




## National Drought Management Authority Tana River County Drought Early Warning Bulletin for December 2020

December EW PHASE	Early Warning Phase Classification				
	<b>LIVELIHOOD ZONE</b>	<b>EW PHASE</b>	<b>TRENDS</b>		
<p><b>Drought Situation &amp; EW Phase Classification</b> Drought Phase: Normal-STABLE</p> <p><b>Biophysical Indicators</b></p> <ul style="list-style-type: none"> <li>Biophysical indicators are showing negative trends towards the expected seasonal ranges.</li> <li>Below average amount of rainfall were received in the month of December 2020.</li> <li>The December Vegetation Condition Index values for Tana North-Bura sub-county are below normal and indicating moderate drought.</li> <li>The Water levels in most water pans were below normal at 3(25%-55%) in Pastoral and Marginal mixed livelihood zones.</li> </ul> <p><b>Socio Economic Indicators (Impact Indicators)</b></p> <p><b>Production indicators:</b></p> <ul style="list-style-type: none"> <li>The forage condition is fair in pastoral but fair to good in mixed and marginal mixed livelihoods in both quality and quantity.</li> <li>Livestock body condition is good in mixed and fair to good in marginal mixed and pastoral livelihood zones.</li> <li>Milk production stabilised at 3.9 litres across the livelihood zones. This is attributed to fair to good forage and pasture conditions.</li> <li>minimal Livestock migrations were reported towards the fall back grazing fields.</li> </ul> <p><b>Access indicators</b></p> <ul style="list-style-type: none"> <li>Terms of trade are currently above normal range.</li> <li>Distances to water sources for households currently stable compared to normal.</li> </ul> <p><b>Utilization indicators:</b></p> <ul style="list-style-type: none"> <li>The number of under-fives at risk of malnutrition stood at 16.4%, which is above normal at this time of the year.</li> <li>Copping strategy index for households is within normal ranges but on a worsening trend.</li> </ul>	PASTORAL	<b>ALERT</b>	WORSENING		
	MARGINAL MIXED	<b>NORMAL</b>	WORSENING		
	MIXED FARMING	<b>NORMA</b>	STABLE		
	COUNTY	<b>NORMAL</b>	WORSENING		
	<b>Biophysical Indicators</b>	<b>Value for the month Tana River</b>	<b>LTA-Monthly Tana River</b>	<b>Normal ranges Kenya %</b>	
	Average rainfall MM (%)	13.1 mm	140 mm	80-120	
	VCI-3month	43.41		35-50	
	% Of water in the water pan	3(25-55%)		5-6	
	<b>Production indicators</b>				
	<b>Production indicators</b>		<b>Value</b>	<b>Normal ranges</b>	
	Livestock Migration Pattern		normal	Normal	
	Livestock Body Condition		3-5	4-5	
	Milk Production (Ltr /HH/Month)		3.9	3.5	
	Livestock deaths (for drought)		No death	No death	
	<b>Access Indicators</b>				
<b>Access Indicators</b>		<b>Value</b>	<b>Normal ranges</b>		
Terms of Trade (ToT)		99.4	≥=50.41		
Milk Consumption (Ltr)		2.0	≥=1.5		
Water for Households-trekking distance (km)		3.4	≤=3.43		
Distances to grazing for livestock (km)		8.7	≤=7.86		
Seasons production (90 kg bags)(by July 2020)		61,140(maize) 15,080(green grams)	LTA (42,645(bags) LTA (10,070(bags)		
<b>Utilization indicators</b>					
<b>Utilization indicators</b>		<b>Value</b>	<b>Normal ranges</b>		
At Risk (%)		16.4%	≤8.5%		
CSI		12.3%	≤=15.0		

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

# 1. CLIMATIC CONDITIONS

## 1.1 RAINFALL PERFORMANCE

### Rainfall station data (GROUND DATA:)

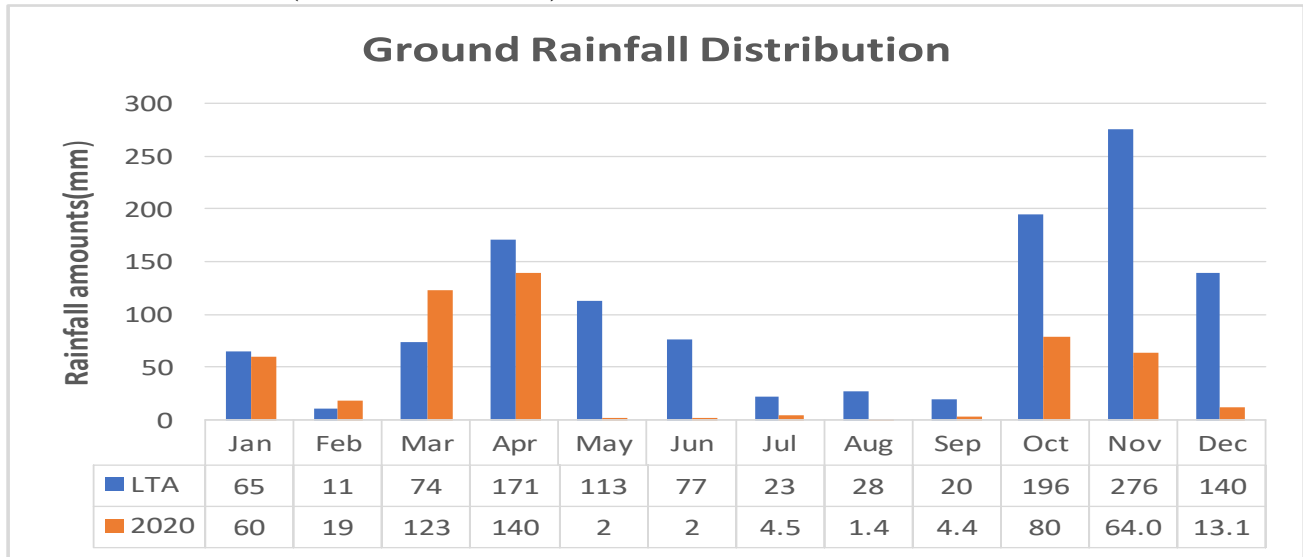
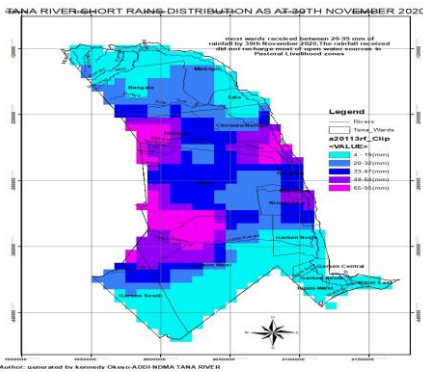


Fig .1.source: VAM-WFP

An average of 13.1 mm rainfall was recorded in December coupled with increasing temperatures and strong wind. This is below the LTA of 140 mm.

## 1.2.RAINFALL TEMPORAL AND SPATIAL DISTRIBUTION

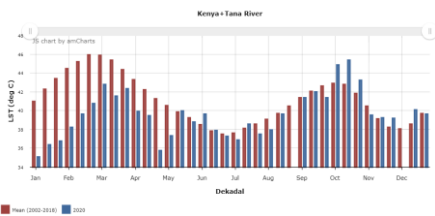


In the month of December, on average 33.4 mm of rainfall was received in first dekad of December, 5.9 mm received in second dekad of December and 0.0 mm received in third dekad respectively. The amounts received were below normal at this time of the year. Spatial and temporal distribution was poor.

The rainfall were unevenly distributed across all the three sub-counties. Most wards reported onset of seasonal rainfall by 3<sup>rd</sup> dekad of October.

Fig.2.source: Continental Africa Dekadal RFE.

## 1.3. TEMPERATURES



### 1.3.1. LAND SURFACE TEMPERATURE (LST)

The December 2020 land surface temperature (LST) values for Tana River County increased to 39.6°C by the 3<sup>rd</sup> dekad of December, which is normal(39.6°C) at this time of the year.

Fig.3.source: LST-C6

## 2.1. IMPACTS ON VEGETATION AND WATER

### 2.1.1. VEGETATION CONDITION INDEX (VCI)

The December vegetation cover for Tana River County shows normal vegetation cover on average for the county across all the two sub-counties. The current trend has decreased for the three sub-counties compared to the month of November 2020. Tana North is currently experiencing moderate drought.

COUNTY	Sub County	VCI as at 30 <sup>th</sup> November 2020	VCI as at 31 <sup>st</sup> December 2020	
TANA RIVER	County	41.57	43.41	Decreasing trends in vegetation conditions experienced in the county, all sub counties recorded a decrease in vegetation cover.
	Bura	38.73	31.54	
	Galole	43.06	41.11	
	Garsen	43.06	53.05	

Fig.4. Source BOKU

The information provided above reflects Tana North sub-county currently experiencing moderate drought, decreasing trend is observed across all the three sub-counties compared to the previous month.

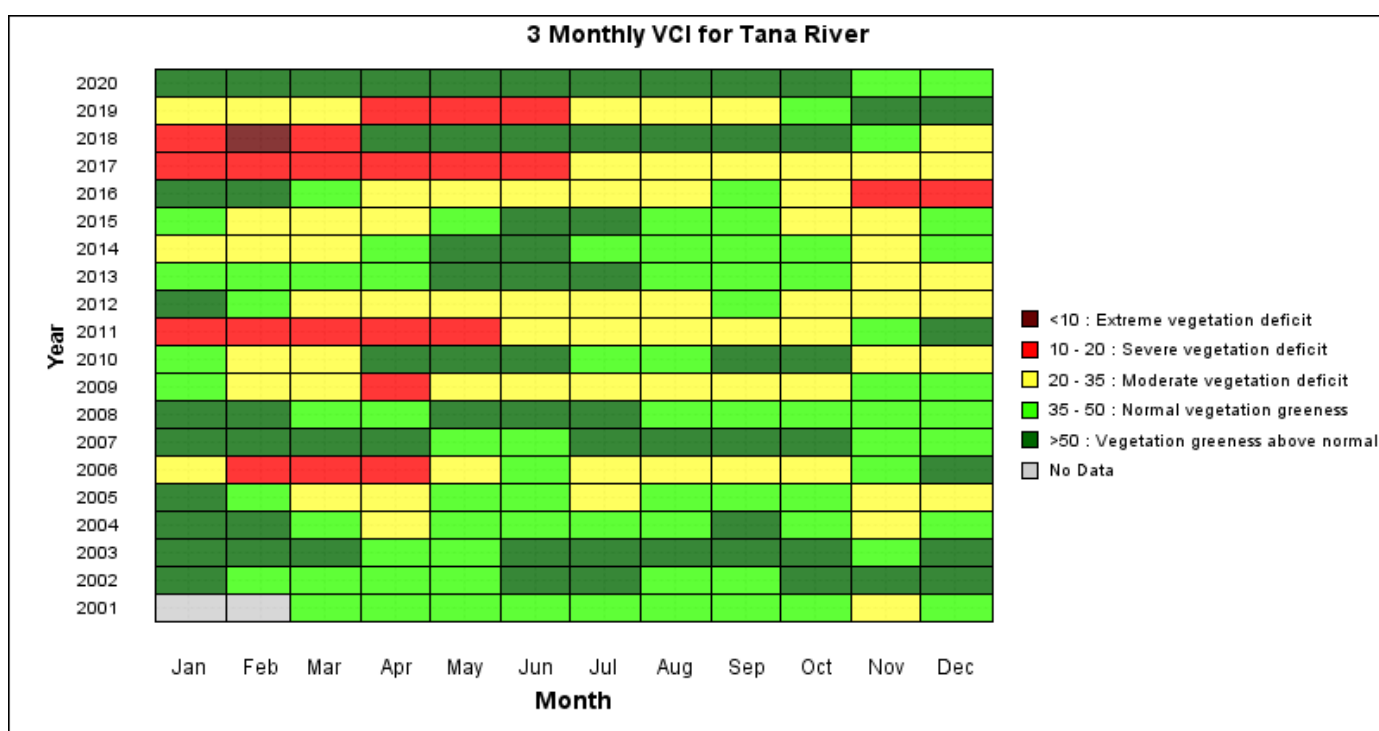


Fig.5. Source BOKU

In December the vegetation cover for Tana River County was at 43.41, which indicates normal vegetation condition. In comparison to the previous month the current vegetation cover has decreased in quantity and quality.

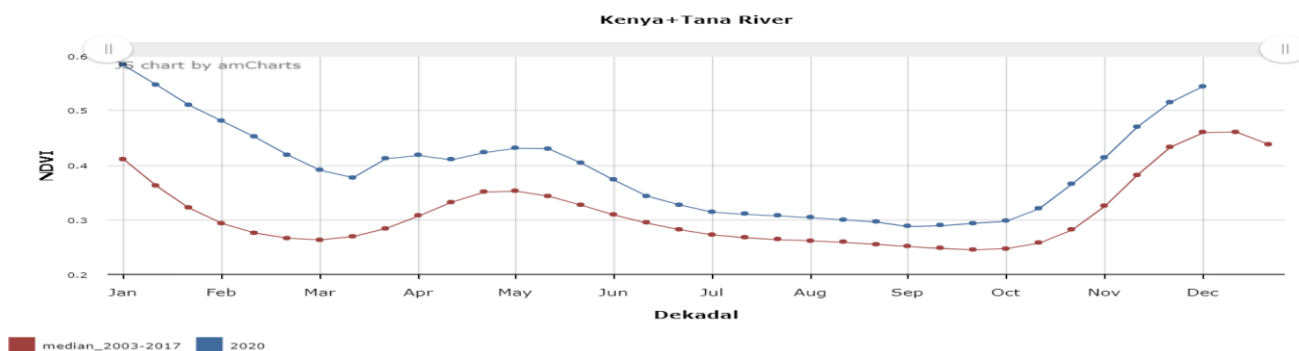
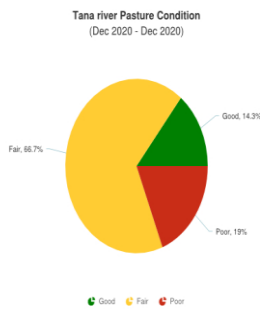


Fig.5. Source: NDVI-C6

The NDVI for Tana River County is currently showing decreasing trend in December 2020(0.54) which is above the LTA (0.46). This is attributed to decreasing rainfall received across the county during the month.

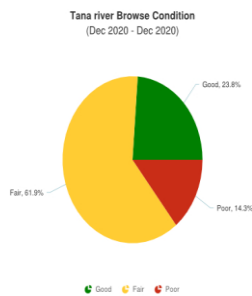
## 2.1.2. Pasture



**Figure 6: Tana River pasture conditions**

The pasture condition is fair to poor in quantity and quality in Pastoral and marginal mixed livelihood zones but the pasture conditions are fair to good in mixed livelihood zones due to lower showers received during the month.

The current pasture is expected to last for one month in Pastoral and marginal mixed and two months in the Mixed farming livelihood zones.



**Figure 7: Tana River browse**

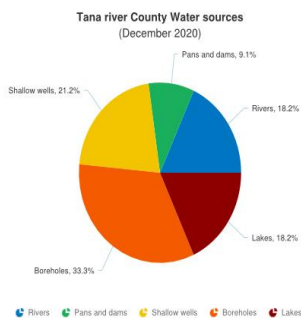
## 2.1.3. Browse

The browse condition is fair to good in quantity and quality across all livelihood zones which is normal at this time of the year.

The available browse is expected to last for more than one months in Pastoral and Marginal mixed livelihood Zones and two month in mixed farming livelihood zone.

## 2.2 WATER RESOURCE

### 2.2.1 Sources



**Figure 8: Tana River water sources**

The main water sources for both livestock and human consumption across all livelihoods were Bore holes (33.3%), Shallow wells (21.2%), rivers (18.2%), Lakes (18.2%).

Most water pans and dams were at 40-55% of their full capacity. Most households are currently using Bore holes, Shallow wells, rivers, Pans and dams. Most open water sources in pastoral livelihood zones have not recharged. Water born diseases are on the increase in pastoral livelihood zones.

The current water sources are expected to last for less than one month in pastoral livelihood zones but 2 months in Marginal mixed and Mixed livelihood zones.

### 2.2.2 Household access and Utilization

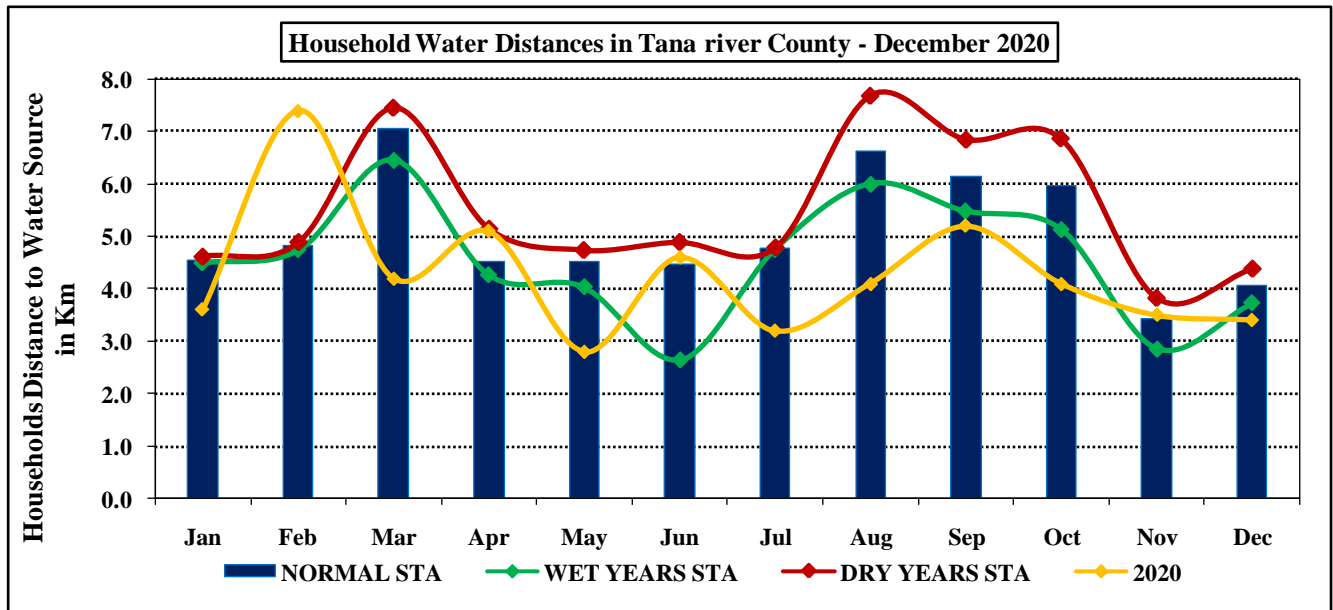


Fig.9.

- The households trekking distance remained stable at 3.4 km. The current distance is above the Long-term average of 4.0 km. This is attributed to the fact that light showers were received during the month.

### 2.2.3 Livestock access

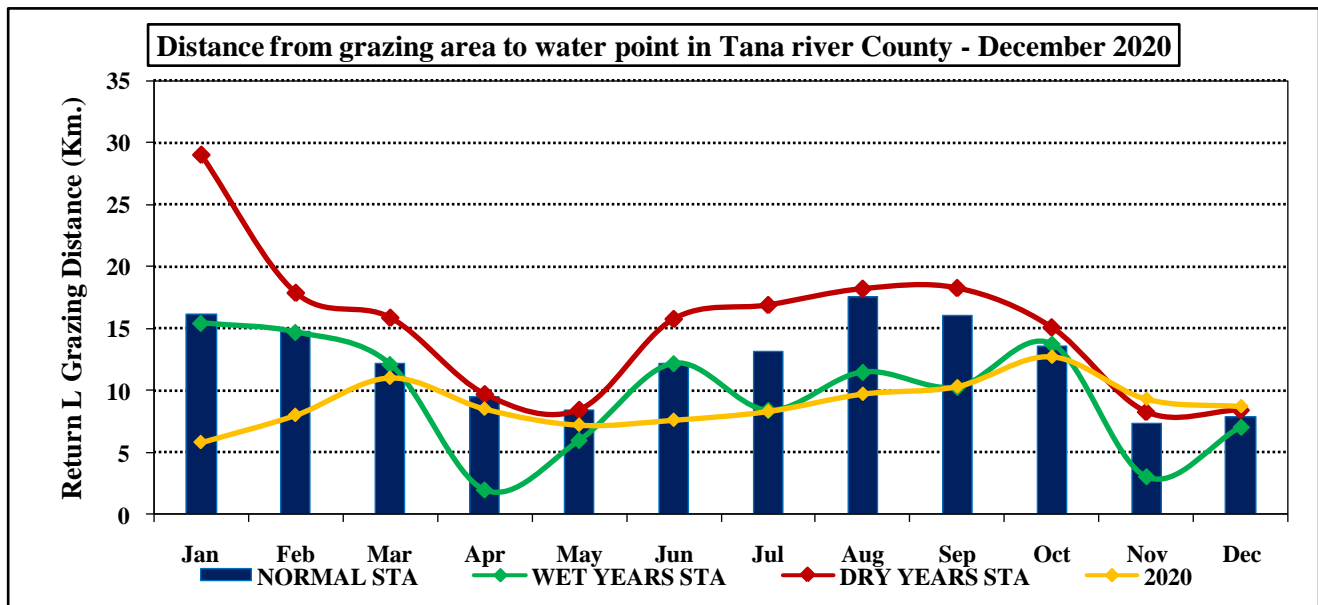


Fig.10.

- The return distance for livestock to grazing zones remained stable at 8.7 km during the month.
- The situation is attributed to light showers received during the month that were not sufficient to recharge most open water sources in all livelihood zones.

### 3.0. PRODUCTION INDICATORS

#### 3.1 Livestock Production

##### 3.1.1 Livestock Body Condition

- The livestock body condition is fair in Pastoral and Marginal mixed livelihood zones but good in Mixed livelihood zones. The situation was as result of fair quality of pasture, browse and increasing unavailability of water more so within pastoral and marginal mixed livelihood zones which has led to livestock walking long distances. *(Refer to table 4 in annex)*

##### 3.1.2 Livestock Diseases

- LSD,CCPP reported in Pastoral and Marginal Mixed livelihood zones.
- Trypanosomiasis,foot rot,helminthiasis,ORF,diarrhoea syndrome in Tana Delta,GarsenCentral,GarsenSouth,Kipini East and West.
- No notifiable livestock diseases incidences were reported; the disease incidences were within normal seasonal ranges

##### 3.1.3 Milk Production

- The average milk produced per household remained stable at 3.9 litres compared to the previous month. This is attributed to fair conditions of pasture and browse across all livelihood zones. Distances to water points also increasing in the same livelihood zones.

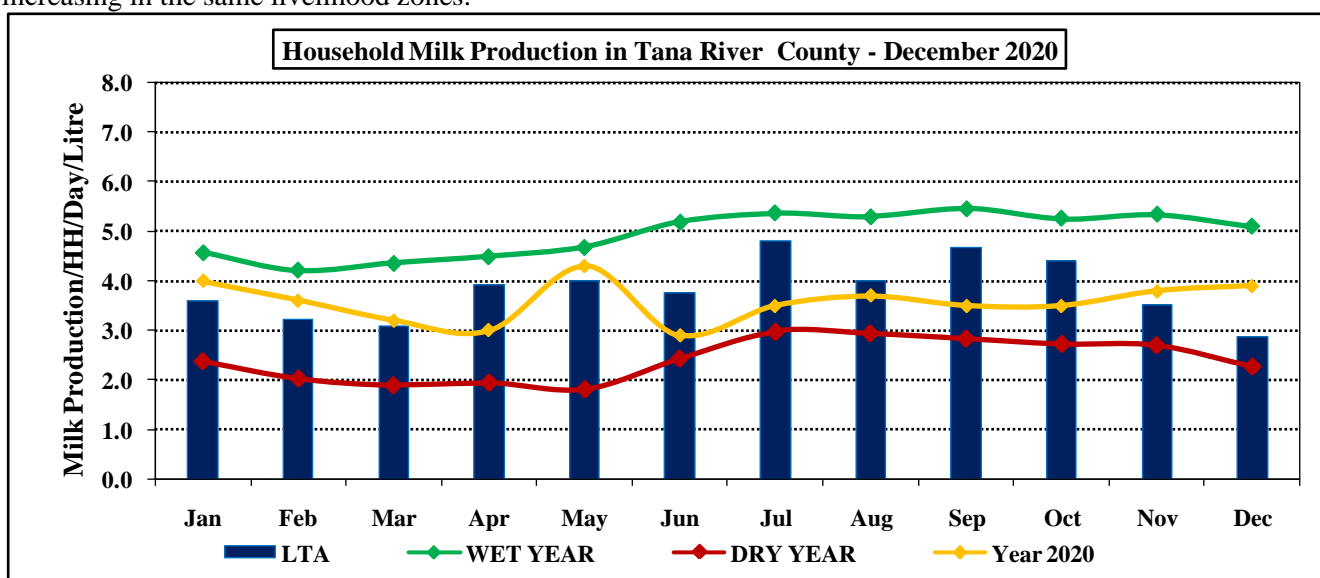


Figure 11

- In comparison to the long-term average of 2.8 litres; the current amount is above the long term average. This is attributed to fair conditions of pasture and browse in all livelihood zones.

### 3.2. RAIN-FED CROP PRODUCTION.

#### 3.2.1 Stage and Condition of food Crops

- Most planted crops have grown to almost maturity level and are currently at knee to tussling level. Most crops are currently experiencing moisture stress due to lack of adequate rainfall and this might have negative effects on the production. Over 1,000 hectares of crop land along the river rine were initially submerged in flooding waters. Some farmers were unable to prepare their farms on time due to lack of farm inputs.
- Desert locusts' invasion reported in all livelihood zones which is a threat to seasonal harvests if not controlled effectively.

**4. MARKET PERFORMANCE**  
**4.1. LIVESTOCK MARKETING**  
**4.1.1 Cattle Prices**

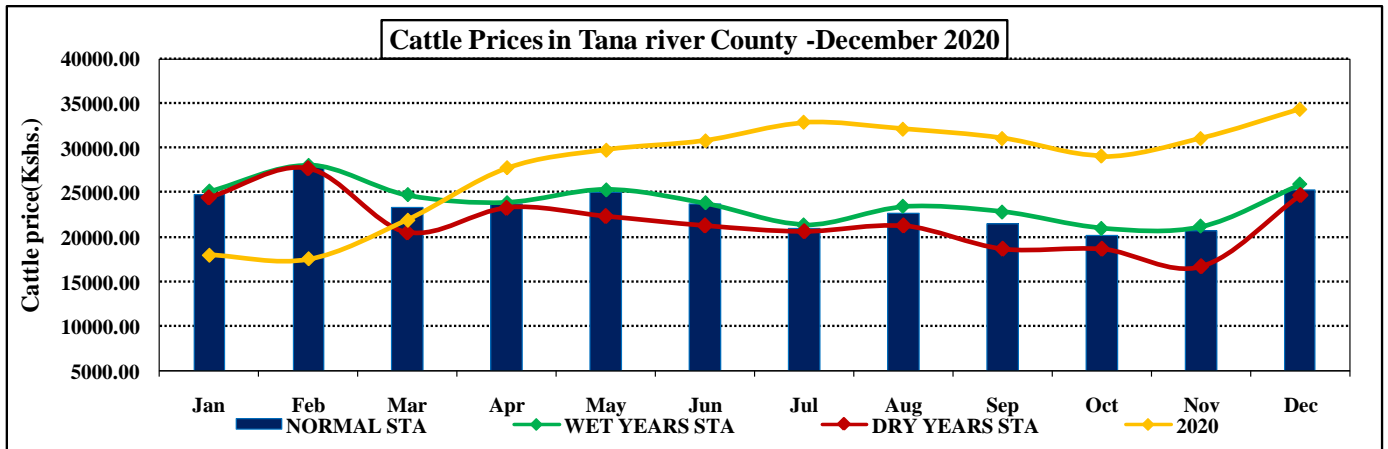


Fig.12.

- The average price for the medium sized cattle increased by 11% to Ksh.34, 889 in the reporting month as compared to Ksh.31, 094 of the previous month. This is attributed to the improved quality of pasture and browse in the previous months which had resulted to reduction of livestock trekking distances to the grazing fields. This resulted to positive impact on the body conditions of livestock.

**4.1.2 Goat Prices**

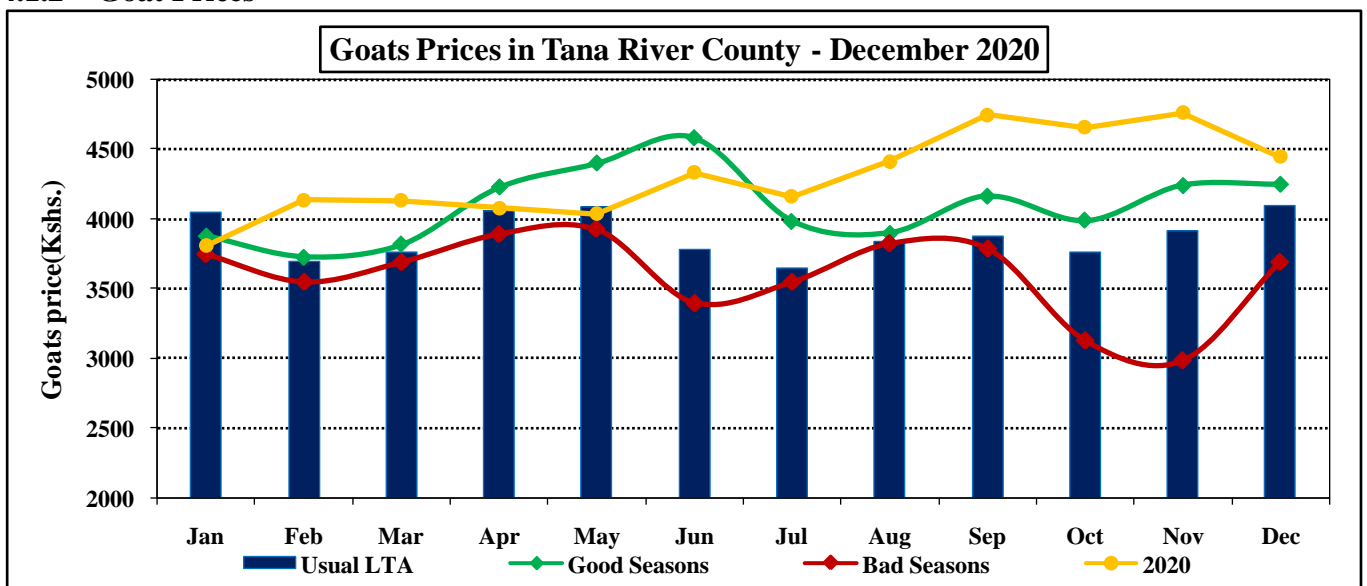


Fig.13.

- The average price of a goat decreased by 7% to Ksh.4,448 as compared to previous month. This was attributed to fair body conditions which led to small stocks fetching fair prices at the market.
- The average Goat prices were lowest in Marginal Mixed livelihood zone at Ksh. 4,056 and highest in Pastoral livelihood zones at Ksh.5,067.

## 4.2. CROP PRICES

### 4.2.1 Maize

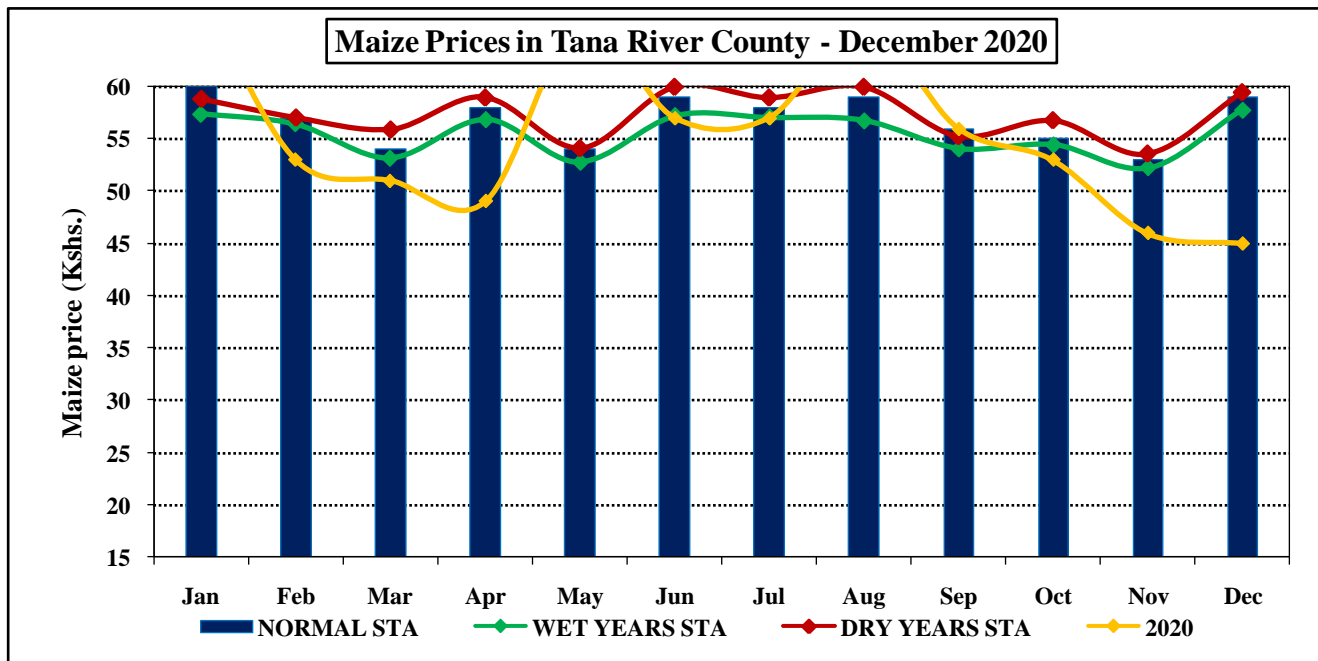


Fig.14.

- The average price for kilogram maize decreased by 2% to Ksh.45 during the month compared to the previous month. This was attributed to availability of maize in the market due seasonal harvests from within and in Lamu county which pushed the prices downwards. The prices were below compared to the long-term average. The prices were higher in Pastoral livelihood zones at Ksh.50 per kilogram.

### 4.3. Livestock Price Ratio/Terms of Trade

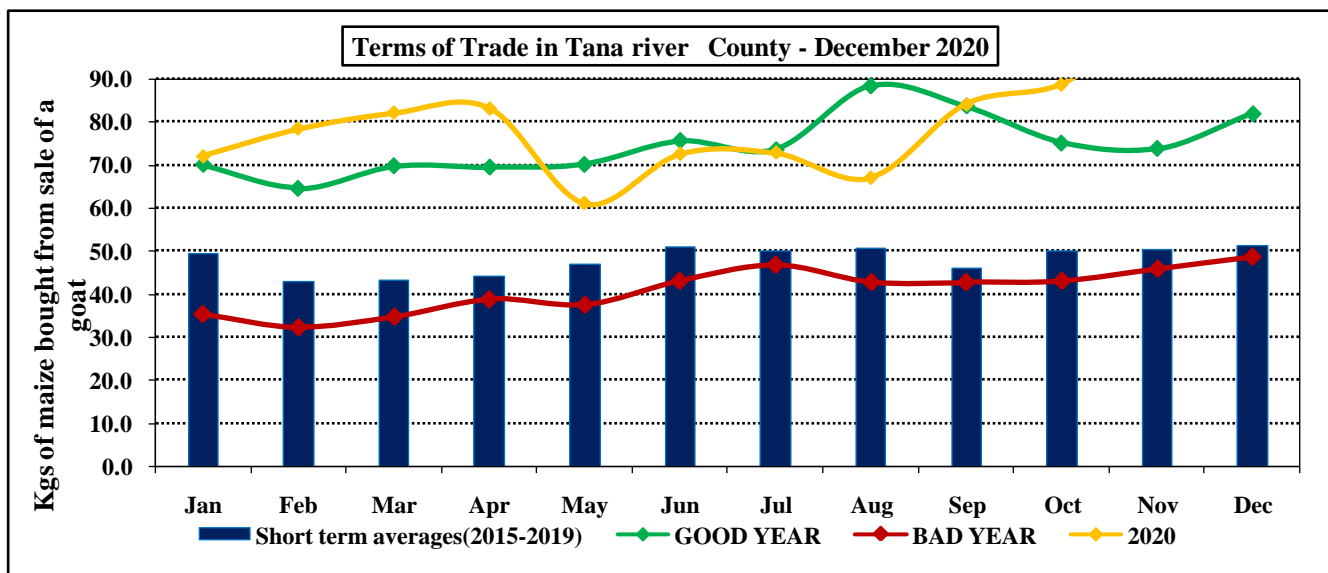


Fig .15.

- The terms of trade decreased from 103.3 in November to 99.4 during the month of December 2020.
- The current term of trade is above the long-term average. This is attributed to low prices of maize in the market.



## 5.1. FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1.1. Milk Consumption

- The average milk consumption per household increased to 2.0 litres compared to the previous month. The amount consumed is above the long term average at this time of the year.

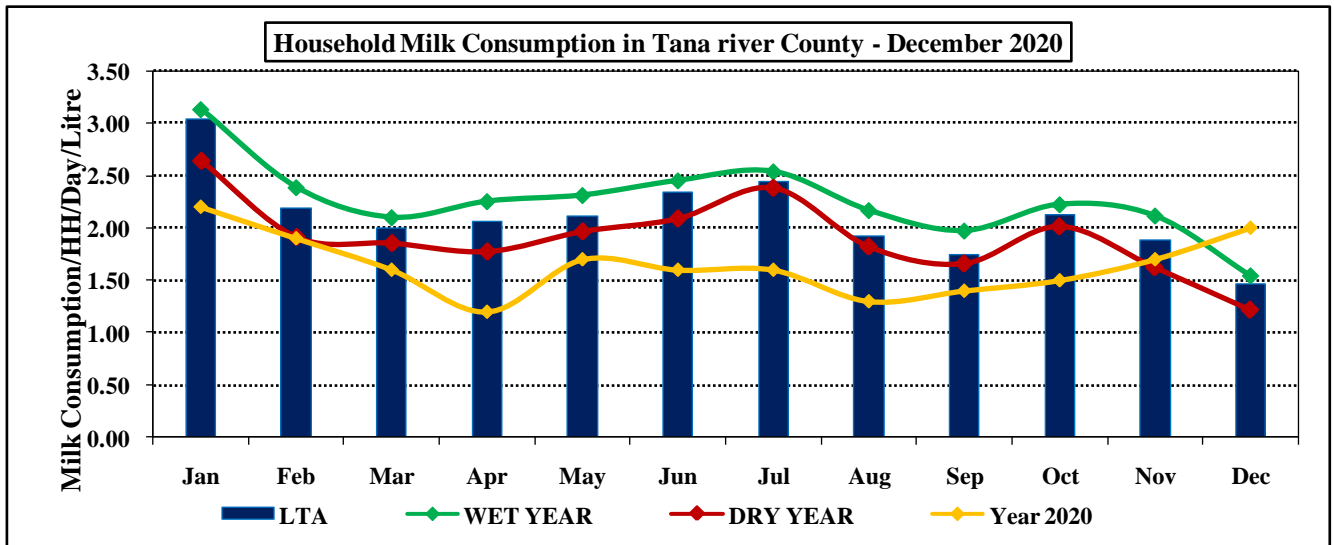
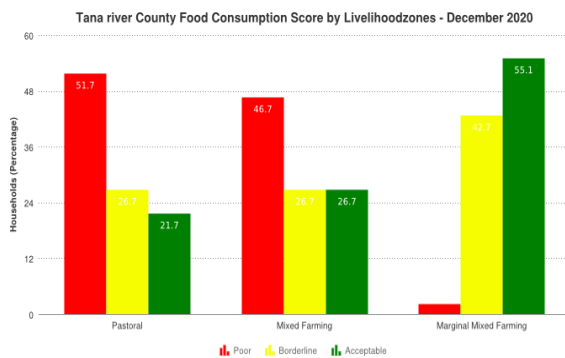


Fig. 16.

### 5.1.2. Food Consumption Score



There was higher proportion of households with poor food consumption gaps in Pastoral and Mixed Livelihood zones ,(51.7%) and (46.7%) respectively. Attributed to flooding and high food prices.

The proportion of households with borderline food consumption score were high in Marginal Mixed livelihood zones at 42.7%.

A proportion of 55.1% of households in marginal mixed livelihood zones have acceptable food consumption score while 21.7% in Pastoral livelihood zones have acceptable food consumption score respectively.

Figure 17: Tana River food consumption

### 5.1.3 Health and Nutrition Status

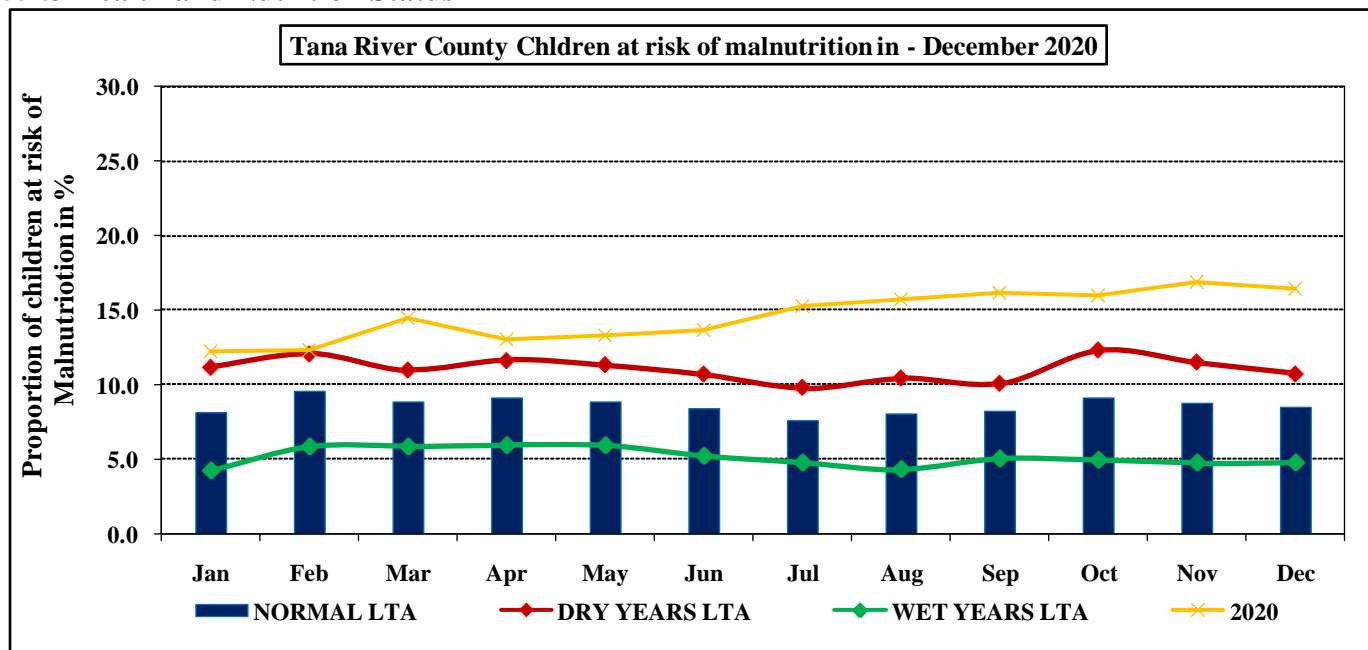


Fig.18.

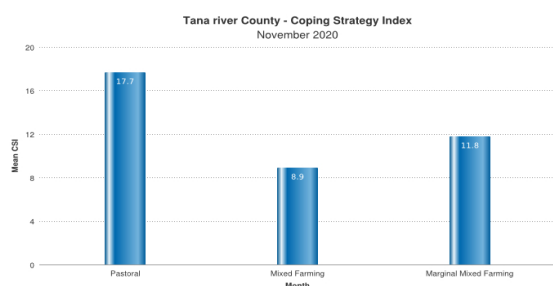
- The proportion of sampled children under five years of age at risk of malnutrition remained stable at 16.4% compared to the previous month at 16.9%. This is attributed to availability of milk at household levels more so within Pastoral and Marginal Mixed livelihood Zones.

### 5.2. Health

- During the reporting month the commonly reported illnesses were skin diseases, diarrhoeas, URTI, Malaria, outbreak of water born diseases and skin diseases in all livelihood Zones.

### 5.3. COPING STRATEGIES

#### Coping Strategy Index



The average coping strategy index decreased to 12.29 in December 2020 compared to last month. Meaning less households are experiencing stress to access food given the prevailing conditions.

Households in Pastoral livelihood zone employed most coping strategies at 16.0 followed by Marginal mixed at 12.2. The mixed farming livelihood zones employed least coping mechanisms at 8.8.

Fig.19: Tana River Coping Strategy Index

## 6. CURRENT INTERVENTION MEASURES.

### 6.1 Non-food interventions

- Cash transfers to floods and locusts affected household (2835hh) in Tana north by Aldef.
- Distribution of dignity kits to floods affected households (325hhs) in Tana North by Aldef
- Peace initiatives in marginal mixed and mixed livelihood zones by SEARCH/TPRD
- Formulation of ward level DRM forums by NDMA/WFP/CISP/KRCS/TRCG
- Distribution of farm inputs to farmers in Tana North, Galole and Tana Delta by Aldef/TRCG/CW
- WASH and covid 19 awareness supported by MOH/ALDEF/WC/GAA/PGI/KRCS and Partners.
- Rehabilitation of dams and shallow wells by Ministry of Water /WVK/ WFP.

- Logistical support for ward level Agricultural extension services by CWW.
- support on irrigation infrastructure for minor irrigation schemes prioritised by the county through WFP
- Support of extension services by departmental technical officers to boost food production by WFP/Aldef.
- Hygiene promotions and distribution of water treatment chemicals in Tana Delta (Katsangani, Safaricom, Tana Salt, Msurujani, Timboni, Vumilia and Orolle) by Samaritan Purse/NDMA.
- Cash transfer to 1000 vulnerable Households in Kipini East ward and Wayu ward by FAO Kenya.
- Integrated outreaches in hard to reach areas and provision of medical supplies to MOH supported by CWW/UNICEF/WVK/WC/KRCS.
- Provision of fuel subsidies,land preparations(100 acres in Sala Ward) in Tana North by CWW/MOA/Nature Kenya/Aldef.
- Capacity building of health workers on maternal ,infant and young children nutrition-WVK
- Family MUAC rollout in 21 community units in Tana North-World Concern.
- Distribution of 100 modern hives to 100 households in Tana Delta by Nature Kenya
- Provision of farm inputs to 1817 farmers and restocking of 180 farmers with galla goats in Tana Delta by Nature Kenya.
- Covid cushioning cash transfer targeting 10,000 household and 15 CHVs by GoK/Aldef(1000 shillings weekly)

## **6.2 Food Aid**

- Distribution of pulses, cereals and vegetable oil to 5,000 beneficiaries in all sub counties across Tana River by WFP/KRCS(sfsp)

## **7.0 .EMERGING ISSUES**

### **7.0.1.Insecurity/Conflict/Human Displacement**

- Human wild life conflicts reported in Sala,Nanighi,Saka,Kipini,Chara and Kilelengwani.
- Over 2500 households are currently affected by floods in Tana Delta,Tana River and Tana North(Bakuyu,Ziwani,Mororo and Mathengeni IDP Camps),and about 2,000 hectares under crops destroyed by floods.
- Currently desert locusts invasion of farm lands and rangelands are experienced in Tana North(Nanighi,Sala,Bilbil,Matagala,Dukanotu) and Tana Delta in Kipini ward respectively.

### **7.0.2. Migration - limited to migrations of persons.**

- Normal livestock migrations towards the traditional grazing areas of marginal mixed and Pastoral livelihood zones occurred earlier in the month and livestock have been spotted migrating towards Tana River and Tana North respectively. This is normal during this time of the year. Given the fair conditions of pastures, browse and water resources in Pastoral and Marginal mixed livelihood zones.
- Most camps hosting flood displaced households have been opened and the affected households have since started streaming into the IDP camps. The numbers of IDPs expected to increase with increase of flooding waters.

### **7.0.3. Food Security Prognosis**

- According to forecasts from USGS and NOAA/CPC, the October to December 2020 short rains season in bimodal areas of Kenya is most likely to be below average
- Based on the projected below average short rains harvest for the major crops grown, food commodity prices in general and specifically cereal prices in the county are likely to increase above the long term average prices from the month of February 2021.
- The March to May long rains crop production around flood prone marginal agricultural areas is expected to be below average following below-average rainfall that flooded and waterlogged soils.

- Livestock prices driven by below-average forage and water resources are expected to remain below-average due to unfavourable body conditions,
- According to the Desert Locust Global Forecast by FAO, the second-generation desert locust swarms are migrating northwards facilitated by the prevailing winds into Ethiopia and South Sudan reducing the prevalence in Kenya thus causing minor damage to crop and rangeland resources.
- Forage and water resources are expected to be below normal through May due to the below-average October to December short rains and current below-normal vegetative conditions. However, the forecast of below-average, October to December short rains has resulted in only short-lived improvements of forage and water resources which will likely remain below average from October through January.
- Based on available information from the Ministry of Health and leading local and international health experts including the WHO, the number of confirmed COVID-19 cases is likely to rise between January and March due to both the spread of the virus and increased testing thereby reinstating Covid-19 related restrictions such as ban on travel and curfews are likely to impact on household livelihoods.

#### **7.0.4. Phase Classification**

Pastoral and Marginal mixed livelihood zones are classified under stressed Phase (IPC Phase 2) while Mixed farming livelihood Zones are classified under minimal Phase (IPC Phase 1). During the month most wards in Tana North received depressed rains in the month of November-December and this triggered negative impacts on biophysical indicators hence affecting most livelihoods. over 2,000 households living along the Riverine across the county were affected by mild floods during the season which has also affected their livelihoods and left them food insecure and currently over 1000 households across the county are displaced by floods.

The current short rains, though below average has driven regeneration of rangeland resources and prompt the return of livestock to wet season grazing areas. Although prices are expected to stabilize, improved livestock body conditions and value will improve household income. In addition, anticipated livestock births will alleviate declines in TLUs, provide milk for consumption. Food access is also likely to improve, as supplies from the above-average harvest in high and medium potential agricultural areas will begin to enter the market in February, driving food prices down and improving the goat-to-maize terms of trade. Food security is expected to remain in Stressed (IPC Phase 2).

### **8.0 RECOMMENDATIONS**

#### **8.1.1. General Recommendations:**

- a) Implementation of Covid-19 response plans by Ministry of Health and partners .
- b) Provision of pesticides to help in control of fall army worms and desert locusts.
- c) Provision of farm inputs in preparation for the short rains.
- d) Provision of clean water to areas with water stress.
- e) Enhance security surveillance and peace Barazas in hot spot areas of Tana Delta.
- f) Enhance integrated outreaches in hard to reach areas across all the sub-counties more so in flood affected areas.
- g) Upscaling of food aid to the population in need in Tana North, Tana River and Tana Delta sub-counties.
- h) Provision of water harvesting facilities by Ministry of Water and Partners.
- i) Installation of hand washing kits to existing schools in preparation for re-opening of schools.
- j) Provision of storage facilities to help farmers store their long rains harvests to control destruction by pests.
- k) Mass vaccination of migrating herds to control the spread of livestock diseases.
- l) Provision of storage facilities to farmers in preparation of short rains harvests.

## 8.2.PROPOSED RECOMMENDATIONS

Sub-Country	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
<b>AGRICULTURE</b>							
Tana River	All wards	Provision of Assorted farm inputs	5000	Department of agriculture and Stakeholders	Increase in Technical Experts.	Technical Experts	2016 - 2020
		Capacity Building of Farmers			Funding from the County and Other Stakeholders		
		Provision of Subsidized Tractor Mechanization Services					
<b>Medium term/Long Term interventions</b>							
Tana River	ALL WARDS	Rehabilitation and Establishment of new irrigation schemes	3000 HH	Dept. of Agriculture and other stakeholders	Technical Experts	Technical Experts	2016 - 2020
All Sub-Countries	All Wards	Provision of Subsidized Tractor Mechanization Services	3000 HH	Department of Agriculture –Tana River County Govt.	20 Tractors available and in Good Working Condition	Increase 10 More Tractors	100 M
<b>LIVESTOCK</b>							
All	All	Rangeland management training	1,000	Livestock dept,	Extension staff	Extension staff	March – June 2020
All	All	Fodder production and conservation	1000	County government and partners	funds	Extension agents	By June 2021
All	All	Livestock Feed supplements	1500	County governments and partners	funds	Ext. agents	By June 2021
<b>WATER</b>							
<b>Immediate Recommended Interventions (Including Interventions In Response To COVID-19 Pandemic)</b>							
Tana River	Chewani	Stock piling of water treatment chemicals	10,000	TRCG, GOK, CWWDA and other development partners	Funds	Technical staff	July-Oct
		(pur and aquatabs) and household water storage facilities e.g. jerricans			Transport vehicles		
Tana River	Chewani	Purchase and distribution of plastic (PVC) and collapsible water tanks	10,000	TRCG, GOK, CWWDA and other development partners	Funds	Technical staff	July-Oct
Tana River	Wayu Titila, Konekaliti, Waldena, WayuBoro	Operationalization of Boreholes	6,000	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS & SPARE PARTS/ FITTINGS	TECHNICAL STAFF	July-October
Tana Delta	Garsen South, North	Rehabilitation of shallow wells damaged by floods	10,000	TRCG, GOK, CWWDA and other development partners	Funds, fittings, some spare parts and technical staff	Technical staff	July-Oct
Tana	Garsen South	Rehabilitation of boreholes at Idsowe pump station	20,000	TRCG, GOK, CWWDA and other	Technical staff, funds & spare	Technical staff	July-Oct

Sub-Cou nty	Ward	Intervention	No. of benef iciari es	Proposed Implementers	Required Resources	Availa ble Resour ces	Tim e Fra me
Delta		GWS		development partners	parts/ fittings		
Tana Delta	Garsen South	Rehabilitation of the water storage/supply tank at Minjila	20,000	TRCG, GOK, CWWDA and other development partners	Technical staff, funds & spare parts/ fittings	Techni cal staff	July-Oct
Tana North	Sala and Hirimani	Borehole Repair and Operationalization	5,800	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS & SPARE PARTS/ FITTINGS	TECHN ICAL STAFF	JULY - AUG
TANA NORTH/	Mororo&Madogo& Sala	Distribution of collapsible tanks, jerricans and HH water treatment chemicals e.g. pur/aquatabs	3,000	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS & SPARE PARTS/ FITTINGS	TECHN ICAL STAFF	JULY - AUG
<b>Medium And Long Term Recommended Interventions (Including Interventions In Response To COVID-19 Pandemic)</b>							
TANA DELTA	GARSEN SOUTH, WEST	Harvesting of water using 300,000 M <sup>3</sup>	5,000	TRCG, GOK, CWWDA and other development partners	Funds,	Techni cal staff	July-Oct
TANA DELTA	GARSEN SOUTH, WEST	Drilling of more boreholes within the sub-county	20,000	TRCG, GOK, CWWDA and other development partners	Drilling rig, funds, technical staff and fittings	Drilling rig, technic al staff	Jul-21
TANA DELTA		Purchase and distribution of collapsible water tanks	25,000	TRCG, GOK, CWWDA and other development partners	Funds, technical staff	Techni cal staff	July-Oct
TANA DELTA	GARSEN NORTH,SOUTH	Stock piling of water treatment chemicals	20,000	TRCG, GOK, CWWDA and other development partners	Store, funds and technical staff	Techni cal staff	July-Oct
Tana River	Wayu Gofisa	De-silting and repair of Water Pans	33,500	County Government, GOK, NGOs & other Development PARTNERS	Funds,	Techni cal Staff	July-October
Tana River	KinakoMba Haroresa	Flushing, development and equipping of Strategic Boreholes	2,700	County Government, GOK, NGOs & Other Development Partners	FUNDS FOR MACHINERY OPERATORS,	TECHN ICAL STAFF	July-October
Tana River	Wayu, Chifiri, Kesi	Construction of 50,000m <sup>3</sup> - 100,000m <sup>3</sup> large water pans to harvest the excess run off	7,500	County Government, Gok, Ngos& Other Development Partners	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	TECHN ICAL STAFF	July-October
Tana River	Kinakomba	Construction of 50,000m <sup>3</sup> - 100,000m <sup>3</sup> large water pans to harvest the excess run off	2,700	County Government, Gok, Ngos& Other Development Partners	Funds, Excavation Machinery Technical Staff Vehicles for mobility during implementation and M & E.	Techni cal Staff	July - October
All sub coun		Capacity Building of Technical officers and Community on Disaster		County Government, Gok, Ngos& Other Development	Funds Vehicles for mobility		July - Dec

Sub-Cou nty	Ward	Intervention	No. of benef iciari es	Proposed Implementers	Required Resources	Availa ble Resour ces	Tim e Fra me
ties		Risk Management		Partners			
<b>HEALTH</b>							
<b>Immediate Recommended Interventions</b>							
	All health facilities	Vitamin A Supplementation		MOH/UNICEF/KRCS			ON-GOIN G
	All health facilities	Zinc Supplementation		MOH/UNICEF			ON-GOIN G
	All health facilities	Management of Acute Malnutrition (IMAM)		MOH/KRCS/			ON-GOIN G
	All health facilities	IYCN Interventions (EBF and Timely Intro of complementary Foods)		MOH/KRCS/			ON-GOIN G
	All health facilities	Iron Folate Supplementation among Pregnant Women		MOH/KRCS/			ON-GOIN G
	All health facilities	Deworming		MOH/WORLDWIDE			ON GOIN G
	All sentinel sites	Family MUAC		TRCG/UNICEF/KRCS /NDMA			ONG OING
<b>Other Public Health Interventions</b>							
	All facilities/b order points	Screening and sample collection of COVID-19		MOH/TRCG			On goin g
COU NTY		Sensitization on COVID-19		MOH/TRCG			Ongo ing
COU NTY		Handwashing and hygiene promotion		MOH/TRCG			Ongo ing
	All frontline health care workers	Training of frontline health care workers on COVID-19 case management		MOH/TRCG			Ongo ing
<b>Medium and Long term Recommended Interventions</b>							
	5	Family Muac	1600 0	TRCG/KRCS/UNICEF /NDMA	600000	Staffs/ vehicle s	JUL- SEP
	7	Covid-19 Community Sensitization	2000 0	TRCG/WVK/KRCS/W WC	1000000	Staffs	JUL- SEP
	7	Health Care Workers	500	TRCG/WVK/KRCS	2000000	staffs	JUL- SEP
	All health facilities	PROVISION OF Ppes For HEALTH CARE WORKERS		MOH/TRCG/KRCS/W VK/WWC	5000000	Vehicle s	JUL- SEP
COU NTY	7	Covid -19 Surveillance		MOH/TRCG	500000	Staffs	JUL- SEP
	IDP camps	Intergrated Medical Outreaches		TRCG/KRCS/WVK	1000000	Vehicle s/staffs	JUL- SEP
	7	Vitamin A Supplementation Mop Up		TRCG/KRCS/UNICEF /WVK	600000	Staffs /vehicl es	JUL- SEP
<b>EDUCATION</b>							
Tan a Rive r	60	Provision of Handwashing facilities	3Sub- count ies	12000	MOE/TRCG/UN ICEF	1.2M	5 Mont hs
	16	Provision of clean water.	3 sub	8522 pupils	MOE/WFP/TRC	2,913,0	5

Sub-Cou nty	Ward	Intervention	No. of benef iciari es	Proposed Implementers	Required Resources	Availa ble Resour ces	Tim e Fra me
			count ies.		G/WHH	00	Mont hs
	20	Provision of enegy saving jikos.	3 sub count ies.	52,000	WFP/MOE/TRC G/WHH	2M	5 Mont hs
	178	Provision of Masks and sanitizers	3 SUB COUN TIES	78,042	WHO/MOE/TR CG DONORS	20M	5 Mont hs
	35	Repair of School infrastructure.	3 sub count ies	78,042	CDF/MOE/TRC G/WHH.	100M	5 Mont hs

## REFERENCE TABLES

**Table 1: Drought Phase Classification**

Normal	Alert	Alarm	Emergency
All environmental Agricultural and pastoral indicators are within the seasonal ranges	Meteorological drought indicators move outside seasonal ranges	Environmental and at least two production indicators are outside Long term seasonal ranges	All Environmental, Metrological and Production indicators are outside normal ranges.
<b>Recovery:</b> The drought phase must have reached at least Alarm stage. Recovery starts after the end of drought as signaled by the environmental indicators returning to seasonal norms; local economies starting to recover			

**Table 2: Standardized Precipitation Index (SPI)**

Color	SPI Values	Metrological Drought Category
	> +1.5or more	Wet Conditions
	0 to +1.5	No drought
	-0.1 to -0.99	Mild drought
	-1 to -1.99	Severe drought
	<-2 and less	Extreme drought

**Table 3: Vegetation Condition Index Values (VCI)**

Color	VCI values	Agricultural Drought Category
	3-monthly average	
	$\geq 50$	Wet
	35 to 50	No agricultural drought
	21 to 34	Moderate agricultural drought
	10 to 20	Severe agricultural drought
	<10	Extreme agricultural drought

**Table 4: Livestock Body Condition**

Level	Classification	Characteristics (this describes majority of the herd and not individual isolated Stock)
1	Normal	Very Fat Tail buried and in fat
		Fat, Blocky. Bone over back not visible
		Very Good Smooth with fat over back and tail head
		Good smooth appearance
2	Moderate	Moderate. Neither fat nor thin



3	Stressed	Borderline fore-ribs not visible. 12th & 13th ribs visible
4	Critical	Thin fore ribs visible
5	Emaciated	Very thin no fat, bones visible
		Emaciated, little muscle left

### Definition of Early Warning Phases

The EW phases are defined as follow:

**NORMAL:** The normal phase occurs when **biophysical drought indicators (VCI and SPI) show no unusual fluctuations** hence remain within the expected ranges for the time of the year in a given livelihood zone, division or county

**ALERT:** The alert phase is when either the **vegetation condition index or the standard precipitation index (biophysical indicators) show unusual fluctuations below expected seasonal ranges** within the whole county/sub-county or livelihood zones.

**ALARM:** The alarm phase occurs when both **biophysical and at least three production indicators fluctuate outside expected seasonal ranges** affecting the local economy. The production indicators to be considered are livestock body condition, crop condition, milk production, and livestock migration and livestock mortality rate.

If **access indicators** (impact on market, access to food and water) move outside the normal range, the status remains at “alarm” but with a worsening trend. Proposed access indicators include ToT, price of cereals, availability of cereals and legumes, and milk consumption. The trend will be further worsening when also welfare indicators (MUAC and CSI) start moving outside the normal ranges.

**EMERGENCY:** In the emergency phase, **all indicators are outside of normal ranges**; local production systems have collapsed within the dominant economy. The emergency phase affects asset status and purchasing power to extent that seriously threatens food security. As a result, coping strategy index, malnutrition (MUAC) and livestock mortality rates move above emergency thresholds

**RECOVERY: Environmental indicators returning to seasonal norms.** The drought phase must have reached at least Alarm stage. Recovery starts after the end of drought as signaled by the environmental indicators returning to seasonal norms while production indicators are still outside the normal seasonal range but local economies start to recover. The status changes to normal once the bio physical and production indicators are back to normal range.