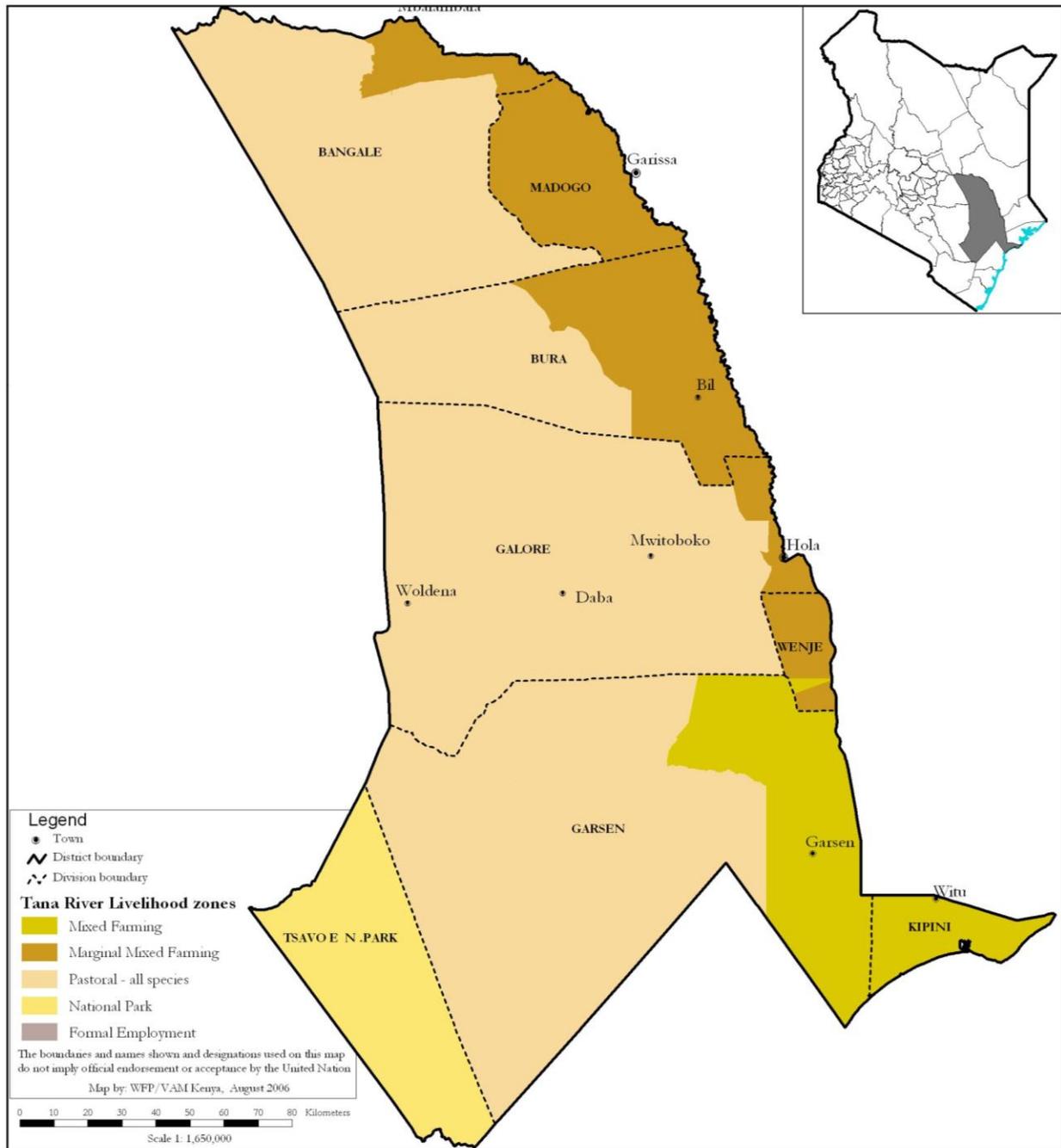


TANA RIVER COUNTY

2018 LONG RAINS FOOD SECURITY ASSESSEMENT REPORT



**A Joint Report by the Kenya Food Security Steering Group (KFSSG)¹ and
 Tana River County Steering Group (CSG)**

August 2018

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Executive Summary

The 2018 Long Rain Assessment was conducted from 6th to 10th August 2018. The assessment was led by the government through Kenya Food Security Steering Group (KFSSG) in conjunction with Tana River County Steering Group (CSG). The process takes a multi-agency composition with government departments supported by UN agencies and Non-governmental organizations in the county who have a stake in food and nutrition security. The process was coordinated by National Drought Management (NDMA) and chaired by the office of county commissioner. The assessments are conducted bi-annually together with the CSG which are multi sectoral and multi-agency in composition and coordinate the food security activities in the county. The overall objective aimed at analyzation and determination of the extent and impact of 2018 long rains on food and nutrition security taking into account the cumulative effects of previous seasons and other shocks and hazards. The assessment explored the impact of season on availability of food, access, utilization and looking at their stability, contributing factors and effects on the sectors. The assessment also informed response and interventions that would address the issues arising in each sector, including agriculture, livestock, water, health and nutrition, education, peace and security and markets and trade.

Food availability was low as result of below average stock due crop losses by flooding and infestation of Fall Army Worm and cutworms. Maize stocks held by farmers were 39 percent below the LTA. Household milk consumption ranging between 0.5 to one liters per day. Food access was also compromised by lack of local harvest. The goat prices were increasing resulting into favorable terms of trade especially for the pastoralists where households were able to purchase 73 kilograms of maize from the sale of an average size goat. Water consumption was at 10-15 liters per person per day due reduced distance to water sources and high recharge levels that most open water sources had water. Quarantine was also imposed in Garsen, Tana Delta Sub County as result of outbreak of Rift Valley Fever (RVF) thereby disrupting livestock markets. Food utilization remained sub-optimal as result of challenges such as disease incidences (water-borne and epidemic-prone diseases), inadequate food intake, poor health seeking behaviors and poor infant and young child feeding practices. The proportion of households with acceptable food consumption score improved from 78.8 percent in May 2017 to 97 percent in same period in 2018 as result of a higher dietary diversity score and improved meal frequency. In May 2018, the mean coping strategy index (CSI) improved from 22 in May 2017 to 11 in May 2018 implying that households had decreased their frequency or severity of consumption based coping mechanism to bridge the food consumption gaps. Global Acute Malnutrition (GAM) prevalence was at critical 15.6 percent. Severe acute malnutrition (SAM) rates were 2.2 percent.

Above average long rains resulted to flooding, crop losses and destruction of infrastructure and eventual displacement of households along the riverine areas of the county. Crop production declined due to flooding and infestation of crop by Fall Army Worm and cutworms. Human – wildlife conflicts especially in the Delta regions were reported. Human and livestock diseases were also reported across the county. Cholera, dysentery, diarrhoea, malaria and typhoid in human were reported while in livestock, RVF was reported with quarantine being imposed. Tana River County is classified as Stressed (IPC Phase 2) with pockets of None (IPC Phase 1). Pastoral livelihood zone has improved to Stressed (IPC Phase 2) from previous classification as Crisis (IPC Phase 3).

1.0 INTRODUCTION

1.1 County Background

Tana River County is located in the coast region of the country and borders the Indian Ocean to the south, Lamu County to the south-east, Kitui to the west, Isiolo to the north and Garissa to the north-east. It covers an area of 38,782 square km with a population of 303,047 (KNBS 2016 projected population). There are three sub-counties, namely Tana North, Tana River and Tana Delta. It has three main livelihood zones: marginal mixed farming comprising 48 percent of the population, mixed farming comprising 38 percent and pastoral all-species comprising 14 percent (Figure 1). Households earn their income either through livestock or crop production. Livestock production in marginal mixed farming and pastoral all-species contribute 20 and 68 percent respectively to cash income. Food crop production contributes 45 percent in the mixed farming livelihood areas. Drought and flooding are major hazards experienced over time in the county.

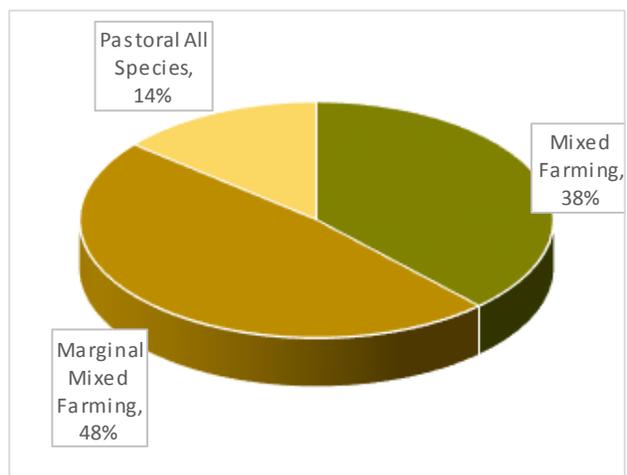


Figure 1: Population by livelihood

1.2 Methodology and Approach

The long rains assessment (LRA) was aimed at developing an objective, evidence based and transparent food security situation. The overall process was coordinated by Kenya Food Security Steering Group. The collection of data from various sources such as livelihood baselines, nutritional smart surveys, NDMA monthly bulletins, sectoral reports, price data and Food Security Outcome Monitoring by World Food Programme (WFP) data were used as secondary data. Field teams were constituted representing various sectors and partners in the county. Field semi structured interviews with officials and experts, market interviews, community interviews, visual inspection techniques were used in collection of data. The use of sectoral checklist tools was administered to key informants and focus group discussions in order to collect primary data. Various factors such as below or average rainfall performance, conflicts areas, sites that had never been visited before, farming areas, livelihood zones, markets, hospitals, schools, water stress or and flooding areas, livestock concentrations among others were used to select the sample sites, transect drive routes and interview sites covering all the livelihoods.

The initial CSG was conducted on 6th August, 2018 with the presentation of preliminary county report by the technical sector working group and discussions were held. After the discussions, field teams were constituted comprising of livestock, agriculture, health and nutrition, water and sanitation, education and partners. Transect routes and interview areas were drawn as Hola, Wenje, Mnazini, Garsen, Hewani as the route to Delta region. The northern route also went through Hola, Goticha, Wayu, Titila Lekole, Hakoka, Bura and Roka. The teams also visited internal displaced persons (IDPs) camps at Konemano and Gamba. Field assessment was conducted between 7th and 8th August, 2018. While in the field; the team conducted a minimum of two communities, two key

informants and two market interviews in each of the four sampled sites. The assessment teams also visited schools and health facilities to collect more relevant information. Visual inspections were also used during the transect drives to obtain qualitative data. The field data was collected, reviewed, analyzed and triangulated to verify its validity. A multi sectoral and multiagency approach was used. Livelihood zone was used as a unit of analysis in order to understand changes in food security and overall identify populations affected and in need of assistance. The results from sampled sites were discussed in the CSG and used to infer other areas not visited. The findings and recommendations were provided for planning purposes.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

The onset of long rains was normal and on time in the first dekad of March. Most parts of the county received above average rainfall ranging between 140-200 percent of the normal rainfall while other parts in northwest and southeast received over 350 percent of the normal rainfall (Figure 2). The cumulative rains received in the county were 254.29mm compared to the average of 110.21mm. The performance of long rains was 130 above the long term average. It also supported regeneration of pasture and browse for livestock and improve water for both human use and livestock in the pastoral all species livelihood areas. The temporal distribution was good while and spatial distribution was even. Cessation was normal in the third dekad of May.

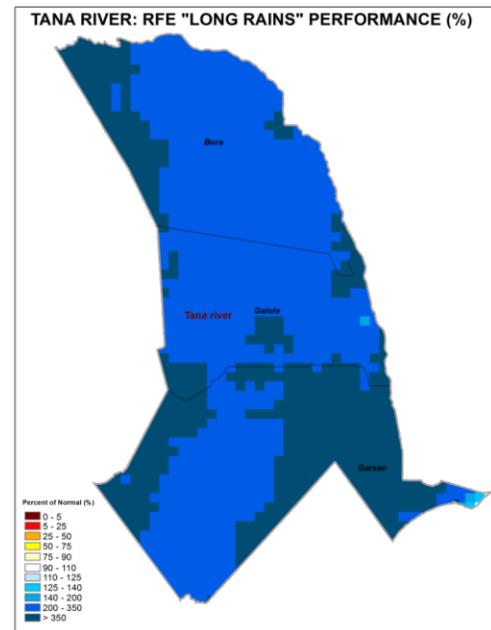


Figure 2: Rainfall Performance

2.2 Floods

The above average long rains performance led to floods especially to riverine communities and parts of the hinterland where households were submerged. About 107 villages were affected by floods (Table 1).

Table 1: Households affected by floods

S/County	Affected villages	Cut off HHs	Displaced HHs	Total affected HHs
Tana Delta	53	5,082	7,626	12,708
Tana River	38	12,330	593	12,923
Tana North	16	12,499	4,125	16,624
Total	107	29,911	12,344	42,255

The floods led to both crop and livestock losses. An estimated 9,976 acres of crops were destroyed and submerged by floods and 2000 herd of livestock were lost. Livestock feeding fields, routes and shelter were also destroyed. Crop losses were also reported across the sub counties (Table 2). About 49 primary and secondary schools were submerged or completely cut off. Water facilities were submerged, cut off or broken down with Tana Delta Sub County being most hit (Chara, Chamwanamuma, Salama, Asa and Kone locations). Road infrastructure to and from Garissa was completely damaged while most feeder roads leading to major markets and town were cut off.

Table 2: Estimated crop losses by acreage

Crop	Tana River Sub-County (Acreage damaged-acres)	Tana Delta Sub-County (Acreage damaged-acres)	Tana North Sub-County (Acreage damaged-acres)	TOTAL
Maize	850	2,325	300	3,475
Green grams	850	946	60	1,856
Cowpeas	192	315	50	557
Water melon	250	1,261	200	1,711
Bananas	300	100	200	600
Tomatoes	100	445	20	565
Onions	0	0	20	20
Rice	24	631	100	755
Mangoes	206	131	100	437
TOTAL	2,772	6,154	1,050	9,976

The destructions resulted to limited access to markets and thereby fluctuations of food prices. Health facilities in Tana North and Tana Delta sub counties were marooned with flood water but some have since been opened as water receded. The National Government, County Government, international organizations, UN agencies, and religious organizations have supported the county to intervene on the negative impacts of the massive floods. The interventions include; water trucking, relief food and non-food items distribution, supply of tent, water treatment chemicals, integrated health and nutrition outreaches, nutritional supplements and essential drugs provision. High food prices have also been reported across the county due to destruction of road network by floods limiting access to food from major towns. Severely damaged feeder roads into the interior resulted to limited access to market supplies.

2.3 Rift Valley Fever

RVF was reported in Tana Delta leading to closure of livestock markets in Garsen. The imposed quarantine resulted to reduced purchasing power of the pastoralists thereby affecting the household income. The outbreak of RVF resulted to several cases of abortions across all the livestock species.

2.4 Other Shocks and Hazards

2.4.1 Insecurity/Conflict

There has no incidence of insecurity or conflicts related to resource-based conflicts across the county. However, migration of livestock from neighbouring county has led to encroachment of reserved pasture fields for the milking herd thereby causing tension with the host communities. Consultative peace meetings have been organized by commissioner office easing and containing the reported tensions.

2.4.2 Other Diseases

In January to June 2018, 27 cases of measles, 14 cases of Cholera and 205 cases of dysentery were reported across the county. Diarrhea, malaria and typhoid cases were 9542, 1386 and 109 respectively. Poor water and sanitation practices have led to cholera outbreak largely attributed to the floods, this has thus compromised food utilization and increased cases of malnutrition. Vector borne related diseases in livestock such as Trypanosomiasis, heart water and Babesiosis were reported across the livelihood zones. Cases of endemic diseases such as Contagious Caprine Pleuropneumonia (CCPP) in sheep and goats. Parasitic infection by fleas, mites and tick have been reported across all livestock types in the county.

2.3.3 Human – Wildlife conflict

Cases of human wildlife conflicts were reported especially in the Tana Delta region. Cutworms were also reported to affect maize in mixed farming livelihood especially along the riverine areas in Tana Delta.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

Food availability refers to presence of food commodities in the county. The availability of food at household may be influenced by various factors such as own production and reliance to market supplies. Livestock productivity is also determined by availability of pastures and browse.

3.1.1 Crop Production

The long rains contribute 70 percent of the total production, while the short rains contribute 30 percent of the annual production. The main food crops included maize, cowpeas and green grams. Bananas, mangoes, watermelons and tomatoes were other crops of economic importance in the county. Crop production was mainly practiced in the mixed farming and marginal mixed farming livelihood zones. In the marginal mixed farming livelihood zone, maize contributes 30 and 50 percent to income and food respectively while bananas, contributes 20 and 15 percent to income and food respectively. In the mixed farming areas, maize contribute to one and 41 percent to income and food respectively. Mangoes, tomatoes and bananas contributes 37, 20 and 10 percent to income.

The floods experienced, led to destruction of an estimated 9,976 acres of land under crop. The crops affected include; maize, green grams, cowpeas, water melon, bananas, tomatoes, onions, rice and mangoes. The area under the maize, green grams and cowpeas decreased by 23, 48 and 65 percent respectively compared to the long-term averages due flooding which destroyed the acreage planted initially. Projected production of maize, green grams and cowpeas also reduced by 23, 42 and 65 respectively compared to the long-term averages (Table 3). The reduction was associated by infestation of pests (Fall Army Worm and cutworms), inadequate farm inputs and floods. The county government has supported farmers with pesticides to control Fall Army Worm (FAW) but the quantities are not enough. In the mixed farming livelihood zone in Kipini, Tana Delta Sub-County, 453 Ha of maize has been harvested with an estimated actual production was 6,880 bags. Harvesting of maize was still being undertaken.

Table 3: Rain fed crop production

Crop	Area planted during 2018 Long rains season (Ha)	Long Term Average (5 year) area planted during the Long rains season (Ha)	2018 Long rains season production (90 kg bags) Projected/Actual	Long Term Average (5 year) production during the Long rains season (90 kg bags)
1. Maize	2,119	2,746	31,785	41,190
2. Green gram	553	1,066	5,530	9,594
3. Cow peas	256	734	2,560	7,340

Under irrigated cropping, the area under maize, green grams and cowpeas reduced by 96, 70, and 96 percent compared to the long-term averages, due to the fact that land preparation was not done as it was off season for irrigation in Bura and Tana irrigation schemes. Production of all crops

under irrigation also reduced compared to the long-term averages. Inadequate access to farm inputs such as seeds was also led to decrease acreage. Currently Tana irrigation scheme targets 2,400 acres of maize while Bura would be undertaking 3,500 acres. Excess moisture conditions in the soil would hamper land preparation in the irrigation schemes. To ensure better prices of maize, the schemes target to plant maize after rain fed maize crop has been harvested.

3.1.2 Cereals stock

Maize stocks held by farmers reduced by 39 percent compared long term averages as result reduced acreage, crop losses due to floods and pest infestation. Rice stocks at trader's level were 83 percent compared to the long-term averages (Table 4). Traders were holding high stocks for rice due to household preference to rice and stocks Bepurchased before Ramadhani season. Green grams stocks held by farmers were 59 percent low compared to long term average. The reduction of green gram stocks by farmers was as result above average long rains performance resulting to vegetative green grams, infestation of pest, crop losses through flooding and inadequate seeds. In mixed farming livelihood zone in Kipini areas, there are 6,880 bags of maize as result of above average performance of long rains. In the marginal mixed and pastoral livelihood zones, there are no stocks but farmers were planting as water recedes. There are no stocks as food aid or in the National Cereals and Produce Board.

Table 4: Cereal stocks in the county

Commodity	Maize		Rice		Sorghum		Green Gram		Total	
	Current	LTA	Current	LTA	Current	LTA	Current	LTA	Current	LTA
Farmers	6,880	11,250	330	285	0	0	961	2,362	8,171	13,897
Traders	4,460	4,410	10,819	5,914	0	83	1,130	1,062	16,409	11,469
Millers	-	-	-	-	-	-	-	-	-	-
Food Aid/NCPB	-	-	-	-	-	-	-	-	-	-

3.1.3 Livestock Production

The major livestock species in the county are goats, sheep, cattle and camel. Indigenous poultry is found in all the livelihood zones. Bee keeping and local poultry being common among the marginal mixed and mixed farming livelihood zones as alternative livelihood. Livestock production is a major source of income in most households in the county (Table 5). Livestock production has been gradually improving due to availability of pastures and browse.

Table 5: Proportion of livestock contribution to cash income

Livelihood zone	% contribution to cash income
Pastoral all species	68
Marginal mixed farming	20
Mixed farming	15

Pasture and Browse Situation

The condition of pasture and browse across the livelihood zones was good compared to good to fair at this time of the year which was mainly due to above average rainfall performance (Table 6). Pastures are expected to last for 4–5 months compare to 2–4 months normally across all livelihood zones. Pasture is expected to last until the next rainy season in October. Households that have harvested their crops are using crop residues such as maize, beans, green grams and paddy rice to supplement pastures in the mixed farming zone in Kipini.

Table 6: Pasture and browse condition

Livelihood zone	Pasture					Browse				
	Condition		How long to last (Months)		Factors Limiting access	Condition		How long to last (Months)		Factors Limiting access
	Current	Normal	Current	Normal		Current	Normal	Current	Normal	
Pastoral all species	Good	Fair	4	2	Pastures were accessible	Good	Fair	4	3	
Marginal mixed farming	Good	Fair	5	4	Pastures were accessible	Good	Fair	6	4	
Mixed farming	Good	Good	5	3	Water logged areas. Infestation of t Trypanosomiasis pests	Good	Good	6	4	

Livestock Productivity

Livestock body condition

Livestock body condition was good across all the livelihood zones which was mainly due to availability of pastures and browse and reduced distances to water sources (Table 7). The livestock body condition is expected to remain stable until the next short rain season.

Table 7: Livestock body condition

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral all species	Good	Fair	Good	Fair	Good	Good	Good	Good
Marginal mixed farming	Good	Fair	Good	Fair	Good	Good	-	-
Mixed farming	Good	Good	Good	Good	Good	Good	-	-

Tropical livestock units (Tropical Livestock Units) and Birth Rates

The average TLU is currently 11 per household. The average TLU per household reduced due to previous droughts (Table 8). The reduction of TLU has continued to affect the household purchasing power due to diminishing incomes. No unusual changes in birth rates, which were normal, though higher birth rates are expected between October to December due to improved productivity where most livestock are in calf. Lambing/kidding and calving season for sheep, goats and cattle respectively is likely to be normal.

Table 8: Livestock ownerships

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Pastoral all species	5	10	10	20
Marginal mixed farming	2	6	6	10
Mixed farming	1	4	4	8

Milk Production and Consumption

Milk production from cattle was less than one litres across the livelihood zones compared to the normal 2-4 litres at this time of the year. The milk production was below normal during this time of the year, as result of breeding where most of the livestock herds are still in calf. The average household milk consumption ranged between 0.5-1 litres which was near normal across the livelihood zones (Table 9). The cost of a litre of milk ranged between Ksh.60–80 which was stable across the livelihood zones but above the long-term averages. Households are supplementing their milk needs through purchase.

Table 9: Milk production and consumption

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Pastoral all species	1	4	1	2	80	40
Marginal mixed farming	0.5	2	0.5	1	80	50
Mixed farming	0.5	1	1	1	60	50

Livestock Migration and Livestock Diseases and Mortalities

Currently there were no reported cases of migration into or outside the county. Livestock are grazing within the hinterland where pasture and water are available and some livestock are moving from the pastoral livelihood zone to mixed farming areas as flood water recedes. Milking cows are still grazing around the homesteads. Outbreak of RVF in livestock occurred in Dida Ade, Hurara villages, Galole-Wenje and Pumwani in Tana Delta Sub County where there were 12 confirmed cases leading to imposed quarantine and closure of markets lasting a period of two months from late June to mid-August. The outbreak of RVF has resulted to several cases of abortions across all livestock types and approximately 100 deaths of sheep and goats. Endemic cases of CCPP has also been reported across the livelihood zones. Foot rot and pneumonia cases have also been reported across the county. Parasitic infections by fleas, mites and tick have been reported across all livestock types in the county. Vector control, awareness creation especially on zoonotic diseases and enhanced surveillance, sampling and interventions have been carried out by the veterinary department. Mass vaccination, treatment and deworming has been planned in collaboration with Food and Agriculture Organization (FAO) and Resilience Project.

Water for Livestock

The main water sources for livestock in the Pastoral livelihood zones include water pans, shallow wells, traditional earth pans. In the Marginal Mixed Farming areas, sources of water for livestock were River Tana and boreholes while in the mixed farming areas, boreholes were major sources. Return trekking distances for livestock from grazing areas to water points across all the livelihood zones has decreased due to increased water recharge to all open sources of water (Table 10). The water sources are likely to last until the next short rains season starting in October if in-migration from other

counties does not occur. Reduced distances to water sources and improved pastures will likely improve the livestock body condition leading to improved productivity of milk and meat.

Table 10: Water for livestock

Livelihood zone	Return trekking distances (Km)		Expected duration to last (Months)		Watering frequency	
	Current	Normal	Current	Normal	Current	Normal
Pastoral all species	2-8	8-16	4	2	Twice per day	Once
Marginal mixed farming	0.5-3	1-4	3-4	2-3	Twice	Twice
Mixed farming	0.5-2	2	4	4	Twice	Twice

3.1.4 Impact on availability

Food availability remains below average due to crop losses through floods and pest infestation. Reliance on market supplies and relief supplies remains especially high for the IDPs to support household food needs. Livestock body condition has improved but milk productivity has remained relatively low.

3.2 Access

Majority of households depend on the market for day to day food commodities especially after the floods. Destruction of roads resulted to high food prices thereby limiting household food access due to their low purchasing power. Closure of market is expected to affect household purchasing power. Currently, volumes of varied food commodities are available from other markets. Food consumption improved with households employing less severe coping strategies. Consumption of water improved despite poor water and sanitation measures.

3.2.1 Markets

Market Operations

The main markets in the mixed farming livelihood zone are Garsen and Kipini while in the marginal mixed farming livelihood zones, the markets are Hola, Wenje, Bura and Madogo. Wayu and Bangale markets are located in the pastoral livelihood zone. Other neighbouring markets are Waldena, Mutha, Garissa and Malindi. There were market disruptions especially Garissa – Bura road and other roads within the hinterland due to destruction by flash floods. Most of the food commodities such as maize, beans, sorghum and cowpeas were well provisioned in the market but are supplied by traders from other markets in Mombasa, Malindi, Thika, Mpeketoni, Nairobi, Kitui and Mwingi. The main livestock available in the markets were cattle, goats and sheep. Quarantine was also imposed in Garsen, Tana Delta sub county as result of outbreak of Rift Valley Fever (RVF) leading to closure of livestock markets. The imposed quarantine has resulted to reduced purchasing power of the pastoralists thereby affecting the household income. Other markets in Bangale, Bura and Waldena are operating normally. The volumes of livestock at the markets are relatively low as result of pastoralists fattening their stocks and restocking after previous droughts. Livestock sources are within the county, with major markets for livestock being Mutha, Bangale, Garissa and Kitui. Market supplies continues to support most households especially in the pastoral livelihood zone.

Maize Prices

In July 2018, the current maize price was Ksh.55 per kilogram compared to Ksh.65 in same period in 2017. The average maize price in July 2018 was within the LTA, but maize price was lower by 18 percent compared to price in similar period in 2017 (Figure 3). The decline in maize prices from March was associated with relief supplies due to impacts of flash floods and reduced market demand. Increase in prices from May was associated with depletion of relief supplies. Prices are likely to gradually increase and remain above the long-term averages through August due to absence of local maize harvests, but in Kipini market prices are expected to remain low following the current above average harvest. Households would continue to rely on the market supplies.

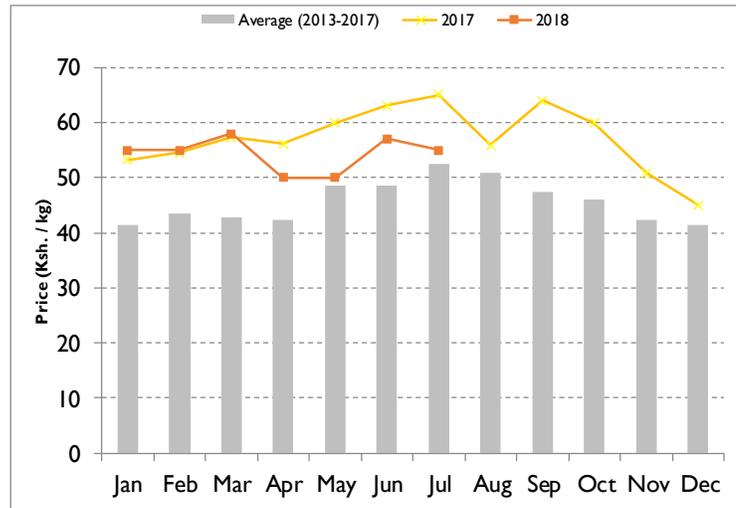


Figure 3: Maize prices in the county

Goat Prices

In July 2018, goat prices were Ksh. 4,005 compared to Ksh.3485 in same period in 2017. The goat prices were nine percent above the long-term averages. In the same period the goat prices were by 12 percent below compared to July 2017 prices (Figure 4). Higher prices were associated with improvement in goat’s body condition as result of availability of better pasture and browse and short trekking distances from grazing areas to water points as well as livestock keepers aiming at restocking and fattening their herds thereby reduced market supply. The average goat prices are likely to gradually rise through September and remain above the long-term averages.

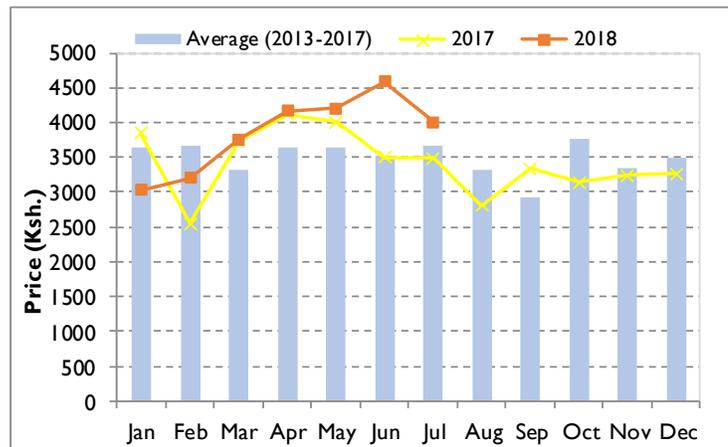


Figure 4: Goat prices in the county

3.2.2 Terms of trade

Households were able to access 73 kilograms of maize from a sale of one goat compared to 54 kilograms in 2017. The terms of trade were within the long-term average and 26 percent above the same period in 2017 (Figure 5)

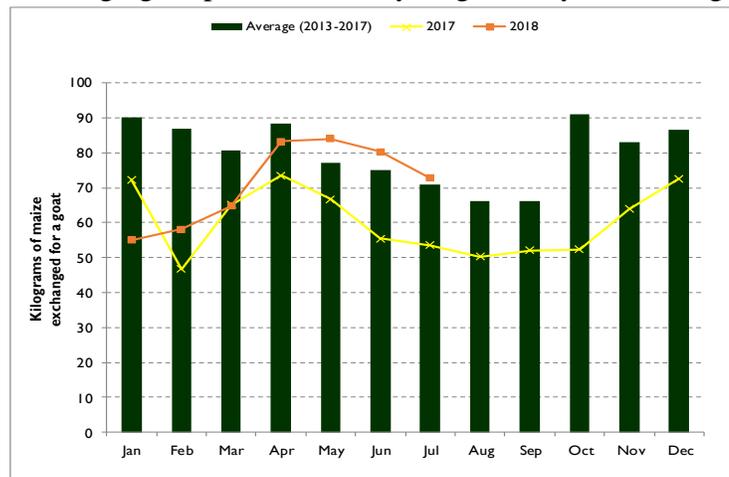


Figure 5: Terms of trade in the county

5). Households were able to purchase more quantity of maize from a sale of one goat compared to last year and the long-term averages. This was as result of high goat prices and reducing maize prices. The terms of trade are expected to gradually decrease as result of increasing maize prices.

3.2.3 Income sources

The main sources of income were sale of livestock and livestock products and food crop production in the pastoral all species and mixed farming livelihood zones respectively (Table 11). Firewood collection and or charcoal burning and small business such as farm produce sale are also sources of income in marginal mixed farming livelihood zone. Other sources of income included cash transfer targeting 4,000 beneficiaries supported with Ksh. 4,000 per month by Oxfam Consortium targeting Tana North (Madogo, Sala and Chewele wards).

Table 11: Proportion of income sources by livelihood

Livelihood Zone	% Cash Income Contribution						
	Livestock Production	Food Crop Production	Casual Wage	Fishing	Firewood collection/ charcoal burning	Remittance and Gifts	Small Businesses such farm produce sale
Marginal Mixed farming	20	10	10	3	12	5	10
Mixed farming	15	45	4	5	5	1	4
Pastoral all species	68	0	2	0	5	10	2

3.2.4 Water access and availability

Major water sources

The five major sources of water used by human beings in the County are rivers/laggas, water pans, boreholes, shallow wells and pipeline supply. Pastoral livelihood zone mostly dependent on a few boreholes, seasonal laggas, several water pans and hand dug wells along the dry river beds (Figure 6). Both the marginal mixed and mixed farming livelihood zones depend on the River Tana, shallow protected wells and boreholes. According to July 2018 NDMA bulletin, the four currently most depended on water sources are rivers, pans and dams, shallow wells and boreholes amounting to about 77

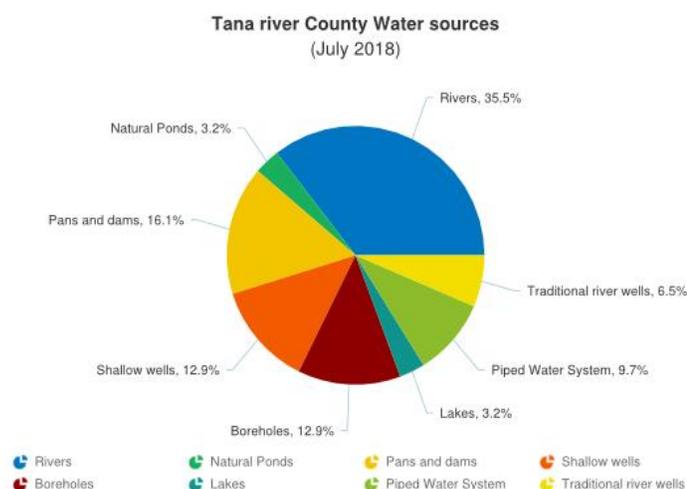


Figure 6: Sources of water in the county

percent of the population. The exceptionally above average 2018 long rains experienced resulted to recharge of 70-90 percent capacity of water pans and shallow wells and are expected to last up to the next rainy season in October compared to the normal duration of one month at similar period of the year especially for the water pans. The heavy rains resulted in damage to a number of

boreholes, water pans and shallow wells where the sources were flooded, and inlets and embankment destroyed. In the pastoral livelihood zone, nearly all shallow wells and water pans are operational while only 50-70 percent of the boreholes are operational, with breakdown of boreholes in Kone, Odoganda and Assa in Tana Delta Sub County and in Tana River Sub County, Doke, Waldena, Saware Kalalani all non-operational with Haroresa, Bultodunga, Kotichamlima non-operational due to salinity. In the mixed farming livelihood zone, 60-70 percent of the boreholes and shallow wells were operational with the non-operational ones in Idsowe, Ngao, and Tarasaa villages in Tana Delta sub county. In the mixed marginal farming zone water pans, boreholes and pipelines are 70-80 percent were operational while shallow wells and canals are 70 percent operational with a non-operational borehole in Hara and some non-operational shallow wells in Malindi ya Ngwena, Wachakone in Tana River Sub County and Hurara, Handaraku, Semikaro, Odole, Kikomo and Chamwanamuma in Tana Delta Sub County.

Distance to water sources

The return distances to various sources of domestic water remained below average and were one kilometer compared to four kilometres in the pastoral livelihood zone while they were one kilometer compared to three kilometres in the mixed marginal farming livelihood zones. Distances were lowest at 0.3 kilometres compared to the normal 0.6 kilometres in the mixed farming livelihood zone which experienced relatively heavier rainfall amounts during the 2018 long rains season.

Waiting time at the source

Waiting times at water sources across the county were below average due to increased recharge of the water sources and above average yield of the water sources (Table 12). However, breakdown of some sources that have increased usage pressure and waiting time at sources. In Mnazini village in the mixed marginal farming livelihood zone, households were waiting 0–30 minutes because the entire village was using a single borehole for both domestic and livestock use.

Table 12: Waiting time at source

Livelihood	Waiting Time at the source (Minutes)	
	Current	Normal
Pastoral all species	30	40
Marginal mixed farming	15	25
Mixed farming	5	10

Cost of water

The current cost of water across the county remains at typical levels of Ksh.5 per 20 litre jerrycan. In the case of boreholes, the cost remains constant as the amount was used to buy fuel for the pump and for maintenance in case of a breakdown. In certain areas like Hewani village in the Mixed Farming livelihood zone, households pay a constant monthly cost of Ksh. 50 to access the water and cater for any repair. Higher costs of water are common in areas of Chewani location like Nyangwani, Kiembeni, Shaurimoyo and Amani in Chewani ward and Bula Youth, Mtile, Ingle and Chamari in Mikinduni ward in Tana River Sub County where ferrying was done using motor cycle vendors and costs up to Ksh. 75 per 20 litre jerrycan. In the internally displaced persons (IDP) camps, water was free and provided by Kenya Red Cross Society (KRCS) and Action Against Hunger (ACF) using water bowsers to fill storage tanks or in the case of Gamba IDP Camp where KRCS has provided a desalination plant.

Water consumption

Current water consumption across the County has increased and range between 15-20 litres per person per day which was above the normal of 10–15 litres per person per day but consumption was 10 litres per person per day in parts of the mixed marginal farming livelihood zone. Among the IDP households in the camps, water consumption was limited to the number of the storage containers available to the household but they are consuming about 7-10 litres per person per day which was below the normal.

3.2.5 Food consumption

The proportion of households with acceptable food consumption score improved from 78.8 percent in May 2017 to 97 percent in same period in 2018 as result of a higher dietary diversity and improved meal frequency where household consumed a staple and vegetables daily, complemented by pulses and oils at least four times a week, and occasionally meat and dairy products (Figure 7). Households were able to access variety of foods which the score of 5.1 and 5.6 for both female and male headed households. Households with acceptable food consumption has been improving since May 2016 to May 2018. Households in May 2018 are consuming five food groups. The proportion of female

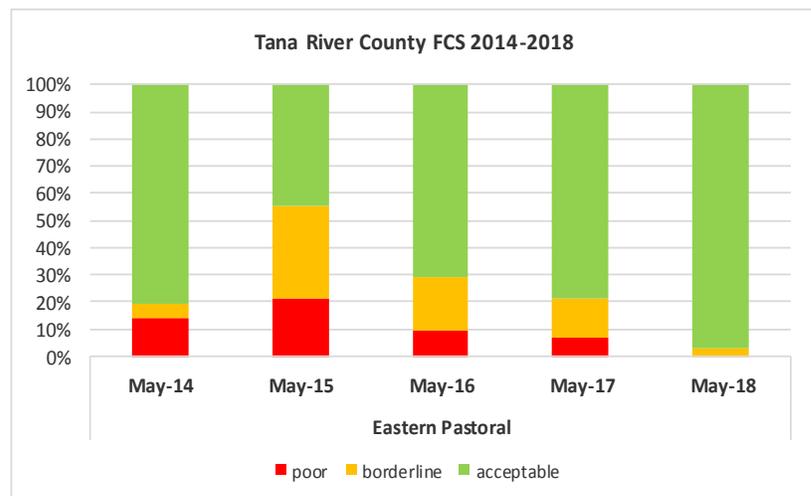


Figure 7: Food consumption score 2014-2018

headed households with acceptable food consumption was 98 percent compared to 96.9 percent in the male headed households. Most households are consuming an average of 1-2 meals per day across the livelihood zones. In the IDP camps, the households were supported with five kilograms of beans, three kg of rice and maize and a half a litre of cooking oil by the National Government.

Milk consumption

Below average milk production has resulted to a consumption of 0.5-1 litres of milk compared to normal of 1-2 litres that was being consumed at household level. Most livestock are in calf and when they calve down from November, more milk would be expected at household level. The cost of a litre of milk ranged between Ksh.60–80 compared to normal of Ksh.40-50, thereby resulting to limited access at household level.

3.2.6 Coping strategy

According to the FSOM report, May 2018 the mean coping strategy index (CSI) improved from 22 in May 2017 to 11 in May 2018 (Figure 8) implying that households had decreased their frequency or severity of consumption based coping mechanism to bridge the food consumption gaps due to increase food availability and access. The mean coping strategy was nine and 11 in female and male respectively.

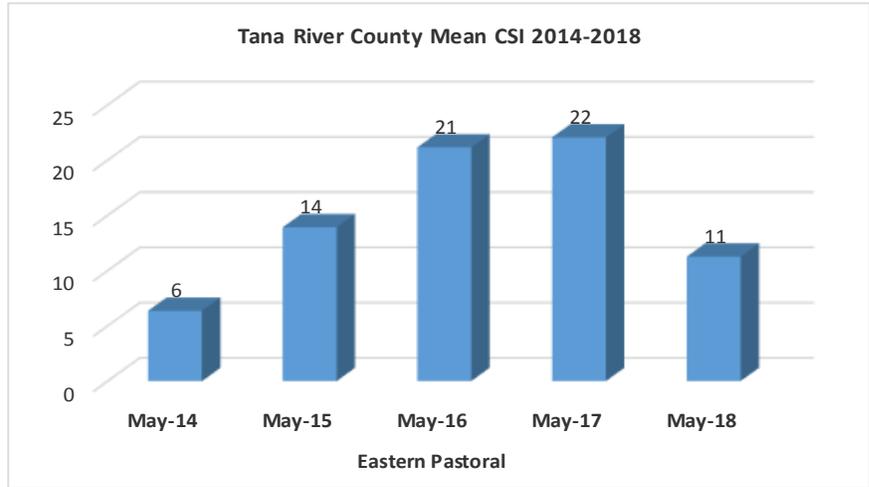


Figure 8: Mean coping strategy index (CSI)

In May 2018, 12.6 percent of the household borrowed food, or relied on held from a friend or relative while 7.8 percent reduced the quantity of food consumed by adults/mothers to ensure that children had enough to eat.

3.3 Utilization

3.3.1 Morbidity and mortality patterns

The most prevalent diseases for children under five years and the general population in January to June 2018 included upper respiratory tract infections (URTI), diarrhoea and malaria. There has been significant increase in prevalence of the top three diseases in under five years for the period of January to June 2018 compared to same period in 2017 and 2016. In the general population the prevalence of URTI was increased in January to June 2018 compared to similar periods in 2017 and 2016 as result of the cold season. A significant increase was noted in URTI in under five years compared to the similar period in 2017 and 2016 which was as result of cold weather experienced during the season and low immunity (Figure 9). There has been reduction of malaria in under five years in January to June 2018 compared to similar periods in 2017 and 2016 as result of mass net distribution which was done in the IDP camps. In January to June 2018, 27 cases of measles, 14 cases of Cholera and 205 cases of dysentery were reported across the county. Diarrhea, malaria and typhoid cases were reported as 9542, 1386 and 109 respectively. Increase in epidemic cases was attributed to floods and poor water and sanitation practices. According to Infant and Young Child Nutrition-Emergency conducted at IDP camps in August 2018, revealed that morbidity was

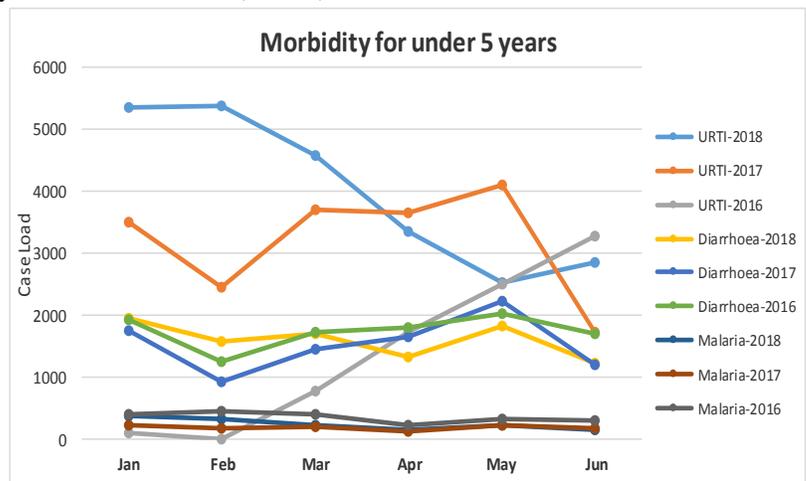


Figure 9: Morbidity for under 5 years

rainy

rainy

high with 73.3 percent of children 6-23 months being sick, diarrhea (55.3%), fever, cough and difficult breathing (75%). Increase in prevalence of diseases in the camps was associated with poor water and sanitation practices and lack of shelter. Diarrhea cases was associated with consumption of sorghum and thereby affecting the complimentary fed children.

3.3.2 Immunization and Vitamin A supplementation

The proportion of fully immunized children according to February 2018 SMART survey improved from the previous period which was attributed by improved documentation and availability of storage facilities such as cold chain to store antigens in the health facilities (Table 13). The coverage was above the national target.

Table 13: Proportion of immunization coverage

Antigen	% January-June 17	% January-June 18
BCG	90.4	95.9
OPV1	95.4	96.7
OPV3	90.5	92.3
Measles at 9 months	87.2	87.9
Measles at 18 months	47.6	71.2

Vitamin A coverage between January to June 2018 was 75 percent compared to 63 percent in the similar period of 2017 which was below the national target of 80 percent (Table 14). The improvement was as result of Malezi bora activities conducted in the month of May to boosting the coverage especially in ECDE centres. In the pastoral livelihood zones (hinterland areas), poor access to health facilities resulted to low coverage.

Table 14: Proportion of Vitamin A supplementation

Indicator	% Jan-June 17	% Jan –June 18
Vitamin A supplementation 6-11 month	63.1	75
Vitamin A supplementation 12-59 months-once	57.0	77
Vitamin A supplementation 12-59 months-twice	37.9	41.7

3.3.3 Nutritional status and dietary diversity

The proportion of children under five years at risk of malnutrition, based on mid upper arm circumference (MUAC) of < 135 mm, was at 14 percent in July 2018 compared to the long term average of 13.7 percent. MUAC was 89 percent below the same period in 2017 and two percent above the long terms averages in the same period (Figure 10). The improved nutritional status by MUAC was attributed to increased coverage of integrated health and nutrition outreach programs, improved

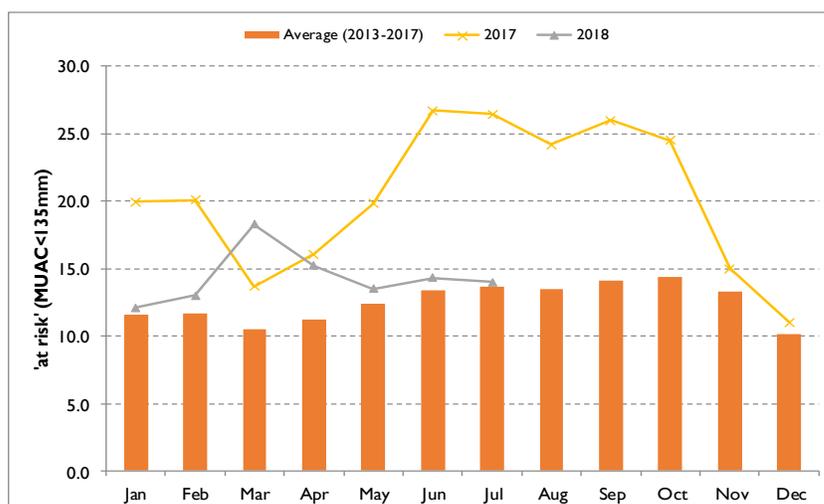


Figure 10: Proportion of children at risk (MUAC)

immunization coverage and improved household food security. According to the SMART survey done in February 2018, the Global Acute Malnutrition (GAM) rates still remain critical 15.6 percent (Figure 11). The deterioration of malnutrition was as result of underlying issues such as inadequate food intake, disease incidences, poor health seeking behaviors and poor infant and young child feeding practices Severe acute malnutrition (SAM) rates were 2.2 percent in February 2018 an improvement from 3.0 percent in the January 2017. About 98.5 percent of the households consumed cereals and cereal products while 84 percent consumed milk and milk products. According to FSOM in May 2018, the number of days' female or male ate cereals and tubers was five and four days respectively while they consumed dairy products four times.

According to February 2018 Knowledge, Attitude, Practices and Behavior (KAPB) survey, the rate for early initiation and practice of Exclusive Breast Feeding (EBF) stood at 69.9 percent and 49.6 percent respectively.

Exclusive breastfeeding was low with a high perception of inadequate milk production, thus below the national level (61%). Low exclusive breastfeeding was attributed to limited or lack of support or advice given to the caregivers during the first three days. Reduced breastfeeding was associated with reduced breast milk supply (stress and insufficient food for mothers), workload for mothers (long distances for fetching water, firewood, farming), mother feeling sick/breast pain, children refuse to breastfeed when sick and lack of privacy was revealed at IDP camps. The minimum meal frequency and minimum dietary diversity of children 6-23 months stood at 42.5 and 37.3 percent respectively culminating to a minimum acceptable diet of 22.5 percent. Children between 6-23 months in Tana River County are mostly fed on grains and tubers (87.3%) and rarely fed on meats (31.2%) and eggs (6.8%) but their dairy intake (75.3%) was nearly six times more the than that of the national level. According to Infant and Young Child Nutrition-Emergency conducted in the IDP Camps in August 2018, children 6-23 months at risk of acute malnutrition (MUAC 12.5-<13.5) was 25 percent while 1.7 percent of children had moderate acute malnutrition (MUAC 11.5-<12.5) and 0.6 percent had severe acute malnutrition (MUAC<11.5 and/or bilateral oedema). It was also noted that malnourished children were girls from the Delta sub county.

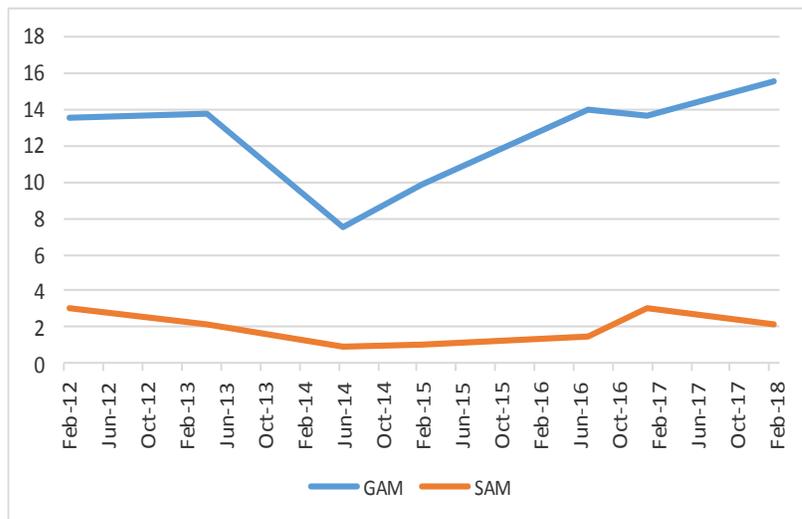


Figure 11: GAM trends in the county

3.3.4 Sanitation and Hygiene

According to February 2018 SMART survey, 72.9 percent of the households obtained their water from protected sources such as piped water system, protected boreholes, springs and shallow wells. Other households obtained their drinking water from unsafe sources such as unprotected shallow well (18.8%), river or spring (5.3%), earth pan/dam (0.2%), as well as water trucking (1.0%). Only 25.6 percent of the households treated their water using chemical such as water guard and PUR. Boiling of water (18.8%), use of herbs (4.2%) and use of filters (10.8%) were also methods used

by households in treatment of water. About 95.4 percent of the household stored their water in closed containers while 4.6 percent stored it in open containers which would likely be exposed to contamination. Additionally, 90.8 percent were aware of hand washing practices and a majority (86.4%) but only 9.5 percent of care-givers washed hands during the recommended four critical times. Open defecation was practiced by 56.9 percent of the households while toilet ownership remained low at 41.5 percent while others shared sanitary facilities or used neighbour's toilets explaining the high prevalence of diarrhoea diseases among under five and the general population.

3.4 Trends of key food security indicators

Food security indicators such as maize stocks at household level, livestock body condition, water consumption, price of maize, terms of trade, food consumption, coping strategy and GAM were some indicators used in comparison of the short and long rains performance (Table 18).

Table 15: Food security trends

Indicator	Short Rains Assessment 2017	Long Rains Assessment 2018
% of maize stocks held by households	91	61
Livestock body condition	Fair-Poor	Good
Water consumption (litres per person per day)	7-15	10-15
Price of maize (Ksh per kg)	50	55
Distance to water sources from grazing (km)	Pastoral all species-14-32 Marginal mixed farming-4-12 Mixed farming-4-12	Pastoral all species-2-7 Marginal mixed farming-0.5-3 Mixed farming-0.5-2
Terms of trade	55 Kg	73 Kg
Mean coping strategy index (WFP FSOM May)	20	11
Food consumption score (WFP FSOM May)	Poor-15.7 Borderline-23.1 Acceptable-61.2	Poor-0 Borderline-3 Acceptable-97
Proportion of children at risk of malnutrition (MUAC <135mm)	13%	14%
GAM	15.6%	15.6% (No new survey)

4.0 CROSS – CUTTING ISSUES

4.1 Education

4.1.1 Enrolment

Enrolment increased in Term I and II in Early Child Development Centres (ECDE) institutions across the county. Enrolment in boys and girls in primary and secondary remain relatively stable. The stability was attributed to availability of school meals program across the county (Table 16).

Table 16: Enrolment in Term 1 and 2

Enrollment	TERM 1			TERM 2			Comments (reasons for increase or decrease in enrollment.)	Reasons for Transfers.
	Boys	Girls	Total	Boys	Girls	Total		
							Adequate food in schools.	
ECD	11,902	10,743	22,645	12,083	10,873	22,958	Fees push up and bursaries by TRCG and CDF.	
Primary	25,803	24,715	50,518	26,402	25,640	52,042		
Secondary	4,302	2,980	7,282	4,600	3,083	7,683		

4.1.2 Participation

Attendance in ECD, primary and secondary schools increased in February to March. Reduction was also reported in May and June as result of floods leading to inaccessibility of schools (Table 17). Enrolment in secondary school increased due to payment of school fees by County Government and Constituency Development Fund (CDF) which help in retention of boys and girls in schools. The gender parity was stable for both Primary and ECDE schools but the gap was wide in secondary schools where there were more boys than girls.

Table 17: Participation in schools

Indicator	Term 1						Term 2						Comments (reasons for in)
	Jan.18		Feb.18		March.18		May.18		Jun.18		July 18		
School attendance	Boys	Girls	Boys	Girls	Boys	Girl	Boys	Girls	Boys	Girls	Boys	Girls	Floods Adequate food.
ECD	7,451	10,542	11,497	10,432	10,797	10,043	10,919	9,550	10,370	9,190	12,030	10,958	
Primary	25,436	24,402	25,674	24,611	25,329	24,302	24,023	23,823	24,124	24,435	25,539	24,542	
Secondary	4,279	2,969	4,274	2,964	4,275	2,962	4,274	3,096	4,600	3,083	4,600	3083	

4.1.3 Retention

Girls are dropping out more than boys. The main reason for the drop was early marriages, migration, early pregnancy, female genital mutilation (FGM) and child labour. In ECDE, the reason is the County government have not employed the teachers, pupils tend to drop out because their teachers might leave teaching. The number of teachers was still the same in both terms though there was delocalization whereby the head teachers were transferred outside the county and the problem of understaffing in most public schools.

4.1.4 School meals programme

Home Grown School Meal Program (HGSMP) supported 177 schools in the county as a result of successive drought and limited access of food commodities in the market due to high food prices, the Ministry of Education supplied the schools with food (Table 18). The county government of Tana River supported 322 ECDEs on feeding program reducing pressure on primary schools thereby increasing enrolment and retention. The regular supply of food to schools has really improved access, participation and retention in the schools. Children missing meals was as result of food delivery delays, limited access to water or firewood to cook and in some areas like Madogo, a Cholera outbreak.

Table 18: School meals program

Name of county	No. of schools with school feeding	RSMP		ECD feeding programme		Total No. of beneficiaries	
		M	F	M	F	M	F
T/River	177	26,382	25,640	12,083	10,875	38,465	36,515
TOTAL		52,022		22,958		74,980	

4.1.5 Inter Sectoral

Water sanitation in schools in the county has been a major problem in terms of water ratio per student population. Schools along the riverine areas were affected by floods and some schools hosted the IDPs resulting in poor hygiene for both the pupils and IDPs as they had to share the

available facilities. Out of 319 ECDE centres, 31 with 1705 pupils were adversely affected and about 41 primary schools with 10,375 pupils were affected by floods. Transfers from affected schools occurred but didn't affect access, participation and retention. Pupils from Imani School were transferred to Gamba Primary school resulting to limited access due to overcrowding. Limited access to water was observed in most schools that are a further distance from any source of water. Hand washing facilities were unavailable in most school hence the risk of contracting waterborne related diseases which may affect the learning of pupils influencing poor performance in examinations. Enrolment, participation and retention in boys and girls was influenced early marriages, migration, early pregnancy, female genital mutilation (FGM) and child labour. The children department and the Ministry of Interior and Co-ordination of the national government embarked on consultative ways to curb the vices in schools. Deworming in enrolled and non-enrolled children is usually conducted on pupils to prevent transmission of helminthes and bilharzia. During term two in 2018, deworming was done once to enrolled pupils in ECDE and primary schools, thus 75,000 pupils were dewormed. Reduction of food stocks at household level and high commodities prices would affect enrolment, participation and retention.

5.0 FOOD SECURITY PROGNOSIS

5.1 Prognosis Assumptions

The prognosis will be based on the following assumptions:

- According to NOAA and USGS, has predicted the most likely scenario is for El Niño conditions, there is an elevated probability that cumulative rainfall for the October to December short rains will be above average over eastern and western Kenya.
- During the dry season through September, in eastern and northern Kenya, there is an increased likelihood for hotter-than-normal land surface temperatures.
- Based on an analysis of current prices and their drivers, price projections show that maize prices are unlikely to follow seasonal trends due to crop losses from flooding and infestation of FAW and cutworms. Prices are likely to rise with absence of local harvest.
- With fluctuations in acute malnutrition, couple with decline in food access during the lean season and as waterborne diseases increase, including diarrhea especially in the flooded areas and at the start of the short rainy season in October, this may likely lead to deterioration in wasting levels in children.
- Increased risk of outbreaks and spread of RVF in areas that experienced flooding thereby affecting households and livestock. The spread of the disease will be driven by large occurrences of stagnant water through flooding, the disease vector (Aedes mosquitoes) and the handling of tissue and fluids of infected livestock. Continuous disease surveillance, response, quarantines and other interventions are likely to assist control the spread of the disease.
- Humanitarian assistance toward IDPs is likely to continue through September until the late-planted crop harvests become available. From September onwards, as households move back to their homesteads, they will likely receive support in terms reconstruction of homes and non-food items

5.2 Food security Outlook

5.2.1 Food Security Outcomes (August-October)

Crop losses through flooding along the riverine areas significantly resulted in reduced income and food for households that depend on crop farming. Heavy reliance on income from charcoal/firewood sales, small business and remittance especially for the drought affected households are expected to increase especially with poor households and they will likely strain more to meet household food security despite relief support from national, county government and other agencies until the harvest in late September-early October. Lower household income, food access through food market purchases is expected for these households through August. Ongoing crop harvest especially in Kipini areas will likely provide above average incomes through on-farm casual labour and increase availability of food at household level in the Mixed Farming zones from end of August and early September. With the lifting of the quarantine in mid-August livestock sales are likely to pick up from late-August, improving household incomes. With the sustained above-average forage conditions, sale of goats is likely to improve household incomes especially for the pastoral households Milk consumption at household level will likely remain below average as livestock recovery from floods and previous drought, thereby keeping malnutrition in children at higher levels despite improvements in food availability due to crop harvests. Improved rangeland conditions are expected to maintain livestock market prices at above average levels. Stressed (IPC Phase 2) outcomes are likely to continue through September for pastoral households due to previous drought related losses and the flood-affected households in the riverine areas. Households whose crops were not destroyed by floods and those in the Mixed Farming livelihood zones, are expected to meet their food needs and will likely be in None (IPC Phase 1) through October. Improvements are however expected from early October as harvests become available, increasing household food security for the riverine households.

5.2.2 Food Security Outcomes (November-January)

The harvests beginning in October, will provide households with near average food and incomes from the sales of crops and agricultural wage labour opportunities. The harvest will likely stabilize the maize prices in the market. The forecasted above short rains are likely to provide more wage labour opportunities in the farms as household seek to compensate from previous food and income deficits. Forage conditions are likely to improve thereby improving livestock productivity resulting in increase milk consumption at household level and milk sales to near average levels which will likely improve nutritional status among the under five years' children. From early December, early maturing crops such as tomatoes will likely improve the household food and income. Household income through charcoal sales, remittance, petty trade and trading will likely remain average through January 2019. Households are likely to improve to None (IPC Phase 1) as a result of improved household food security. Flood affected households are likely to have increased food and incomes are expected to improve to Minimal (IPC Phase 1) though some poor households will likely remain in the Stressed (IPC Phase 2) phase

6.0 CONCLUSION AND INTERVENTIONS

6.1 Conclusion

The performance of long rains has impacted positively to the food security situation with several indicators showing improvements. Consecutive above average performance of rains may result to improved food security at household level. Key factors such as incidence of resource-based

conflicts, migration of livestock that results to causing tension among the pastoralists, epidemic case of human and livestock diseases such as RVF especially with forecasting of above average short rains, crop losses through spread of FAW and cutworms, high commodity prices, malnutrition levels which are critical and human wildlife conflicts need to be monitored.

6.1.1 Phase classification

Tana River county is classified as Stressed (IPC Phase 2) with the Mixed Farming livelihood zone classified as None (IPC Phase 1). The Pastoral livelihood zone has improved to Stressed (IPC Phase 2) from previous classification as Crisis (IPC Phase 3) while the Riverine Livelihood zone remains Stressed (IPC Phase 2) due to the still-lingering effects of the heavy flooding experienced during the March – May long rains season.

6.1.2 Summary of Findings

The significantly above average long rains resulted in flooding especially along the riverine communities leading to destruction of crops, inaccessible households and IDPs. The above average rains resulted in above average forage and water resources availability. Above average improvement in rangeland condition has resulted to good livestock body condition despite below average milk production. Crop production was above average in the Mixed Farming zones except for the Riverine areas that experienced flooding and have replanted expecting a harvest in October. FAW, on the other hand has continued to destroy maize crop hence this may result to below average production for the crops still in the farms. Maize and rice food stocks with farmers remain below average though in the mixed farming areas harvesting is still ongoing but are within average for maize and above average for rice with the traders. Maize prices are within average as goat prices remain elevated providing favorable terms of trade of about 73 kilograms of maize for households. RVF has affected the household purchasing power due to closure of markets and restriction on meat foods. Child malnutrition still remains at critical levels at 15.6 percent with may be compounded by below average milk production at household. However, 25 percent of the children at camps are at risk of malnutrition. Displaced households in camps will continue to be supported with food and non-food assistance from various entities as they recover from losses incurred during the flooding. Water consumption at household level expected to improve to reduced distance and high recharge on open water sources, but poor water and sanitation practices may continue to compromise such improvements.

6.1.3 Sub-county ranking

Table 19: Sub county ranking

Sub County	Food Insecurity Rank (1-10 from worst to best)	Main Food security Threats
Tana River	1	<ul style="list-style-type: none"> • Food consumption: Poor-28.8, Borderline-66.1 and Acceptable-5.1 • Coping Strategy Index (CSI)-July-26, June-29 and May-29.1-(NDMA July 2018 bulletins) • Global Acute Malnutrition (GAM)-15.6 (SMART survey Feb.2018) • Distance to domestic water-2-6Km • Return distance to water for livestock-4-8 Km compared to normal of 16 km • Water consumption at household-10-15 litres per person per day • Livestock Diseases-CCPP, Helminths, foot rot

		<ul style="list-style-type: none"> • Pasture to last by end of September • Tension among pastoralists-Harolesa, Chifiri, Weldena, who have preserved pastures for their milking herd • Milk production-0.5 litre • Production of maize-3810 compared to LTA of 11190 • Crops losses through flooding, FAW and cutworm
Tana North	2	<ul style="list-style-type: none"> • Food consumption: Poor-41.2, Borderline-14.7 and Acceptable-44.1 • Coping Strategy Index (CSI)-July-12.1, June-7.9 and May-10.2 - (NDMA July 2018 bulletins) • Global Acute Malnutrition (GAM)-15.6 (SMART survey Feb.2018) • Distance to domestic water-2-6Km • Return distance to water for livestock-4-8Km compared to normal of 16 km • Water consumption at household-10-15 litres per person per day • Livestock Diseases-CCP, Helminths, foot rot • Pasture to last by end of October • Milk production-0.5 litre • Production of maize-500 compared to LTA of 1400 • Crops losses through flooding, FAW and cutworm
Tana Delta	3	<ul style="list-style-type: none"> • Food consumption: Poor-22, Borderline-30.5 and Acceptable-47.5 • Coping Strategy Index (CSI)-July-12.2, June-11.3 and May-10.6 - (NDMA July 2018 bulletins) • Global Acute Malnutrition (GAM)-15.6 (SMART survey Feb.2018) • Distance to domestic water-0-0.5Km • Return distance to water for livestock-2-4Km compared to normal of 8 km, but in the pastoral areas in the Tana Delta the normal would be 16km • Water consumption at household-15-20 litres per person per day • Water consumption at IDP-7-10 litres per person per day • Livestock Diseases-RVF • Pasture to last till the next rainy season • Milk production-1 litre • Livestock market closed • Production of maize-3400 compared to LTA of 18000 • Crops losses through flooding, FAW and cutworm

6.2 Ongoing Interventions

6.2.1 Food interventions

Table 20: Food interventions

County	Intervention	No. of beneficiaries (Males and Females Breakdown)	Implementers	Remarks
Countywide	School meal programme	M 38465 F36515 Total 74980	National Government/TRC G	All the schools have the Programme active
	Food for Assets	45900 beneficiaries as at June 30 th 2018	NDMA/WFP/KR CS/TRCG	The Programme ended in June 30 th 2018. New CSP WFP Kenya for 2018-2023 is underway.
Tana North	Cash transfer	2,500 households supported with 4,000/= per month in Madogo, Sala and Chewele Wards for 2 months	Oxfam consortium	Ongoing

		National Government also paid Ksh.100,000 to 12 victims who lost their families through floods	National Government	
	Protection Ration	2000HH	WFP/WVK/KRCS/MOH	It was once
Countywide	Blanket Supplementary	98,200 households to benefit from the relief food, maize rice, beans and cooking oil	TRCG	ONGOING
	Outpatient therapeutic Feeding Programme	Male -209 Female-207	MOH/UNICEF/KRCS/WVK	Source DHIS(July 2018)
	Supplementary Feeding Programme	Total=1926	MOH-TCG	Source DHIS(Jan-June 2018)

6.2.2 Non-food interventions

Table 21: Non-food interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Agriculture							
Promotion of drought tolerant and early maturing crops (seeds)	Improved production and food security	All wards	72 tons assorted	11.1M	9000HH	2018/2019	Department of agriculture
Assorted farm inputs (fertilizers, pesticides)	Improve access to farm inputs	All wards	175 tons assorted	90M	45000HH	2018/2019	Department of agriculture & other stakeholders
Provision of portable water pump sets & accessories and revival of dormant minor irrigation schemes	Improved productivity of the agricultural land	All wards along the riverine	33 pumps	60M	3000HH	2016/2020	Department of agriculture and other stakeholders
Livestock							
Livestock Insurance	To safe guard the livelihood asset of the livestock farmer	All sub counties		66M	2500	2017/2018	Department of Livestock
Establishment and Strengthening of grazing management	Provide sustainable utilization of the natural	Tana River sub county		2M	500HH	2018/2019	Department of Livestock

committees	resources						
Pasture, fodder establishment and conservation	Minimize losses of animals during drought	All sub counties		2M	100HH	2018/2019	Department of Livestock
Health and Nutrition							
IYCN Interventions (EBF and Timely Intro of complementary Foods)	Improve health & Nutrition status of under 5 years	All health facilities		2M	5313 Male 5755 Female	2018/2019	MOH/UNICEF/KRCS
Management of Acute Malnutrition (IMAM)	Improve/adjust the nutrient status of the affected community	All health facilities		10M	2640 Male 2860 Female	2018/2019	MOH/UNICEF/KRCS
Vitamin A and Zinc Supplementation	Prevent diseases	All health facilities		1M	26565 Male 28779 Female	2018/2019	MOH/UNICEF/KRCS
Integrated medical outreaches	Prevent diseases and malnutrition	IDP CAMPS		2M	5202 Male 5636 Female	2018/2019	MOH/UNICEF/KRCS
Education							
School meals program	Increase in enrolment, Retention, Transition Improved performance	177 schools	51387	45M	38465 Male 36515 Female	2018/2019	MOE, TRCG
Water							
Kelokelo to Mango BH and pipeline construction, Emaus to Mau sec, and Makutano BH and pipeline construction and Pipeline Construction to Malindi ya Ngwena	Improve access to water at household level	All wards	5000 HH	120M	3500 Female 1500 Male	2018/2019	TRCG, CWSB, GOK

6.3 Recommended Interventions

6.3.1 Food interventions

Table 22: Food recommended intervention

Sub county	Pop (KNBS Projected pop in 2016)	Pop in need (% range Min-Max)
Tana River	76,831	20-25
Tana North	104,197	15-20
Tana Delta	122,019	15-20
Total	303,047	

6.3.2 Non-food interventions

Table 23: Non-food interventions

County	Intervention	Location	Number of Beneficiaries	Implementers	Required Resource	Available Resource	Time frame
Agriculture							
Tana River County	Assorted relief seeds (drought tolerant & early maturing varieties)	All wards	12000HH	Department of agriculture and other stakeholders	30M	2M	2018/2019
Tana River County	Provision of portable water pump sets & accessories; and revival of dormant minor irrigation schemes	All wards along the riverine areas	3000HH	Department of agriculture and other stakeholders	60M	5M	2018/2019
Tana River County	Capacity building of farmers on crop production, agro-forestry & marketing	All wards	9000HH	Department of agriculture and other stakeholders	6M	3M	2018/2019
Health and Nutrition							
Tana River County	Conduct integrated outreaches	All IDP CAMPS	60000	MOH/WVK/U NICEF/ACF/K RCS	20M	0.5M	2018/2019
Tana River County	Disease Surveillance	All IDP CAMPS	60000	MOH/WVK/U NICEF/ACF/K RCS	3.0M	0.1	2018/2019
Tana River County	Conduct Health Promotion Activities	All IDP CAMPS	60000	MOH/WVK/U NICEF/ACF/K RCS	0.5M	0.1	2018/2019
Tana River County	Active case finding	All sub counties	1000	MOH/WVK/U NICEF/ACF/K RCS	0.9M	0.1	2018/2019
Livestock							
Tana River County	Establishment and strengthening of grazing committees	All sub counties	500HH	County, FAO	1.5M	0.5M	2018/2019
Tana	Rehabilitation of	All sub	500HH	County, FAO	5M	2M	2018/2019

River County	range lands through reseeded	counties		and NDMA			
Tana River County	Pasture and fodder establishment and conservation	All sub counties	500HH	County Gvt, FAO and Samaritan	10M	5M	2018/2019
Tana River County	Expansion of the livestock insurance program	All sub counties	2500HH	County and National Gvt	100M	2M	2018/2019
Tana River County	Livestock vaccination and Disease surveillance	All sub counties	5000 heads of cattle 100,000 sheep and goats	County and National Gvt	10M	2M	2018/2019
Education							
Tana River County	Provision of water tanks	87 primary schools	36,000	MoE, TRCG, GAA, CDF	87.0M	0.8M	2018/2019
Tana River County	Food for fees	29 Secondary schools.	7,683	MOW, MOE, TRCG, GAA, WAS DA	0.87M	0.2M	2018/2019
Tana River County	Energy saving jikos.	All needy primary schools	52,042	TRCG, CDF, UNICEF, MoE,	8.85M	2.8M	2018/2019
Water							
Tana River County	Construction of boreholes at Assa, Chara, Kipini township and its environs, equip with solar powered pumps and installation of distribution lines	Tana Delta	2000HH	TRCG, CWSB, GOK	40M	0	2018/2019
Tana River County	Rehabilitation of water pans and shallow wells	County wide	2000HH	TRCG, CWSB, GOK	40M	0	2018/2019
Tana River County	Assessment and repair of Kone borehole	County wide	2000HH	TRCG, CWSB, GOK	40M	0	2018/2019