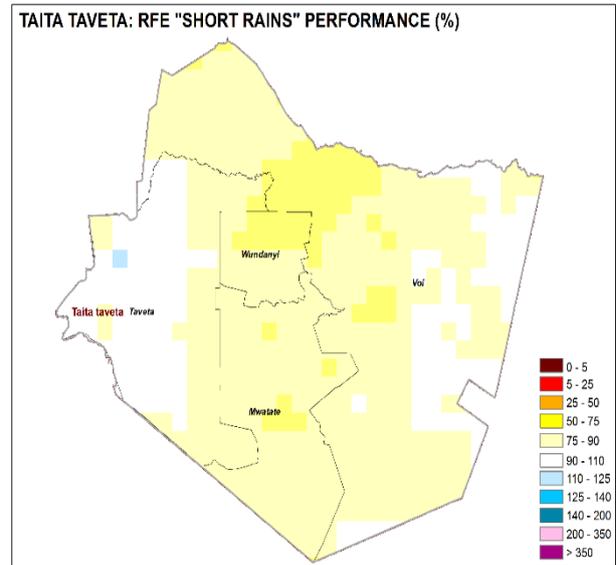


Figure 2. Rainfall Performance

2.2 Current Shock and Hazards

Late onset of the short rains led to late planting and early cessation which accumulatively affected crop production across the main livelihood zones. The maize harvesting activity is still ongoing but it is negatively affected by infestation of head smut in some areas. Human wildlife conflict was experienced whereby maize crop destruction by elephants were reported by farmers with farms bordering national parks areas including Kajire, Alia, Kwa Kele, Manoa, Mlughu, Mgama, Jora and Ngambenyi in the mixed farming (food crop/livestock) zone. Infestation of crops by fall army worm also affected crop production across the livelihood zones. Drying up of open water sources was reported in some areas in the crop and livestock livelihood zones.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

3.1.1 Crop Production

Crop Production

The county is short rains dependant for crop production for three Sub Counties; Mwatate, Voi and Taita except for Taveta Sub County which depends on long rains with most food production contribution being in the highland areas of Sagalla, Wongonyi, Bura, Wusi, Wundanyi, Werugha, Mwanda, Mghange and Chawia. The major crops grown during each season in the respective livelihood zones and their contribution to food and income are as shown in table 1. All major food crops in every livelihood zone contribute to a large percentage income for households apart from the maize crop. Green grams contribute the highest income in the crop/livestock zone while tomatoes contribute the highest in the irrigation /livestock zone.

Table 1: Crops grown per Livelihood and their contribution to food and income

Livelihood	Crops grown	Contribution to food (%)	Contribution to income (%)
Food Crops/ Livestock	Maize	85	15
	Cowpeas	45	55
	Green Grams	10	90
Horticulture/ Dairy	Kales	10	90
	French beans	5	95
	Snow peas	5	95
Irrigation/ Livestock	Green maize	15	85
	Bananas	20	80
	Tomatoes	5	95

Rain fed crop production

Major crops grown under rain-fed agriculture in both livelihood zones are: maize, cowpeas, green grams and beans. Area of land under maize and cowpeas cultivation during the 2017 short rains was near the LTA. That excluded the land area under cultivation of green grams that slightly reduced by 16 percent below the LTA. The reduction of land area under cultivation was attributed to the late onset and early cessation of rainfall as well human wildlife conflicts. Despite the slight reduction in acreage under cultivation, Green grams projected production was better than maize and beans. The 2017 Short rains season projected production is expected to decline significantly by 87 percent for maize, 40 percent for beans and 13 for green grams compared to LTA. The harvesting of maize in some parts of the County was still on-going. The reduction in projected production of maize was attributed to the late onset of the short rains, poor rainfall distribution both in time and in space, early cessation of rains and crop damage caused by wildlife. Cowpeas was affected by increased plucking of leaves by farmers for vegetable consumption which affected yields and negatively impacted on the crops growth and hence reduced production. Comparing the zones projected production, the crop/livestock livelihood zone recorded a total crop failure (Table 2).

Table 2: Rain fed Crop Production

Crop	Area planted during 2017 Short rains season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2017 Short rains season production (90 kg bags) Projected/Actual	Long Term Average production during the Short rains season (90 kg bags)
Maize	9172	9600	7849	60965
Cowpeas	805	810	4035	6830
Green grams	1079	1289	5186	5930

Irrigated crops production

Crop irrigation was practiced in two Sub Counties; Taita and Taveta but majorly in Taveta. French beans were specifically cultivated under contract farming in the Taita Sub County and to some extent Mwatate Sub County. Maize and Bananas are largely grown in Taveta Sub County in established irrigation schemes. The area of land cultivated for green grams and French beans during the 2017 short rains greatly reduced by 46 and 37 percent respectively as compared to LTA. The area of land cultivated for bananas slightly increased by 10 percent compared to the LTA. Farmers opted to plant more bananas as opposed to green maize thereby

reducing the area planted for maize because bananas fetched more cash than green maize. Projected production of both green grams and French beans significantly reduced by 46 and 37 percent respectively compared to the LTA whereas bananas projected production was 11 percent above the LTA.

Maize growing was threatened by the invasion of fall army worm, whose control measures increased the cost of production. During the community interviews, the team was informed that French beans are normally grown by farmers for export by contractual obligation with a private company called Vegpro. There has been a significant reduction in the number of farmers growing the crop due to low prices offered by the Company as in relation to the cost of production. Poor pricing has led to reduction in the area under production hence the reduced projected production. The increase in area planted and projected production of bananas is attributed to the fact that farmers adopted the use of tissue culture banana seedlings and good agricultural practices. Since the crops grown under irrigation, they have high economic value, and therefore male dominates production and marketing (about 70 percent) irrigated agriculture activities. The income obtained from the sales caters for general food security and other needs in the farmers (Table 3).

Table 3: Irrigated Crop Production

Crop	Area planted during 2017 Short rains season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2017 Short rains season production (90 kg bags) Projected/Actual	Long Term Average production during the Short rains season (90 kg bags)
Green Maize	383	703	7,660	14,060
French Beans	114	180	6,270	9,900
Bananas	2,200	1,989	37,400 (Tons)	33,813(Tons)

3.1.2 Cereal Stocks

The current maize stocks being held at the county are at 51 percent which is below the LTA. Stocks held by households have declined by 76 percent compared to LTA. The current stocks held by National Cereals and Produce Board (NCPB) is harvests from the Galana Kulalu Irrigation scheme and therefore meant for distribution to many counties including Taita Taveta. The stocks at household level are held by a few farmers in the horticulture/dairy and livestock livelihood zone whose stocks are expected to last for two to three months despite the ongoing harvesting activity. In the crop and livestock livelihood zone, approximately 80-90 percent of households have no stocks and are entirely depending on market supplies which is normal. Most stocks held by farmers in the irrigated crop and livestock zone are expected to last for three to four months. In the horticulture/dairy livelihood zones, decisions regarding area to be planted are made by men, although both men and women decide on the crop to be planted. Men take the lead role in marketing of the farm produce and make decision on expenditure of income earned from farming. Women decide on maize utilization at farm level. In the irrigation and livestock livelihood zone, men make decisions on the crop to be planted, acreage and marketing while women make decisions on how income is spent (Table 4).

Table 4: Maize Stocks

Maize stocks held by	Quantities of maize held (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	3468	14268
Traders	16454	25790

Millers	0	0
NCPB	65914	500
Total	19922	40058

3.1.3 Livestock Production

The main livestock kept in the county are cattle, goats, sheep and chicken. Livestock production contributes to cash income to households through sale of meat, milk, hides and skins thus impacting positively on food security. The contribution of livestock to cash income per livelihood zone is as follows; 20 percent for food crops/livestock, 33 percent for horticulture/dairy and 20 percent for irrigated cropping/livestock livelihood zone. Goats account for 30 and 25 percent of cash income in the food crops and livestock and irrigation and livestock livelihood zones respectively.

Forage Condition

The condition of pasture and browse in the food crop/horticulture/dairy and livestock livelihood zone was good, whereas in the crop and livestock and irrigated and livestock livelihood zones was ranked good to fair. However in localized areas of Kishushe in Wumingu/Kishushe ward, Mwaroko in Mghange/Mwanda ward, Kajire in Sagalla Ward, Marungu Ward and Mahandakini in Challa Ward and Orkung in Mata Ward and Mgeno reserve in Mwatate ward, pasture and browse situation was poor with indication of a worsening trend. The available pastures and forage are likely to last for one to two months in the crop and livestock and irrigated and livestock livelihood zones compared to normal two to three months. In horticulture/dairy and livestock livelihood zone, fodder and other forage may last for two to three months which is normal. The crop residues will considerably supplement livestock fodder in all livelihood zones. Browse condition is good and stable across all the livelihood zones. Main factors affecting access to pasture and browse are uneven water source distribution and conflict brought about by wildlife. The most affected areas are Bura/Mwakitau, Ngolia, Marungu (Itinyi) and Challa wards.

Livestock Productivity

Livestock body condition

The body condition for all small stock was good across all livelihood zones. In the horticulture/dairy livelihood zone, the current livestock body condition was good whereas in the crop/livestock livelihood zone, the body condition for cattle was good to fair. Body condition for all livestock species was normal at this time of the year (Table 5).

Table 5: Livestock Body Condition

Livelihood zone	Cattle		Sheep		Goat	
	Current	Normally	Current	Normally	Current	Normally
Crop/livestock zone	fair	good	Good	good	good	good
Irrigation/livestock zone	fair	good	Good	good	good	good

Tropical Livestock Units (Tropical Livestock Units)

In the horticulture/dairy and livestock livelihood zone, decrease in TLU was attributed to voluntary livestock sales in the last dry season. In addition, TLU is also low due to small land holdings which cannot allow for expansive livestock keeping in the horticulture/dairy and livestock livelihood zone. Birth rates for all species across the livelihood zones were near normal. Birth rates for cattle in crop and livestock livelihood zones were slightly low due to insufficient feeds experienced from the previous season both in quantity and quality but it is

normal in goats and sheep. Birth rates were normal for all livestock in the other livelihood zones (Table 6).

Table 6: Tropical Livestock Units

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Mixed farming: Crop/livestock	2	3	4	5
Mixed farming: Irrigation/livestock	2	3	4	6
Mixed farming: Horticulture /dairy	1	2	2	5

Milk Availability

Milk production has slightly reduced in all the livelihood zones and the reduction is attributed to the current fair pasture condition across the zones. Milk production in food crops and livestock livelihood zone has reduced to two litres compared to LTA of four litres while in horticulture and livestock zone, production is currently at six litres compared to an LTA of seven litres. In the irrigated and livestock zone, current production is at one litre per day compared to LTA of two litres per day. The trend is expected to decline as pasture continues to deteriorate. The milk price was slightly above the LTA in all the livelihood zones as shown in table 7 and is expected to slightly increase.

Table 7: Milk availability

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Crop/livestock	2	4	1	1	60	50
Irrigation/livestock	1	2	1	1	60	50
Horticulture/Dairy	6	7	1.5	2	35	30

Livestock Diseases and Mortalities

There were no major disease outbreaks reported, although there were isolated cases of Foot and Mouth Disease (FMD) in Mwambirwa and Contagious Caprine Pleuropneumonia (CCPP) in Kamtoga in Mwatate Sub County. Lumpy Skin Disease (LSD), black quarter cases were also reported in Taveta Sub County. No unusual livestock deaths were reported however, there were on-going vaccinations of all livestock species in all the livelihoods zones.

Migration

There were no major reported cases of in/out migration of livestock. Nevertheless, a few cases of out migration of about 200 heads of cattle were reported from Mwatate to Kwale County. The normal trend has always been animals coming in from Kajiado County (Loitoktok Sub County) to Taveta Sub County and through Tana River County to Voi Sub County.

Water for Livestock

The main water sources for livestock in the county are springs, streams and dams. Piped water is mainly in the horticulture/dairy and livestock livelihood zone while springs and rivers are in the irrigation and livestock livelihood zone. Water pans, dams and boreholes are mainly relied on in the food crops and livestock livelihood zones. The average return trekking distances from grazing area to watering points in the food crops and livestock & irrigation and livestock

livelihood zones have increased to four to five kilometres compared with the normal three kilometres and two to four kilometres compared to the normal three kilometres respectively. In the horticulture and dairy livelihood zone, trekking distances have remained at the normal a half a kilometre to one kilometre (Table 8).

Table 8: Water Availability and Access

Livelihood zone	Sources		Return distances (km)		Expected duration to last (months)	
	Current	Normal	Current	Normal	Current	Normal
Horticultural/ dairy zone	Springs, Streams and tap water	Springs, Streams and tap water	0.5-1 km	0.5-1 km	3months	4 months
Crop/ livestock livelihood zone	Water pans, Boreholes, Streams & River beds	Water pans, boreholes and river beds	4-5	3	2	3
Irrigation/livestock zone	Water pans, Boreholes, Streams & springs	Water pans, boreholes and springs	2-4	3	3	3

Watering frequency

The frequency of watering livestock was normal for all species of animals in all the livelihood zones. There was an exception for watering cattle in the crop and livestock livelihood zone. In this zone cattle were watered once per day as opposed to the normal twice per day. This trend was attributed to slight increases in distances to water because some open water sources had dried up (Table 9).

Table 9: Water Frequency

Livelihood zone	Cattle		Goats		Sheep	
	Current	Normal	Current	Normal	Current	Normal
Horticultural/dairy zone	Twice/day	Twice/day	Twice/day	Twice/day	Twice/day	Twice/day
Crop/livestock	1/day	2/day	1/day	1/day	1/day	1/day
Irrigation/livestock zone	1	1	1	1	1	1

3.2 ACCESS

3.2.1 Markets operations

The key staple foods consumed in the different livelihoods of the county are maize flour, rice, cow peas and green grams. The major markets in the County for both livestock and food commodities were; Wundanyi, Mwatate, Voi, Chumvini and Taveta. Markets were easily accessible and functional across all livelihood zones both for food and livestock. Market supplies and traded volumes for livestock and food crops are normal now but changes especially for maize are expected as more households will start fully relying on markets. There was a market disruption brought about the full enforcement of maize import ban from Tanzania (Cross boarder inflows) since August 2017 that has had an impact on the price of maize. From the market interviews, traders recorded that they currently import maize as from Moyale (Marsabit County), Busia County and parts of Rift Valley.

Maize prices

The average maize price in January 2018 was three percent above the long term average (2012-2016) and nine percent above Ksh. 39 reported during the same time in 2017. The maize prices in the whole of 2017 was above the LTA and has been on steady decrease as from the month of July 2017 due to the government subsidy which ended in November 2017. As from November 2017, the price have been stable with a slight increase as from January 2018 attributed to the ongoing harvests. There were variations per livelihood zone for instance the prices ranged from Kshs 38.0 to Kshs 45.00 in the irrigated and livestock livelihood zone around areas of Challa and Eldoro in Taveta Sub County. Highest prices were recorded in the food crops/livestock livelihood zone around the areas of Mwakajo, Rukanga and Mwachawaza where a kilogram was selling at Kshs 40.00 to Kshs 50.00 as well as in Voi and Mwatate Sub Counties. These areas depend on the market supply due to poor harvests. Generally, the maize prices across the livelihood zones are expected to increase by end of February due to poor projected production as more households will be relying on markets for their supplies.

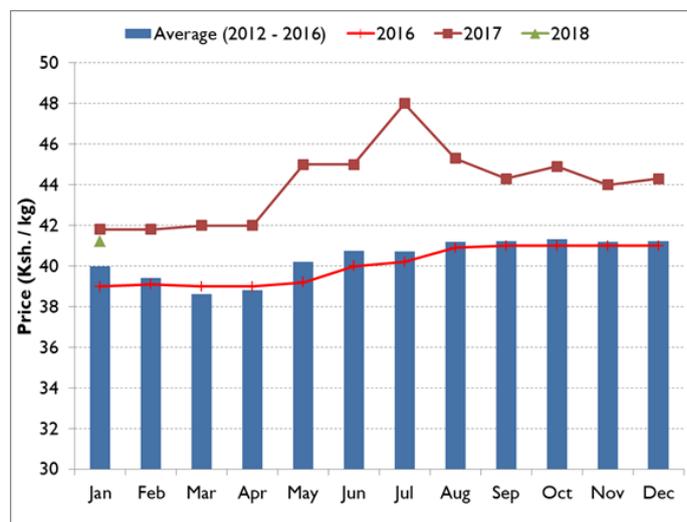


Figure 3: Trends of maize prizes

Goat Prices

The goat prices as at January 2018 were 37 and 14 percent above the 2012–2016 LTA and the price recorded at same period in 2017 respectively. The prices remained above the LTA in the whole of 2017 and as from August to December 2017 they were on a downward trend (Figure 4). The goat prices were significantly high attributed to the good body condition. Goat prices are likely to remain high and stable in all livelihood zones as no major variations in browse condition was expected.

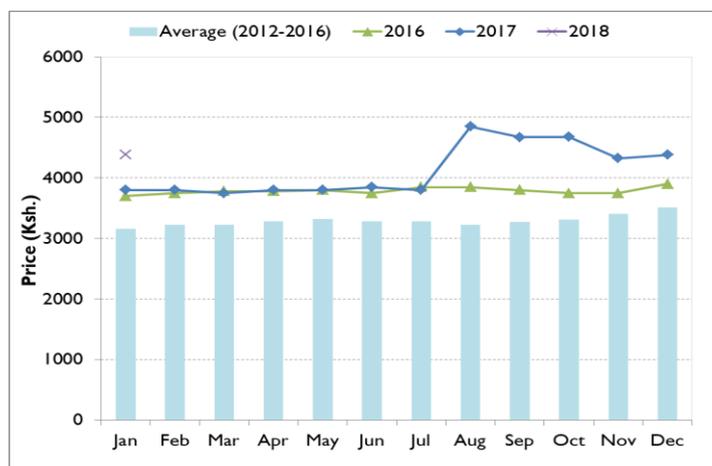


Figure 4: Trends of goat prices

3.2.2 Terms of trade

At present households are able to purchase 117.90 kg of maize with the sale of one medium-sized goat. The terms of trade (ToT) in January 2018 were 34 and 16 percent above the long term average and those recorded in January 2017 respectively. From August to December 2017, ToT were above the LTA and the same period in 2016. The above normal ToT was attributed to the high goat prices due to good body condition and the stable reduction in maize prices. ToT are expected to decrease from April when maize prices are expected to rise.

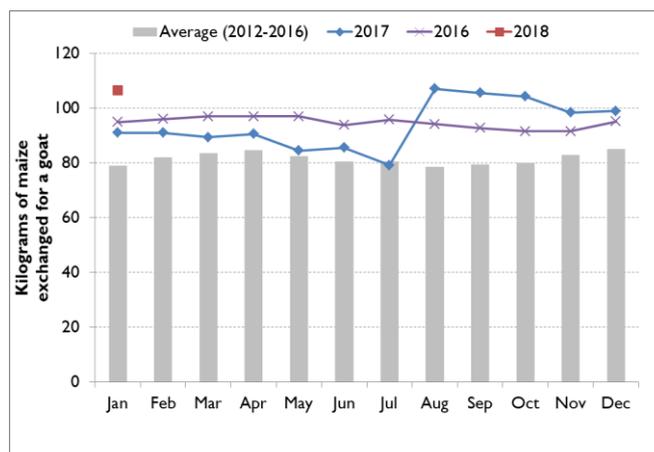


Figure 5: Trends in the terms of trade

3.2.3 Income Sources

The main sources of income in the County are varied in the different livelihood zones. They include sale of livestock and livestock products, crop production sale of firewood and casual labour among others as shown in table 10.

Table 10: Income Sources

Livelihood zone	Income sources		
	Livestock Production	Crop production	Others
Mixed farming food crop and livestock	33 percent	12 percent	Firewood collection/charcoal burning -10 percent
Mixed Farming/Horticulture and Dairy	20 percent	43 percent	Formal waged labour and businesses- 22 percent
Mixed farming /irrigation and livestock	20 percent	60 percent	Petty Trading 5 percent

3.2.4 Water access and availability

Major Water Sources

The major water sources for domestic use in the County are piped water schemes, springs, dams and pans, shallow wells, boreholes, rivers/ streams, rock and roof catchments. The short rains recharged the open water sources to 60-70 percent of their storage capacities. Currently, most households are relying on boreholes, shallow wells and piped schemes from springs as compared to normal as most of the open water sources have dried up (Table 11).

Table 11: Status of Major Water Sources

Ward/ Livelihood zone	Water Source (Three (3) major sources)	No. of Normal Operational	No. of Current Operational Sources	Projected Duration (Operational Sources)	Normal Duration that water last in months	% of full Capacity Recharged by the Rains	Locality of Non-Operational Water Sources
MF: Food crop and	Piped water	4	4	12	12	50	-
	borehole	12	10	24	15	65	Buguta, Jora, Ghazi, Mbulia

livestock zone	water pan	10	5	1	3	60	Mkamenyi, Bugura, kale, Marungu
MF: Irrigation/ Livestock zone	River	1	1	12	12	80	-
	Springs	9	9	12	12	80	
	Boreholes/ Shallow well	44	37	9	12	80	Njukini (Kijijini), Rashia, Taveta sisal estate
MF: Horticulture and dairy zone	pipd water	2	2	12	12	50	-
	Spring & streams	53	52	8	10	50	Werugha
	water pan/Dams	4	3	8	9	75	Wesu

Though the volumes of most water pans and dams are low, these sources are expected to last for one month. River volumes have also reduced due to massive deforestation especially in the highlands. Areas facing severe water scarcity include Marungu, Buguta, Jora, Zungulukani, Kishushe, Paranga, Mwachabo, Mgeno, Mwakitau, Malukuritu, Mata, Lotima and Salaita.

Distance to Water Sources

Distance to water sources in the food crops/horticulture/dairy and livestock livelihood zone, crops and livestock & irrigation and livestock zone are half a kilometre, five kilometres and 200 metres kilometres respectively. The normal walking distance to water sources ranges between 100 metres and one kilometre across all livelihood zones with exception of crop and livestock where trekking normal trekking distance is two kilometres. The distances to water sources have increased from two to eight kilometres in localized areas of Manoa, Bughuta, Marungu, Mwaroko, Mwakitau and Zungulukani. The increase in distance is attributed to drying up of the open water sources and increased pressure which is not normal for this time. Women are responsible for fetching water, preparation of food and utilization for water in the household while men are responsible for cattle watering.

Waiting time at the source

The waiting time at the pipeline and springs sources in the horticulture/dairy and livestock livelihood zones is approximately 10 minutes, while in the mixed farming-crop and livestock livelihood zone it was recorded to be at approximately 90 minutes which is not normal at this time. However localized places of Mwakitau, Kamtonga, Kishushe, Marungu and Bughuta the waiting time was up to 110 minutes. Taking more time was attributed to reduced yield at the source and increased congestion at the available water points. Waiting time at irrigated livestock remained the same compared to normal of five minutes.

Cost of Water

The cost of water has remained normal at two shillings per 20 litre jerry can in the crop/horticulture/dairy and livestock livelihood zone. A 20 litre jerry can costs three shillings in the irrigated and livestock zone and food crops and livestock zones. Cost of water in Bughuta has increased from the normal Ksh 20 per 20 litre jerry can to Ksh 30 per 20 litre jerry can. In Mwatate sub-county, drinking water in Alia costs between Ksh 40-50 while in Kituma, a 20 litre jerry can costs Ksh 25. The high cost of water is likely to compromise the amounts and quality of water taken by households impacting on their health status.

Water Consumption

The average water consumption in the food crop/horticulture/dairy and irrigated zone ranges from 15 to 20 litres per person per day. Most households in the crop and livestock zone are consuming an average of ten litres per person per day compared to the normal 20 litres per person per day. Most households in the irrigated and livestock zone are consuming an average of 40 litres per person per day compared to the normal 40 litres per person per day. Water consumption levels are expected remain stable until the next rainy season in the irrigated and livestock zone. In the crop and livestock zone, water consumption will continue to decline especially in the lower zone due to increasing distances and costs.

3.2.5 Food Consumption

According to the Food Security Outcome Monitoring (FSOM) study carried out by the World Food Programme (WFP), about 25.3, 34.9 and 39.8 percent of households have poor, borderline and acceptable food consumption score (FCS) respectively. The findings indicates a weakening food security situation compared to May 2017 where percent of households in poor, borderline and acceptable score were 17.3, 42.1 and 40.6 percent respectively. Households with poor FCS are mainly in the rain fed lowlands which had poor to nil maize crop, increased trekking water distance, fair body condition of cattle with reduced milk production. Most households in the food crop and livestock livelihood zones were consuming one to two meals per day compared to the normal three. In the other livelihood zones, the meal frequency was between two to three meals per day compared to the normal three. The most consumed foods were; *posho*, *githeri* and vegetables.

Milk Consumption

The current average milk consumption per household in horticulture/dairy and livestock zone is below normal at one to one and half litres compared to the normal two to three litres. Consumption has also reduced to half a litre in irrigated and livelihood zone compared to the normal one litre where as in the crop and livestock zone, the amount consumed has remained the same compared to normal of one litre. Variation in milk production is due to breed types and impact of harsh climatic condition in food crop and livestock zone. Current price of milk was 35 Kenya shillings per litre in horticulture/dairy livelihood zone compared to the normal 30 Kenya shillings per litre while in crop and livestock zone; milk price was 60 Kenya shillings per litre instead of the normal 50 Kenya shillings per litre. The normal price of milk is 50 Kenya shillings per litre in the in irrigated and livestock zone compared to the current 60 Kenya shillings per litre.

3.2.6 Coping strategy

The mean coping strategy score was 20.5 in December 2017 compared to 16 in December 2016. In December 2017, 75.5 percent of households relied on less preferred and/or less expensive food, 67.9 percent borrowed food or relied on help from a friend or relative, 83.9 percent reduced the number of meals eaten per day and 83.1 percent reduced the portion size of meals. About 74.7 percent of households reduced the quantity of food consumed by adults to ensure that children had enough quantity to consume.

3.3 Utilization

3.3.1 Morbidity and mortality patterns

The three most common diseases among under-fives and the general population are Upper Respiratory Tract Infections (URTIs), Diarrhoea and Malaria (Table 12). There has been a general decreasing trend in URTI and Diarrhea cases in under-fives as from 2015 to 2017 for the months of July to December 2017. However, the malaria cases among the under-fives has

been on the increasing trend. This was attributed to the increased vegetation growth and pools water masses as a result of the 2017 short rains season which are mosquito breeding environment. The situation worsened as a result of service disruption during the 2017 national nurses' strike from May- November 2017. The strike caused a halt to the distribution of mosquito nets for children under-fives and pregnant and lactating mothers in the County. A general decreasing trend was noted for the three common diseases comparing the three years between July and December 2017. However, it is worth noting that due to the 2017 national nurses' strike, the July to December 2017 data from District Health Information System (DHIS) had quality issues.

Table 12: Morbidity for Under Fives and General Population

Reported Morbidity cases for children under five				Reported Morbidity cases for the general Population			
Diseases	July-Dec 2015	July-Dec 2016	July-Dec 2017	Diseases	July-Dec 2015	July-Dec 2016	July-Dec 2017
URTI	35224	19328	15342	URTI	71533	44281	27925
Diarrhoea	9331	4508	3699	Diarrhoea	5645	6064	4175
Malaria	205	242	541	malaria	1754	764	585

Epidemic prone diseases

There was a general increase of epidemic and water diseases comparing July to December 2016 with the 2017 data. The increase was attributed to contamination of open water sources, National nurses' strike which disrupted provision of clinical health services in all the public health facilities and hence general poor hygiene practices. Community members from far flatched parts of Voi and Mwatate Sub Counties were mostly affected by epidemic and water borne diseases (See Table 13 below).

Table 13: Trends of Epidemic and Water borne diseases

Disease	July to Dec 2016		July to Dec 2017	
	Cases	Deaths	Cases	Deaths
Measles	18	0	26	0
Cholera	0	0	0	0
Dysentery	52	0	72	0
Diarrhea	3699	0	4508	0
Malaria	205	0	242	0
Typhoid	12	0	25	0

3.3.2 Immunization and Vitamin A supplementation

Immunization and vitamin A supplementation coverage during the period July to December 2017 generally declined compared with the same period last year and remained below the national target of 80 percent (Tables 14 and 15). The low immunization is attributed to the nurse's strike experienced in May-November 2017 where most children due for immunization missed the jab. The Vitamin A coverage between July-December 2017 among the 6-11 months old babies was at 61.3 percent and 12-59 months old babies was at 39 percent. This is significantly lower than a similarly period in 2016 and as well lower than the national target of 80 percent. This is attributed to late disbursement of Vitamin A supplements as well as early closure of schools in October 2017 making the Early Childhood Development Centre (ECDE) Vitamin A Supplementation (VAS) strategy difficult to implement in some areas of the County.

Table 14: Immunization Trends

Year	Percentage of fully immunized children in the county Source DHIS MOH 710 Vaccines and Immunizations	Percentage of children immunized against the mentioned diseases in the county Source: (Nutrition survey if available)
July to December 2017	56%	1. OPV 1 56% 2. OPV 3 46% 3. Measles 57%
July to December 2016	73%	1. OPV 1 79% 2. OPV 3 75% 3. Measles 74%

Table 15: Vitamin Supplementation Trends

Year	Children 6-11 months		Children 12 to 59 months		Children 6-11 months	Children 12 to 59 months
	Received vitamin A Supplementation Source> DHIS MOH 710 Vaccines and Immunizations	Total Population (6-11 months)	Received vitamin A supplementation Source> DHIS MOH 710 Vaccines and Immunizations	Total Population (12-59 months)	Proportion of children Received Vit A supplementation in the last 6 months Source: Nutrition Survey (If available)	Proportion of children Received Vit A supplementation in the last 6 months Source Nutrition Survey (If available)
July-Dec 2017	1188(23.46%)	5062	3937(10.01%)	39316	No survey	No survey
July - Dec 2016	2846(61.33%)	4640	1275(35.39%)	36037	No survey	No survey

3.3.3 Nutritional status and dietary diversity

The surveillance data from National Drought Management Authority shows an above LTA trend from January to July 2017 and a sharp decrease from July to August 2017 (21 percent above LTA in July to 45 percent below LTA) and a below LTA trend as from August to December 2017. The above LTA trend especially from January through to July in 2017 is attributed to biting impact of drought. The reduction as from August 2017 was attributed to the National Government Maize subsidy of May and the County Government relief food distribution among other interventions. The January 2018 rate is about 15 percent below the LTA (Figure 6).

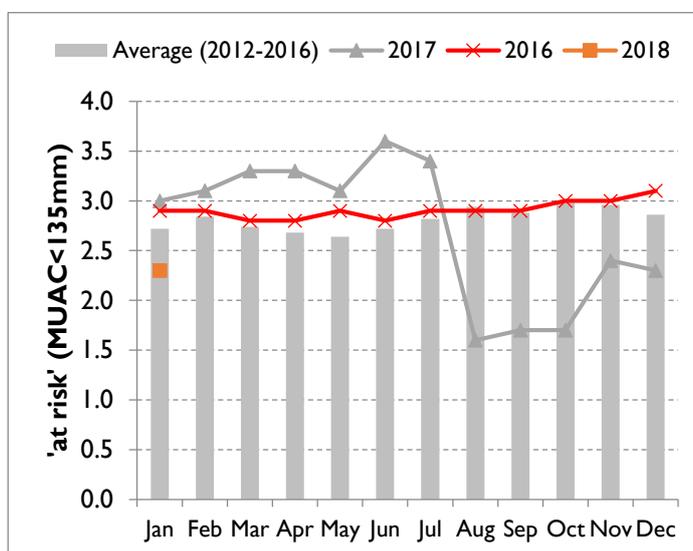


Figure 6: Children at risk of malnutrition

The CHANIS data which shows trends over time indicates a normal trend. However, there was a decrease in number of cases beginning May to December 2017 due to low case filling because of national nurse’s strike which led to disruptions of services especially in the Supplementary Feeding Programme (SFP) in the year. The community feeding patterns in Voi and Mwatate Sub Counties also changed with reports where most household’s members consumed two meals a day. The households’ diet mostly constituted of carbohydrates and

vegetables (Cabbage and local vegetables.) as compared to the normal 3 meals per day. The number of meals taken per day for the entire County was averaging at two to three meals a day. Households in Mixed farming- Food Crop/Livestock consumed two meals per person per day. The meals had low dietary diversity of four to five food groups consisting of cereals, pulses and vegetables.

3.3.4 Sanitation and Hygiene

The county's latrine coverage increased to 92.7 percent from 91.3 percent in December 2017. However, in areas of Mwaroko, Kachero and Mwakitau, the latrine coverage was low at approximately 40 to 50 percent as recorded during the community interviews. Household water treatment practices were generally low at about 30 - 40 percent in food crops and livestock livelihood zones, while-food crops/horticulture/dairy livelihood zones recorded about 50 to 60 percent (Table 16).

Table 16: Latrine Coverage

Sub County	Latrine Coverage	
	January to June 2017 % Coverage	July to December 2016% Coverage
Taveta	79.10%	76.12%
Taita	95.4%	97.9%
Voi	93.5%	93.5%
Mwatate	98.7%	97.78%
County	92.7%	91.3%

3.4 Trends of key food security indicators

The trends of the food security in Taita Taveta County were as indicated in table 17.

Table 17. Trends in Food Security Indicators

Indicator	Long rains assessment, July 2017	Short rains assessment, Feb 2018
% of maize stocks held by households	7% of LTA	14% of LTA
Livestock body condition; Mixed farming (food crop and livestock zone)	Cattle is poor, shoats were Fair	Cattle is Fair, shoats are Good
Household water consumption (Mixed farming (horticulture and dairy) and irrigated zones)	25-30	20-30
Household water consumption Mixed farming (food crop and livestock)	15	10-15
Price of maize (per kg)	Average Ksh. 45/kg	Average Ksh. 41.1 /kg
Terms of trade	86 Kilogram/goat (June 2017)	106 Kilogram/goat (Jan 2017)
Coping strategy index	Mean CSI: 7.1	Mean CSI: 20.5
Food consumption score (%)	Poor:56.7 Borderline: 35 Acceptable: 8.3	Poor: 25.3 Borderline: 34.9 Acceptable: 39.3

Cross – Cutting Issues

3.5 Education

Enrolment

The enrolment of pupils in ECDE had increased significantly by about 18 percent for both boys and girls comparing term III 2017 and term I 2018. This increase was attributed to building of more ECDE centers by the County Government across the county there by reducing the distances to ECDE centres. There was a notable 10 percent decrease in enrolment for primary and eight percent in secondary level. According to the County Director of Education, the enrolment in both primary and secondary institutions across the Sub Counties. Registration of new enrolments, drop outs and transfers was on-going during this short rain assessment (Table 18).

Table 18. Enrolment 2017 III and 2018 Term I (January 2018)

Enrollment	Term III 2017		Term I 2018 (includes new students registered and drop-outs since Term III 2017)				Comments (reasons for increase or decrease)
	No Boys	No Girls	Total	No Boys	No Girls	Total	
ECD	8020	9066	17076	10682	10381	20147	ECD Policy
Primary	30058	28941	58955	27022	25936	52914	
Secondary	9959	10658	20633	10937	10154	19071	

School Meals Programme (SMP)

The County has two types of school meals programme; Home Grown School Meals Programme and the Regular School Meals Programme as shown in table 19. The programme has been praised by the community for increasing enrolment, improving participation and attendance of learners. However, School meals programme is hampered by delays in food delivery, lack of water for cooking in some areas especially in Voi and Mwatate Sub Counties and over-enrolment of children leading to insufficient food to cater for all (Table 19).

Table 19: School Meals Programme

Name of COUNTY	No of schools with school feeding	HGSM		RSMP		ESMP		CSMP		Total number of beneficiaries	
		No Boys	No Girls	No Boys	No Girls						
Taveta	31	7237	6859	-	-	-	-	-	-	7237	6859
Mwatate	11	913	800	-	-	-	-	-	-	913	800
Taita	13	-		1278	1279	-	-	-	-	1278	1279
Voi	16	2082	1846	-	-	-	-	-	-	2082	1846
Subtotal	71	10232	9505	1278	1279					11510	2557
Grand total		19737		2557						14067	

4.0 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumption

Prognosis is based on the premise that the March April May (MAM) rains will be timely and will be above normal to normal rainfall. Generally, the maize prices across the livelihood zones are expected to increase by end of February and beginning of March due to poor projected production as more households will be relying on markets for their supplies. Goat prices are likely to remain high and stable in all livelihood zones as no major variations in browse condition is expected in the coming three months. Despite the maize importation ban from Tanzania, markets will continue operating normally without any disruptions with prices of commodities remaining stable. Migration of livestock out of the County is not expected in the next three months.

4.2 Food Security Outlook for February – April 2018

Despite the on-going maize harvests, the projected maize production of 14 percent of LTA is not likely to increase in the next three months hence the likelihood of more households will rely on markets especially in the crop and livestock livelihood zone. Staple food prices will remain above average constraining food access at household level through April 2018. Livestock body conditions especially cattle are likely to deteriorate and hence a reduction in milk production and consumption at household level resulting in increased malnutrition for children under five years of age. However, the body condition of small stock will remain good with the good browse condition thereby resulting to stable terms of trade despite the expected slight increase in maize price. The livestock distances and waiting time at water sources in the County especially in the mixed farming crop and livestock livelihood zone is expected to increase because most open water sources will have increased pressure and are expected not to last more than a month.

Food Security Outlook for May – July 2018

The March to May rains is projected to be above average to average thereby rejuvenation of pasture and browse is likely to occur across all livelihood zones impacting positively on livestock productivity. Water sources are expected to recharge leading to improved water availability and accessibility. Terms of trade are expected to improve across the livelihood zones up to July 2018. Dietary diversity and subsequently the nutrition status for children under five years are expected to remain stable following the availability of milk in the household. There will be improvements in food security with most of the households in the Stressed (IPC Phase 2) improving to the Minimal Phase (IPC Phase 1). The food security situation is expected to improve and the county is likely move to the Minimal Phase (IPC Phase 1).

5.0 CONCLUSIONS AND INTERVENTIONS

5.1.1 Conclusions

The crop and livestock and horticulture/dairy and livestock livelihood zones are classified in Stressed Phase (IPC Phase 2) whereas the irrigated and livestock livelihood zone is classified in Minimal Phase (IPC Phase I). The indicators to monitor in the coming months will include: the fall army worm infestation, disease outbreak in humans and livestock, market prices of basic food commodities, health and nutrition status of children and pasture and fodder availability especially in the mixed farming-crop and livestock livelihood zone.

5.1.2 Summary Recommendations

The 2017 short rains were late and untimely in terms of onset and cessation respectively. The distribution in time was poor and uneven. The spatial distribution could only sustain pasture and browse regeneration to some extent. The 2017 long rains (March April May) are projected

to be above normal to normal rainfall thereby informing the County and National government departments to strategically reposition to reap the maximum benefits and ensure the livelihood zones in the stressed phase to move to minimal phase classification. The following needs to be planned and implemented in time;

- Promotion of sustainable management of water practices exemplified by rainwater harvesting across all the livelihood zones.
- Training of farmers on management practices including diseases and disease control.
- Invest more in irrigation infrastructure especially in marketing of tomatoes.
- Emphasis on Conservational Agriculture (CA) practices
- Promotion of drought tolerant crops and post-harvest management training
- Promotion of integrated farming practices (co-existence with wildlife)

5.1.3 Sub-county ranking

Table 20: Sub County Food Security Ranking

Sub County	Food Security Rank	Population in need of humanitarian assistance
Mwatate	1	25 - 30
Voi	2	20 - 25
Taita	3	15 - 20
Taveta	4	10-20

On-going and recommended interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
AGRICULTURE							
Construction of farm ponds	Improve availability of micro nutrients	County wide	200 ponds	2 M	3,000 HH	Construction of farm ponds	Improve availability of micro nutrients
Capacity building on post-harvest management	Improve food storage	County wide	20 trainings 20 demonstrations	1 M	6,000 HH	Capacity building on post-harvest management	Improve food storage
On farm soil and water conservation	Improve moisture retention	County wide	15 TOTs trainings	2 M	6,000 HH	On farm soil and water conservation	Improve moisture retention
Subsidized tractor services	Increase productivity	county wide	Purchase of 20 tractors and implements	60 M	2,000HH	Subsidized tractor services	Increase productivity
Provision of traditional high value crops seeds	Improve productivity	County wide	Purchase and distribution of 40 tons of assorted seeds	10 M	10,000 HH	Provision of traditional high value crops seeds	Improve productivity
Coordination of extension services	Improved extension service delivery	County wide	Purchase of 20 motorcycles	2 M	20 Ward Agricultural Officers	Coordination of extension services	Improved extension service delivery
Provision of drip kits	Improve productivity	Taita, Voi and Mwatate sub counties	15 drip kits purchased and distributed 15 trainings and demonstrations	2.5 M	1,000 HH	Provision of drip kits	Improve productivity
Water harvesting for food security	Increase productivity	Taita sub county	2 water pans constructed	5 M	500HH	Water harvesting for food security	Increase productivity
Rehabilitation of irrigation schemes	Increase area under irrigation hence improve productivity	Taveta and Mwatate sub counties	5 schemes in Taveta and 2 in Mwatate	10 M	1,000 HH	Rehabilitation of irrigation schemes	Increase area under irrigation hence improve productivity
LIVESTOCK							

Dairy Upgrading	Increased milk production	Voi, Mwatate, & Taita sub counties	Dairy farmers	6	300	From June 2017 to July 2018	CGTT, ILRI, KAGRIC
Fodder and pasture improvement	Increased milk and meat production	Voi, Mwatate & Taita sub counties	Livestock farmers	4	600	From June 2017 to July 2018	CGTT, ILRI, NDMA, CFA Program
Disease control and surveillance	Increased milk & meat production	All sub Counties	Livestock farmers	20	14,000	From June 2017 to July 2018	CGTT NDMA
Livestock Marketing	Streamlined marketing	All Counties	Livestock farmers	30	2,000	From June 2017 to July 2018	CGTT, ASDSP, Land 'O' Lakes, MTDC,
WATER							
Water trucking	To improve availability and accessibility of water in affected areas	Ngambenyi, Zungulukani, Kisimenyi, Buguta, Mbulia, Mwachabo, Manoa, Mwakitau.	To deliver 400(10m3) trips to hotspots	2.4M	11,000	3 months	Tavevo CGTT
Equipping and distribution of kipusi borehole	To improve availability & accessibility of water in affected areas	Kipusi.	Equip and install distribution pipeline for kipusi b/hole	8M	6,000	3months	CGTT& WV
Drilling and equipping of Iriwenyi borehole	To improve availability and accessibility of water in affected areas	Godoma	Drill and equip Iriwenyi borehole (Borehole drilled, construction of water kiosk and power house)	6M	3,000	3months	CWSB
Drilling of Kiteghe borehole	To improve availability and accessibility of water in affected areas	Kiteghe	Drill and equip 1 borehole in Kiteghe	3M	2000	1 month	CWSB

Extension of Ghazi-Mbulia pipeline	To improve availability and accessibility of water in affected areas	Mbulia	1km extension from Ghazi to Mbulia dispensary	0.2M	1000	1month	ADS Pwani &the community
Improvement of irrigation infrastructure	To increase area under irrigation	Mraru	Ensure irrigation infrastructure is in place	1 M	1500	3months	CGTT
Water trucking	To improve availability and accessibility of water in affected areas	Ngambenyi Zungulukani Kisimenyi Buguta Mbulia Mwachabo,Mano a, Mwakitau	To deliver 400(10m3)trips to hotspots	2.4M	11,000	3 months	Tavevo CGTT
HEALTH & NUTRITION							
Vitamin A Supplementation	To increase uptake of vitamin A	The entire county	Children under five year	4,014,991	46,000	Jan - June	DOH/UNICEF/ PARTNERS
Zinc Supplementation	Improve management of diarrhoea case	The entire county	Children under five year	309,184	N/A	Jan - June	DOH
Management of Acute Malnutrition (IMAM)	To improve management Malnutrition cases	In the twenty six health facilities in the county	Children under five year	4,000,000	2304	Jan - June	MOH/UNICEF
Iron Folate Supplementation among Pregnant Women	To improve their Nutritional status	The entire county	Women of child bearing age	3,200,000	10014	Jan - June	DOH
De worming	To improve the nutritional status of children	The entire county	Children under five year	1,400,000	33,434	Jan - June	DOH
Nutrition Coordination	To enhance Multisectoral collaboration	The entire county	Children under five year	2,000,000	N/A	Jan - June	DOH
EDUCATION							
School feeding programme (HGSMP, ESMP, CSMP)	To enhance access, participation and retention	Taveta (31); Mwatate (11); Taïta (13);Voi (16); and all ECDE centers	All enrolled children in the beneficiary schools		22294	HGSMP-Continuous; ESMP-One off term III 2017	MOE, CGTT, World Vision & Parents.