



A Vision 2030 Flagship Project



National Drought Management Authority

Tana River County

Drought Early Warning Bulletin for August 2021

AUGUST EW PHASE	Early Warning Phase Classification				
<p>Drought Status: ALERT</p> <p>Maandalizi ya mapema</p>	LIVELIHOOD ZONE	EW PHASE	TRENDS		
<p>Drought Situation & EW Phase Classification Drought Phase: ALERT-WORSENING</p> <p>Biophysical Indicators</p> <ul style="list-style-type: none"> Biophysical indicators are showing negative trends away from expected seasonal ranges. Below average amount of rainfall were received in the month of August 2021. The August Vegetation Condition Index values for Tana North-Bura, Galole and Tana river sub-county are below normal and indicating moderate drought for the county. The Water levels in most water pans were below normal at 2-3(10%-30%) in Pastoral and Marginal mixed livelihood zones. <p>Socio Economic Indicators (Impact Indicators)</p> <p>Production indicators:</p> <ul style="list-style-type: none"> The forage condition is poor and depleted in pastoral and marginal mixed but fair in mixed farming livelihoods in both quality and quantity. Livestock body condition is fair in mixed and fair to poor in marginal mixed and pastoral livelihood zones. Milk production is below average in Pastoral and marginal mixed livelihood zones. This is attributed to poor forage and pasture conditions. Early Livestock migrations were reported towards the traditional grazing fields. <p>Access indicators</p> <ul style="list-style-type: none"> Terms of trade still above normal range but on a decreasing trend due in decreasing prices of maize and increasing goat prices. Distances to water sources for households currently above averages compared to normal. <p>Utilization indicators:</p> <ul style="list-style-type: none"> The number of under-fives at risk of malnutrition currently on the increase compared to normal. Copping strategy index for households is on an increasing trend due to below average milk and crop production. Indicating more households are currently food insecure. 	PASTORAL	ALARM	WORSENING		
	MARGINAL MIXED	ALERT	WORSENING		
	MIXED FARMING	ALERT	WORSENING		
	COUNTY	ALERT	WORSENING		
	Biophysical Indicators	Value for the month Tana River	LTA-Monthly Tana River	Normal ranges Kenya %	
	Average rainfall MM (%)	2.00 mm	28 mm	80-120	
	VCI-3month	29.23		35-50	
	% Of water in the water pan	2-3(10-30%)		5-6	
	Production indicators		Value	Normal ranges	
	Livestock Migration Pattern		Not normal	Normal	
	Livestock Body Condition		4-5	4-5	
	Milk Production (Ltr /HH/Month)		3.6	4.80	
	Livestock deaths (for drought)		No death	No death	
	Access Indicators		Value	Normal ranges	
	Terms of Trade (ToT)		89.3	>=63	
Milk Consumption (Ltr)		1.6	>=2.40		
Water for Households-trekking distance (km)		6.2	<=6.0		
Distances to grazing for livestock (km)		13.9	<=13.2 km		
Seasons production (90 kg bags)(by January 2021)		1,342(maize) 465(green grams)	LTA (51,804(bags)) LTA (12,384(bags))		
Utilization indicators		Value	Normal ranges		
At Risk (%)		20.2%	<13.39%		
CSI		13.80%	<=15.0		

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

1. CLIMATIC CONDITIONS

1.1 RAINFALL PERFORMANCE

Rainfall station data (GROUND DATA:)

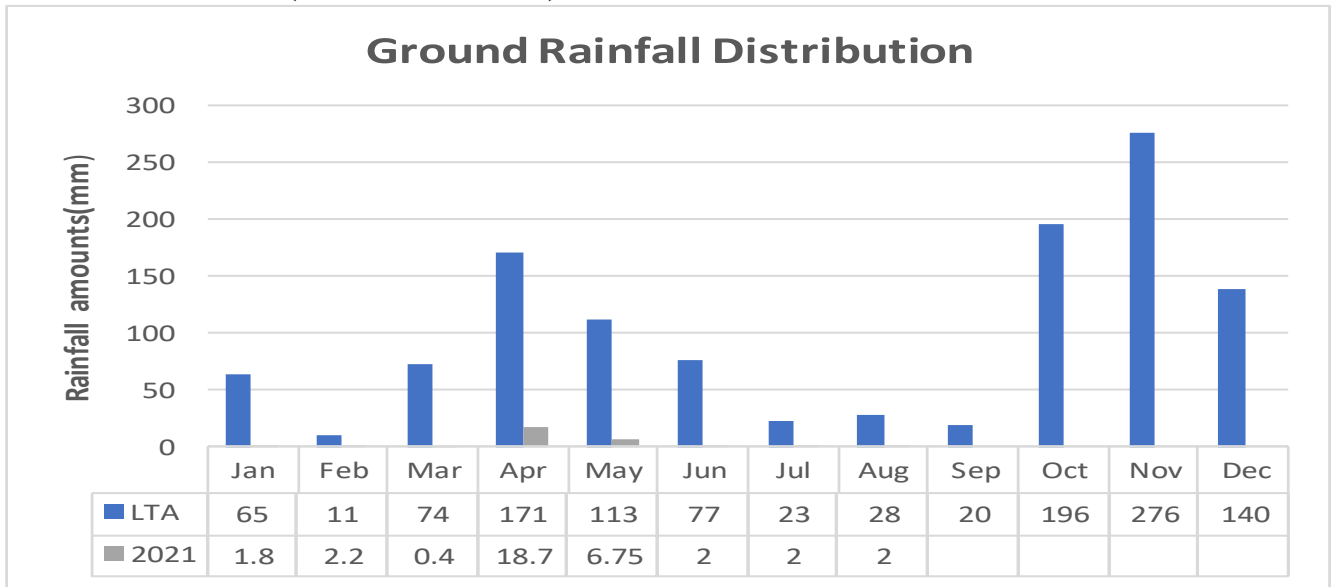
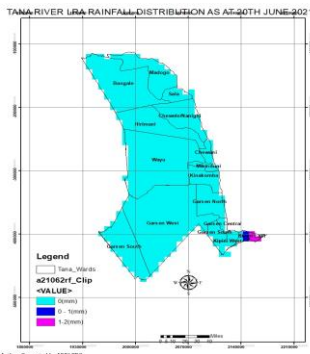


Fig.1.source: VAM-WFP

An average of 2.00 mm rainfall was recorded in August coupled with increasing temperatures. This is below the LTA of 28 mm. Most wards did not receive any amount of rainfall during the month. But during the long rains season, wards that received poor distributions of rains were: Sala ward, Madogo ward, Hirimani ward, Chewele ward, Wayu ward, Chewani ward, Kinakomba ward, Garsen west and Garsen south wards.

1.2. RAINFALL TEMPORAL AND SPATIAL DISTRIBUTION



In the month of August, on average 0.00 mm of rainfall was received in Tana North (Bura), 2.90 mm received in Galole sub-county and 0.09 mm received in Tana Delta (Garsen) respectively. Most wards received between 0.00 mm to 2.00 mm on average across the county. The amounts received were below normal at this time of the year. Spatial and temporal distribution was poor.

The rainfalls were unevenly distributed across all the three sub-counties. Most wards had not received any substantial amount of rainfall by 31st August 2021.

Fig.2.source: Continental Africa Dekadal DDE

1.3. TEMPERATURES

1.3.1. LAND SURFACE TEMPERATURE (LST)

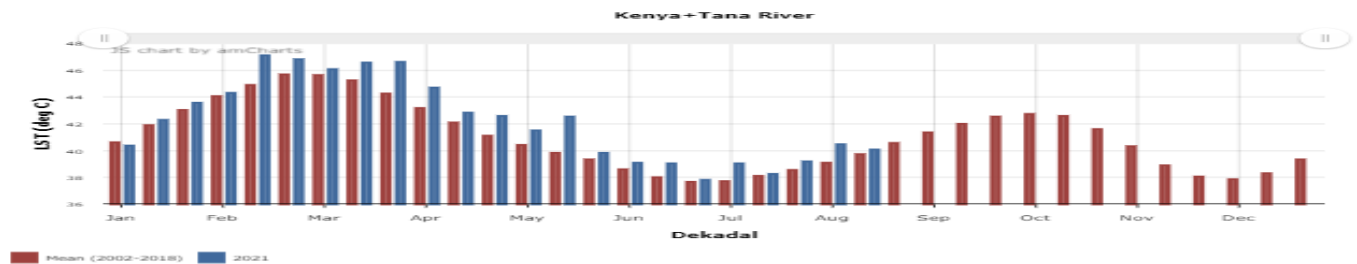


Fig.3.source: LST-C6

The August 2021 land surface temperature (LST) values for Tana River County increased to 40.49C by the 2nd dekad of August, which is above normal (39.76°C) at this time of the year.

2.1. IMPACTS ON VEGETATION AND WATER

2.1.1. VEGETATION CONDITION INDEX (VCI)

The August vegetation cover for Tana River County shows moderate vegetation deficit for the county across all the three sub-counties. The current trend continue to worsen in the three sub-counties compared to the month of July 2021. Tana North, Galole and Tana Delta are currently experiencing moderate drought.

COUNTY	Sub County	VCI as at 31 st July 2021	VCI as at 31 st August 2021	
TANA RIVER	County	27.50	29.23	vegetation conditions experienced in the county still depleted and of poor quality, all sub counties recorded poor and depleted vegetation cover. All sub counties currently in Moderate drought
	Bura	28.08	28.36	
	Galole	22.58	25.66	
	Garsen	30.09	32.21	

Fig.4. Source BOKU

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

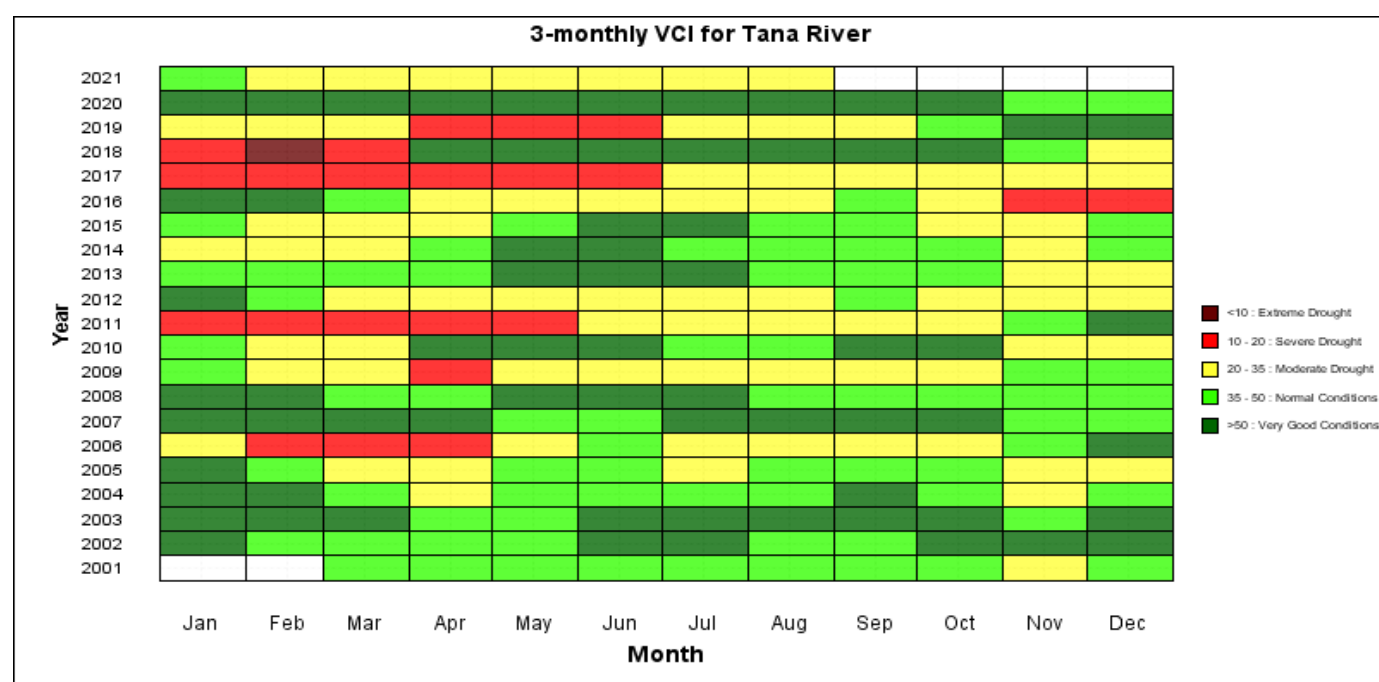


Fig.5. Source BOKU

In August 2021 the vegetation cover for Tana River County was at 29.23, which indicates moderate drought condition. In comparison to the previous month the current vegetation cover has decreased in quantity and quality.

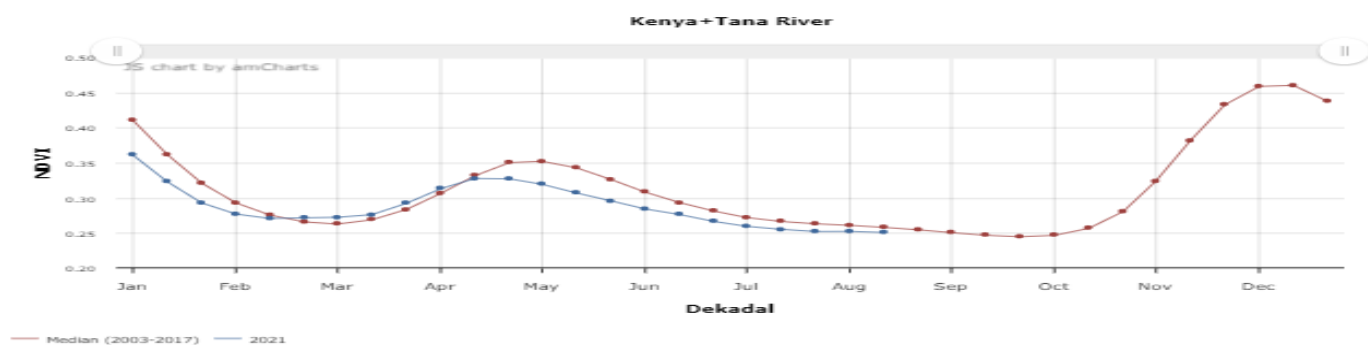
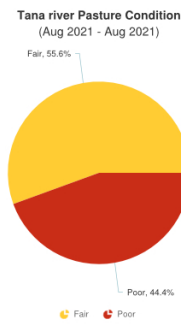


Fig.5. Source: NDVI-C6

The NDVI for Tana River County is currently showing decreasing trend in August 2021 (0.25) which is worse compared to the LTA (0.26). This is attributed to ongoing drought and high temperatures during the month.

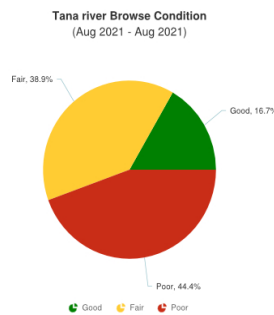
2.1.2.Pasture



The pasture condition is fair to poor in quantity and quality in Pastoral and marginal mixed livelihood zones but the pasture conditions are fair in mixed livelihood zones. With high influx of livestock in mixed livelihood zones, pasture is expected to be depleted within a short period. The current pasture is expected to last for less than one month in Pastoral and marginal mixed and two months in the Mixed farming livelihood zones.

Figure 6: Tana River pasture conditions

2.1.3.Browse



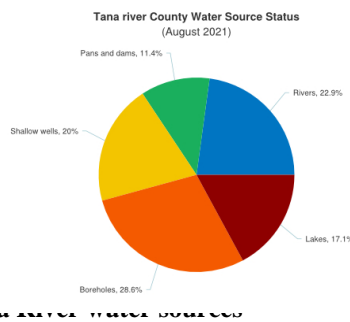
The browse condition is fair to poor in quantity and quality across all livelihood zones which is normal at this time of the year.

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

Figure 7: Tana River browse

2.2 WATER RESOURCE

2.2.1 Sources



The main water sources for both livestock and human consumption across all livelihoods were bore holes (28.6%) ,Rivers 22.9%,shallow wells(20%),lakes(17.1%),Pans and dams at (11.4%).Most water pans and dams were at 10-35% of their full capacity. Bangale water pan at recharge level of about 30% of its full capacity. Currently water levels is decreasing due to high concentrations of livestock and humans. Water born diseases are on the increase in pastoral livelihood zones. The current water sources are expected to last for less than one months in pastoral and Marginal mixed livelihood zones but two months in Mixed livelihood zones.

Bore holes with high concentrations during the month are:

Tana North:-Mororo-over 15000,,Boka-over 3000,Katumba/Kuriti-over 3500,bore hole,Kamuthe/Chardende-over 8000. **Galole:** Wayu duka,Matagala,Haroresa,Chifiri,Lakole,Hakoa,Kesi,Boji,Koticha,Wayu,Waldena,Titila.

Areas currently experiencing water stress are:

Tana North:-

Nanighi sub-location:Subo,Shakaloni,Gasura,Sero,Guyo,Munyich,Kimilo,Batini,Matagalacentre,Matagala West and East,Matagala North and South,Mataarba:Sala Ward:-sala location,sombo location,ziwani location,maramtu sub-location,Areri location.Chewele Ward:-Dukanotu sub-location,Charindende sub location.Hirimani Ward:-Hirimani sub location,Walestokocha sub location.**Galole:**-Wayu ward,Kinakomba ward,Chewani ward(Waldena,Chifiri,Lakole,Wayu Boru,Hara,Haroresa,Titila,)

2.2.2 Household access and Utilization

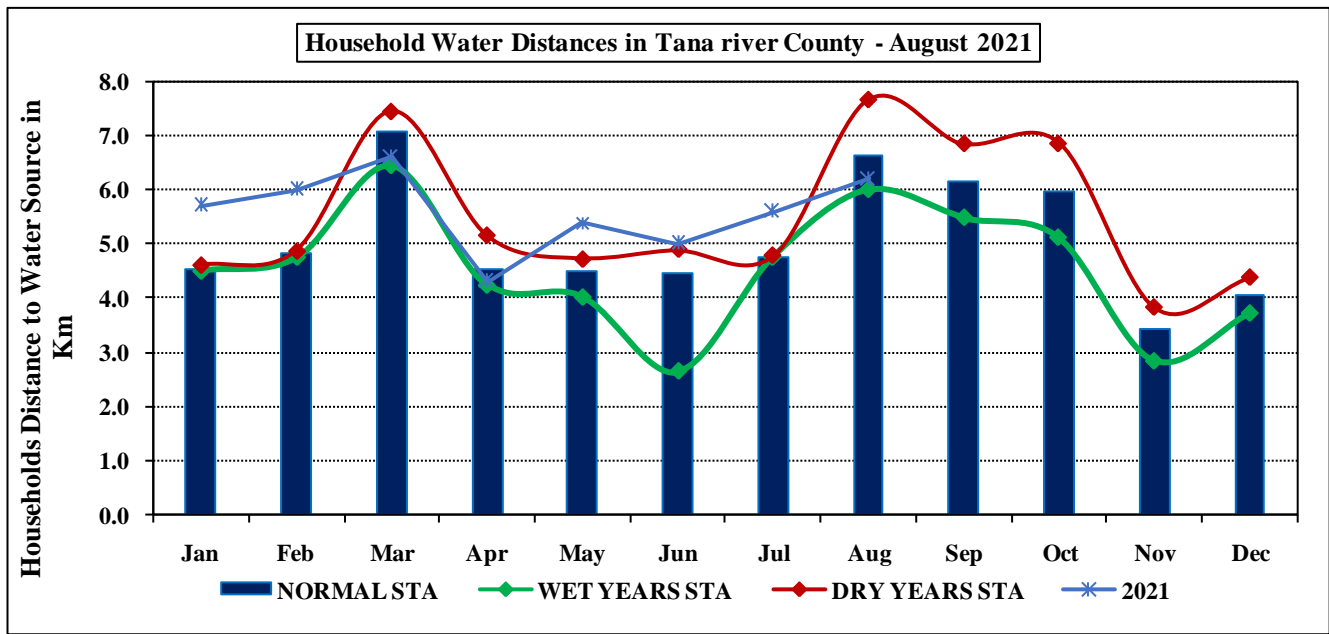


Fig.9.

- The households trekking distance increased to 6.2 km. The current distance is below the Long-term average of 6.6 km. This is attributed to on-going drought during the month which led to decrease in recharge levels in most open water sources across the county more so in pastoral and marginal mixed livelihood zones.

2.2.3 Livestock access

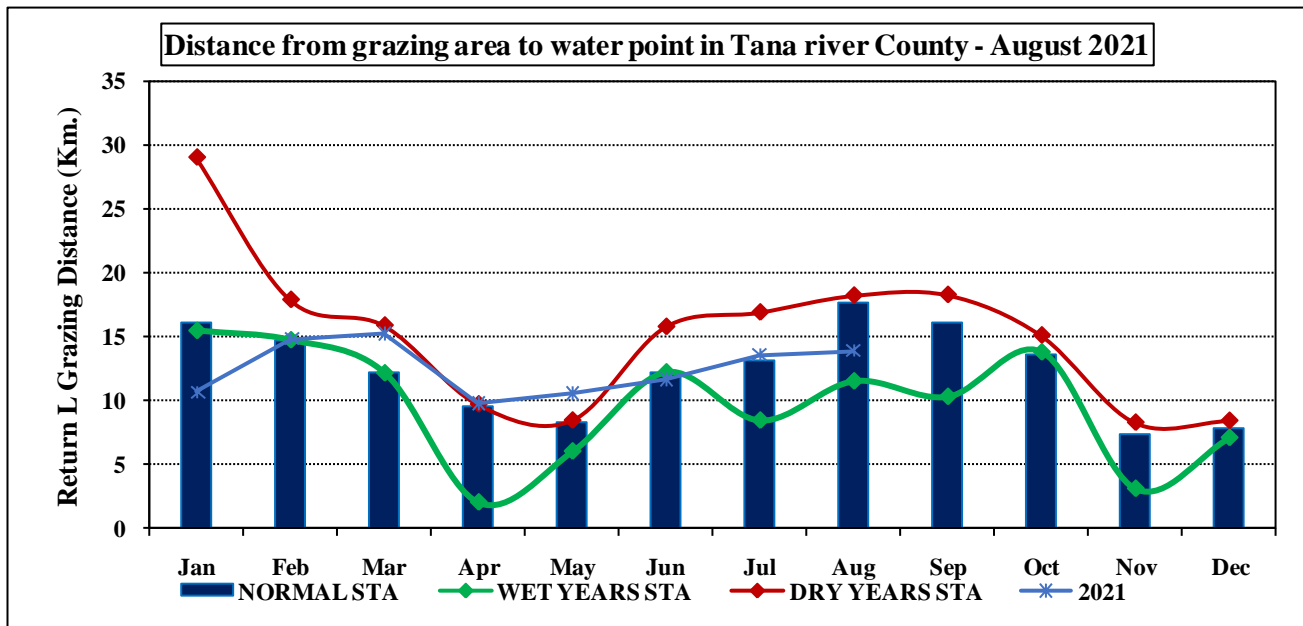


Fig.10.

- The return distance for livestock to grazing zones increased to 13.9 km during the month attributed to the fact that most livestock are currently migrating in search of quality pasture and browse in mixed farming livelihood zones.
- The situation is attributed to the livestock migrations from traditional grazing fields towards the fall back grazing fields of Tana Delta. Most livestock are currently migrating from the pastoral livelihood zones towards mixed farming livelihood zones. These migrations were triggered by depleted pasture and browse and scarcity of water.

3.0. PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

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

3.1.2 Livestock Diseases

- As a result of in-migrations of livestock towards Tana Delta sub-county, livestock diseases like foot and mouth disease (FMD), contagious bovine pleuropneumonia (CBPP) and contagious caprine pleuropneumonia (CCPP) diseases were reported in pastoral, marginal mixed and mixed livelihood zones. Trypanosomiasis, foot rot, Rabies, Orf, diarrhoea syndrome was reported in all livelihood zones. Newcastle disease (NCD) was noted at marginal mixed and mixed livelihood zones. However, the disease incidences were within the normal seasonal ranges.

3.1.3 Milk Production

- The average milk produced per household decreased to 3.5 litres compared to the previous month. This is attributed to depleted pasture and browse across all livelihood zones and long distance migrations towards Tana Delta. Distances to water points have increased in the pastoral and marginal mixed livelihood zones.

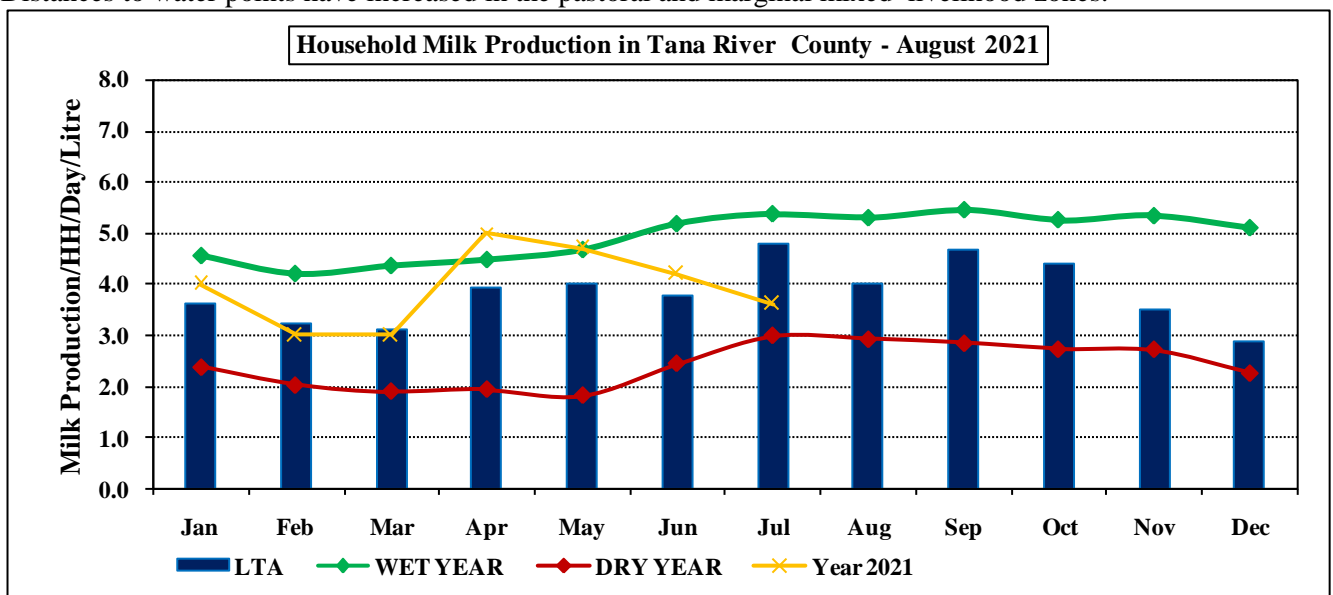


Figure 11

- In comparison to the long-term average of 4.01 litres; the current amount is below the long term average.

3.2. RAIN-FED CROP PRODUCTION.

3.2.1 Stage and Condition of food Crops

- Most rain fed planted crops during the long rains season are flowering at early stages but some are above the knee high where farmers replanted, but most food crops more so maize are currently wilting due to moisture stress. Maize crops in major irrigation schemes are at harvesting stages. Rice and green grams in irrigation shemes are also at harvesting stages.
- The county will report crop failure due to moisture stress and most farmers relying on rainfed agriculture are likely to harvest nothing.

4. MARKET PERFORMANCE
4.1. LIVESTOCK MARKETING
4.1.1 Cattle Prices

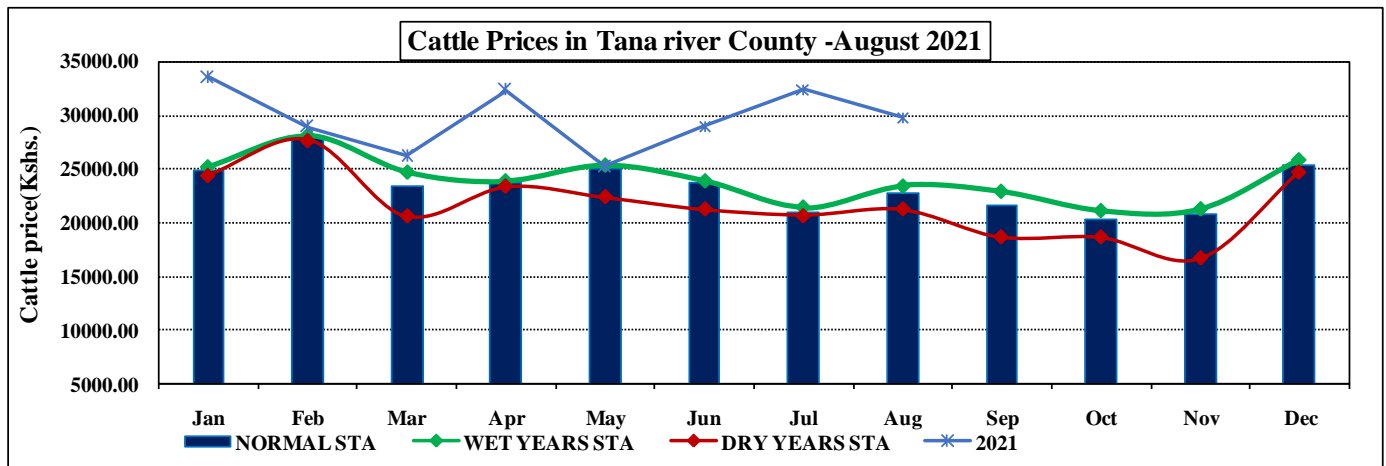


Fig.12.

- The average price for the medium sized cattle decreased by 8% to Ksh.29, 800 in the reporting month as compared to Ksh.32,375 of the previous month. This is attributed to the poor body conditions in the current month e triggered by long distance migrations of livestock towards the fall back grazing fields in search of good quality of pasture and browse. High cattle prices were reported in Madogo at Ksh.35000 while least prices were recorded in Witu at Ksh.25,000.

4.1.2 Goat Prices

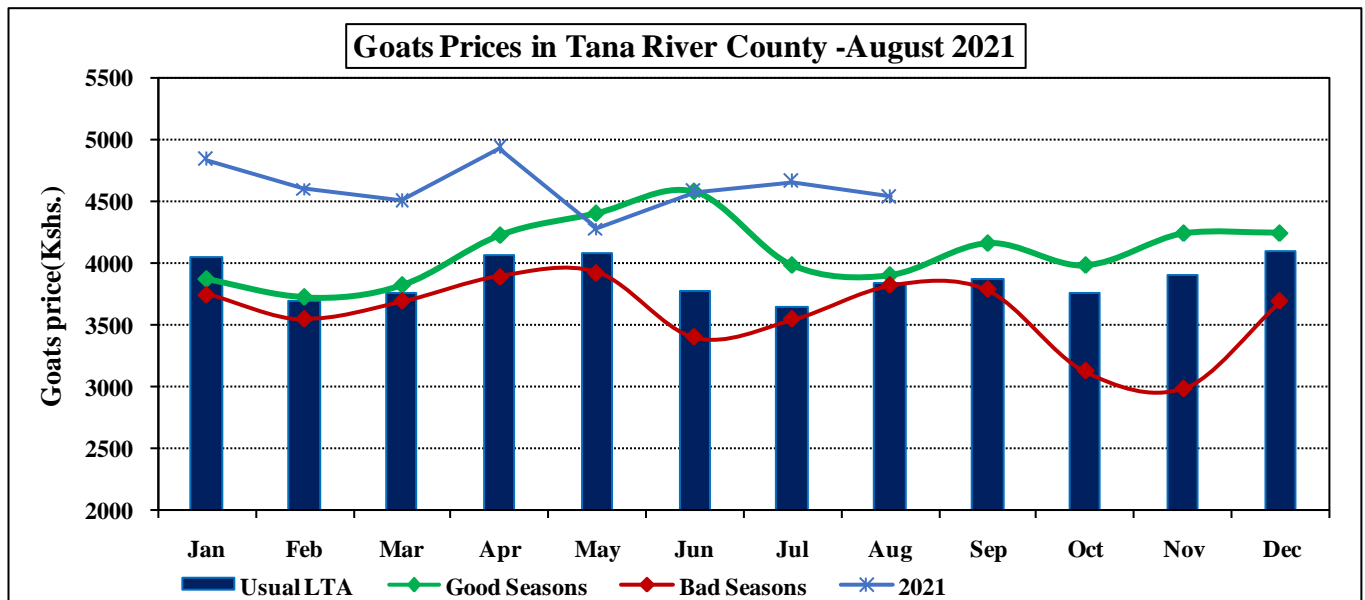


Fig.13.

- The average price of a goat decreased by 3% to Ksh.4,539 as compared to previous month. This was attributed to poor body conditions and market dynamics where market supply for goats increased substantially thereby pushing the prices downwards.
- The average Goat prices were lowest in Bilbil at Ksh. 3,200 and highest in Makere at Ksh.6,500.

4.2. CROP PRICES

4.2.1 Maize

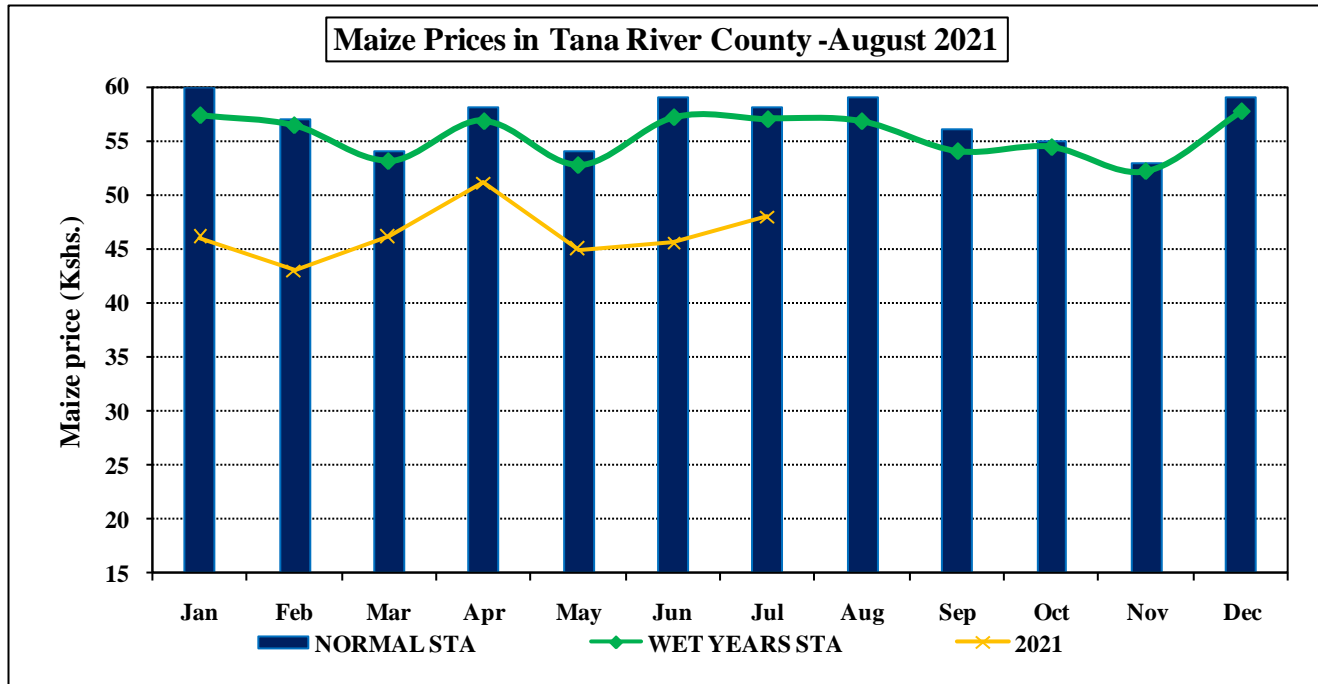


Fig.14.

- The average price for kilogram maize increased by 6% to Ksh.51 during the month compared to the previous month. This was attributed to scarcity of maize in the market due to below average seasonal harvests and supply from Kilifi and Lamu counties which pushed the prices upwards. The prices were below normal at this time of the year compared to the long-term average. The prices were higher in Pastoral livelihood zones at Ksh.60 per kilogram on average.

4.3. Livestock Price Ratio/Terms of Trade

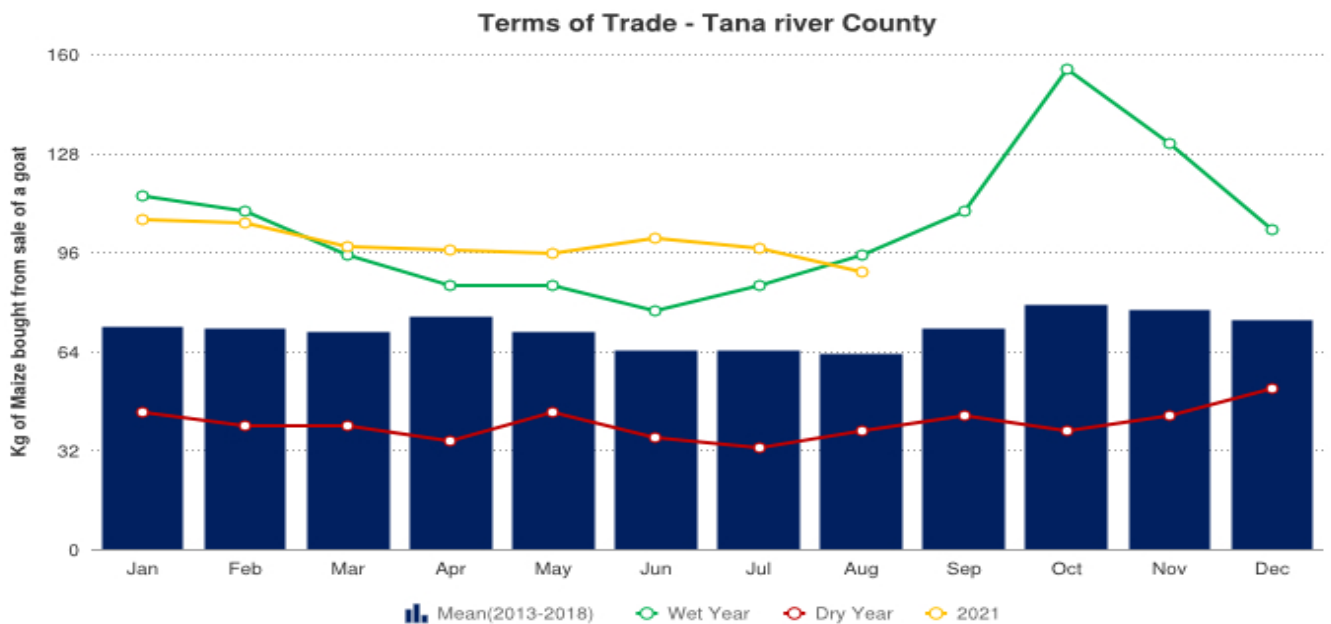


Fig .15.

- The terms of trade decreased from 97.4 in July 2021 to 89.3 during the month of August 2021.
- The current term of trade is above the long-term average. This is attributed to increasing prices of maize compared to goat in the market. Terms of trade is still favourable for the pastoralists in the current month though on a reducing trend.

5.1. FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1. Milk Consumption

- The average milk consumption per household decreased to 1.6 litres compared to the previous month. The amount consumed is below the long term average at this time of the year.

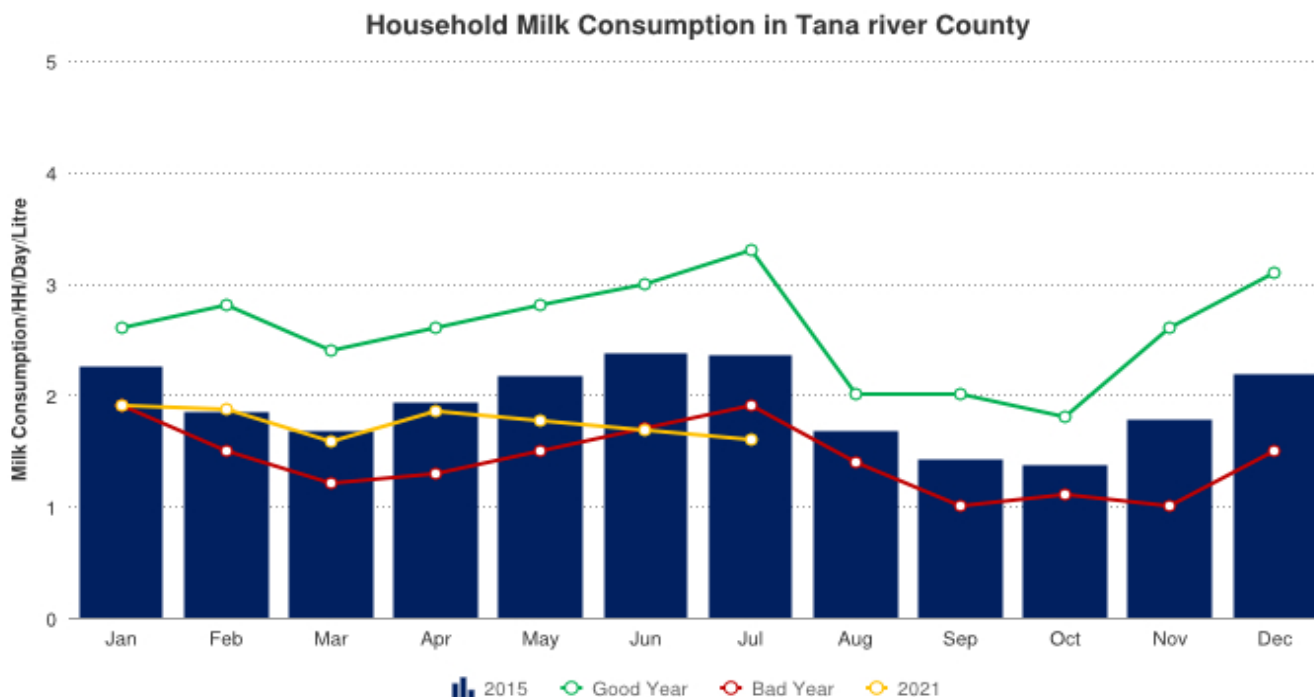
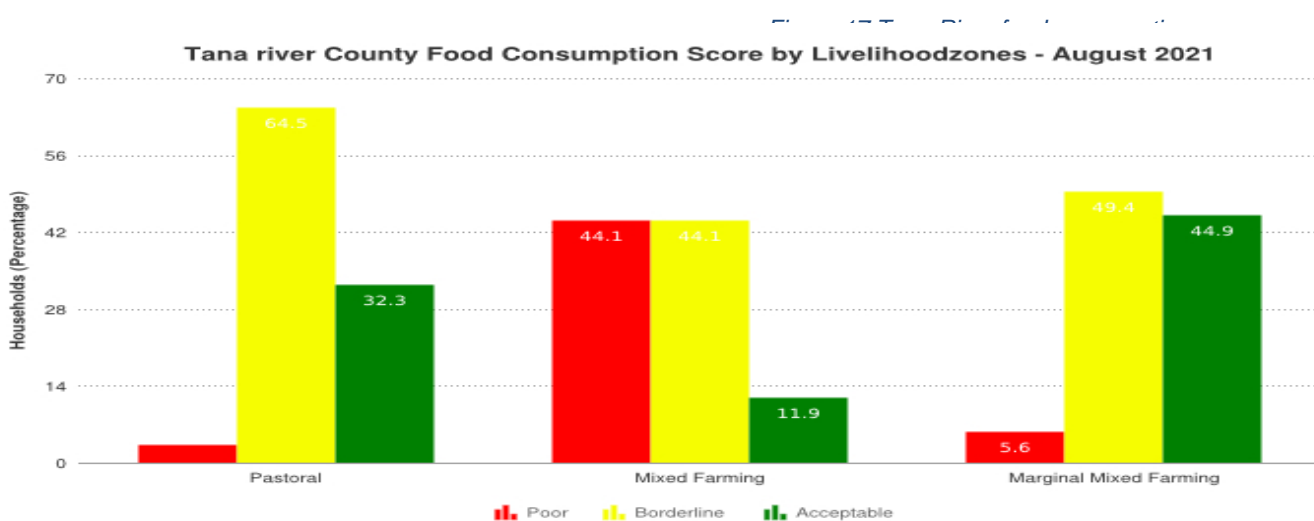


Fig. 16.

5.1.2. Food Consumption Score



There was higher proportion of households with poor food consumption gaps in Mixed Livelihood zones and Marginal mixed livelihood zones ,(44.1%) and (5.6%).Attributed to high food prices, lower purchasing power, crop failure, below average milk and crop production.

The proportion of households with borderline food consumption score were high in Pastoral and Marginal mixed livelihood zones at 64.5% and 49.4% respectively, lower in Mixed farming livelihood zones at 44.1%.

A proportion of 44.9% of households in marginal mixed livelihood zones have acceptable food consumption score while 32.3% in Pastoral livelihood zones have acceptable food consumption score respectively.

5.1.3 Health and Nutrition Status

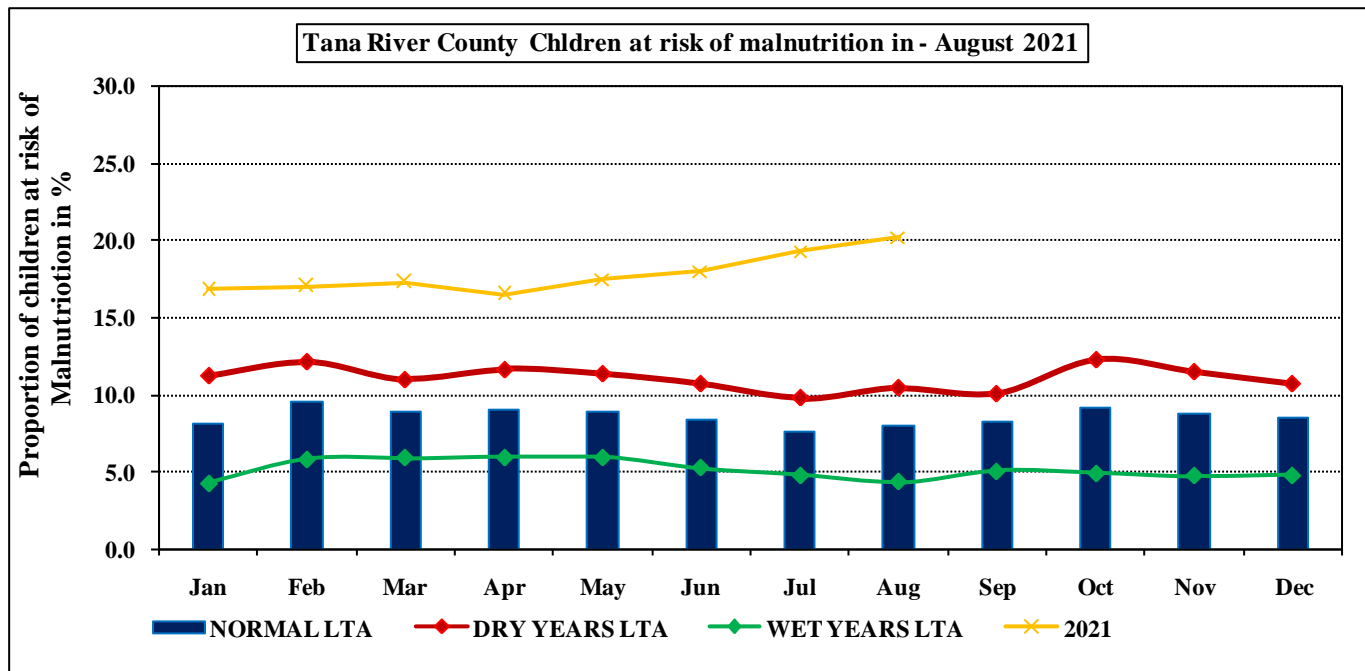


Fig.18.

- The proportion of sampled children under five years of age at risk of malnutrition increased to 20.2% compared to the previous month at 19.3%. This is attributed to decrease in milk production and consumption at household levels more so within Pastoral and Marginal Mixed livelihood Zones. High cases of malnutrition recorded in Pastoral livelihood zones.

5.2. Health

- Water borne diseases and Upper Respiratory Tract Infection (UTI) is the leading disease followed by diarrhoea and malaria in all the sub counties. No outbreak of disease or unusual diseases was reported in Jan-Jun 2021. Majority of women in the pastoral livelihood zones reported cases of Urinary Tract Infections (UTI) in all the sites visited. Most facilities in the county are located along the riverine, where the distance to the health facility in some areas is less than five km.

5.3. COPING STRATEGIES

Coping Strategy Index

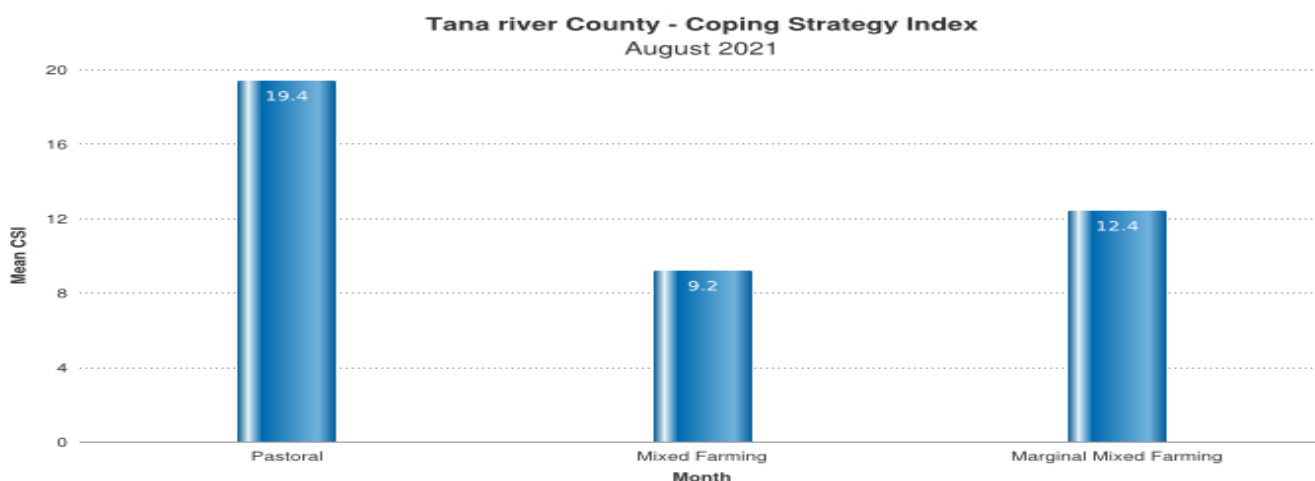


Fig.19:Tana River Coping Strategy Index

The average coping strategy index increased to 13.52 in August 2021 compared to last month. Meaning more households experienced stress to access food and water given the prevailing conditions. This might have been due to biting drought effects since February.

Households in Pastoral livelihood zones employed most coping strategies at 19.4 followed by Marginal mixed at 12.4. The mixed farming livelihood zones employed least coping mechanisms at 9.2.

6. CURRENT INTERVENTION MEASURES.

6.1 Non-food interventions

- Support of livestock farmers through registration of livestock farmers through indexed based livestock insurance by CISP.
- Land reclamation for fodder production and distribution of pasture seeds in Garsen central and Garsen South by CISP and Nature Kenya
- Rehabilitation of water structures(bore hole in Hurara)by CISP/WVK
- Support of modern agriculture through home and school kitchen garden technology by CISP
- Distributions of farm inputs to farmers in Tana North-by CWW
- Distribution of dignity kits to floods affected households(325hhs) in Tana North by Aldef
- Peace initiatives in marginal mixed and mixed livelihood zones by CISP/TPRD
- WASH and covid 19 awareness supported by MOH/WVK/WC/GAA/PGI/KRCS/SAMARITAN and Partners.
- support on irrigation infrastructure for minor irrigation schemes prioritised by the county through WFP/WVK
- Support of extension services by departmental technical officers to boost food production by WFP/Aldef/KRCS.
- Integrated outreaches in hard to reach areas and provision of medical supplies to MOH supported by CWW/UNICEF/WVK/WC/KRCS.
- Capacity building of health workers on maternal ,infant and young children nutrition-WVK
- Covid cushioning cash transfer targeting 10,000 household and 15 CHVs by GoK/Aldef(1000 shillings weekly)
- Vaccination of livestock in Matanya,bula salama,rhoka and kumbi villages-by GAA
- Construction of class rooms and installation of water harvesting structures-by GAA
- Distribution of farm inputs to farmers in Tana Delta by Nature Kenya.

6.2 Food Aid

- Distribution of pulses, cereals and vegetable oil to 5,833 beneficiaries in all sub counties across Tana River by WFP/KRCS(sfsp)
- Normally, total number of schools benefiting from SMP are 178 out of which 22,768 are boys while 21,574 are girls.School meals programmes(SMP)still not available to primary schools after re-opening.

7.0 .EMERGING ISSUES

7.0.1.Insecurity/Conflict/Human Displacement

- Resource based conflicts due to early migration of livestock to fall back grazing areas, resource based conflicts has been reported in Tana Delta areas of Mnazini and Kipini east ward where 28 herds of cattle were chopped off and one person killed.
- Human wild life conflicts reported in Sala,Nanighi,Saka,Kipini,Chara and Kilelengwani.
- **Hot spot areas with water and food stress are:**
 - **Tana North;** Walгаа,Kbc,Mombasa Junction,Yakirit,Bisangersa,Tula,Bultobanta,Elrar,Kamagur,Abakik,Kaabso,Diid,Hamares,Balle Neka,Miti Boma,Biole,Dukanotu,Kotidimu,Shilil village,Sukelekona village,Wayamaoro,Gelmad Village,Dolola Garse village, komora dukub village,Labiyarow village,Woles Kambi in Bangale ward,Sala Ward and Chewele.
 - **Tana River(Galole)**-Lakole,Wayu,Waldena,Kinakomba,Hara,Haroresa,Chifiri
 - **Tana Delta**-Assa, Assa-Kone,Hurara,IDI,Chirfa, Onjila,Dase,Odoganda,Kilelengwani,Kipini,Matangeni,Ozi,Mpeketoni and Kau sub-locations,

7.0.2. Migration - limited to migrations of persons.

Livestock migration (Cattle and Camels) was reported towards Tana Delta sub county in Mixed farming livelihood zones of Kipini, Chara, Kilelengwani locations in Kipini East, Kipini West, Garsen North and Garsen Central. The early migration was attributed to reduced availability of water and fodder. The main migration routes were Bura – Chifiri –Haroresa- Assa; Bura – Chifiri – Haroresa – delta; Bangale – Titla – Waldena-Assa and Bura – Hola – Wenje – Delta. The migrations have resulted in resource based conflicts and tension among farmers and pastoralists especially in Kipini, Kilelengwani, Maziwa, Sera, Ozi, Mitiboma, Biagadud, Chara and Hurara. Given the poor conditions of forage and water resources, influx of livestock from other region is expected to continue in the county until the October to December short rains season.

7.0.3. Food Security Prognosis

The County's food security prognosis for the next six months is based on the following assumptions:

- According to June-July- August weather outlook from the Kenya Meteorological department, the July to August 2021 rains season in bimodal areas of Kenya is most likely to be below average within the coastal strip, this most likely might be the same scenario with the OND outlook.
- Based on the below average long rains performance and under production during the short rains of 2020 and long rains of 2021, food commodity prices in general and specifically cereal prices in the county are likely to increase above the long term average prices up to end of August.
- According to projections by the Tana River County Livestock Department, livestock productivity is likely to remain below-average due to unfavourable body conditions in the next three months driven by below-average forage and water resources
- Based on the trends of long-term price from NDMA bulletin, the goat prices are likely to remain below the long-term average and the terms of trade are likely to reduce considerably below the LTA for the next three months.
- Forage and water resources are expected to be below normal until the September when the short rain start. Migrations towards the fall back grazing fields expected in the next three months.
- Given the current surge in COVID-19 infections, the current movement restriction are likely to remain in place for the next three months negatively impacting on household income and food access.

7.0.4. Phase Classification

According to recently conducted food security assessment report, Pastoral and Marginal mixed livelihood zones are classified under stressed Phase (IPC Phase 3), Mixed livelihood zones are classified under stressed Phase (IPC Phase 2). During the month most wards in Tana North did not received any amount of rains, This has since triggered negative impacts on biophysical indicators hence affecting most livelihoods but this is expected to change for the worse with the current drought. According to the long rains food security assessment report, Approximately 63,188 people were in urgent need of food assistance, this number might triple based on the fact that the long rains season has failed.

8.0 RECOMMENDATIONS

8.1.1. General Recommendations:

- a) Slaughter destocking highly recommended
- b) Commercial off-take for livestock.
- c) Implementation of Covid-19 response plans by Ministry of Health and partners .
- d) Provision of water treatment chemicals to address issues of increasing water borne diseases.
- e) Provision of clean water to areas with water stress more so Pastoral and Marginal mixed Livelihood zones.
- f) Enhance security surveillance and peace Barazas in hot spot areas of Tana Delta and Tana North.
- g) Enhance integrated outreaches in hard to reach areas across all the sub-counties more so in flood affected areas.
- h) Upscaling of food aid to the population in need in Tana North, Tana River and Tana Delta sub-counties.
- 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 supplementary livestock feeds to affected livestock farmers with weak livestock.

8.1.2.PROPOSED RECOMMENDATIONS(LRA-2021)

Immediate interventions							
Agriculture Sector							
Sub County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
TANA RIVER	All wards	Provision of assorted inputs	6500 HH	Department of Agriculture and Stakeholders	Technical experts (Agricultural Officers) Funding from the County or other Stakeholders	Technical Experts	2021-2022
Tana River	All wards	Provision of Irrigation Water pumps	1500 HH	Department of Agriculture and Stakeholders	Technical experts (Irrigation Eng. & Officers)	Technical Experts	2021-2020
Tana North	ALL	Provision of Assorted certified seeds-maize, rice , green grams and vegetable.	6000	Department of agriculture and other stakeholders		Technical skills	2021/2021
Tana Delta	Kipiniwest,Kipinieast,garsentral,Garsensouth,GarsenNorth,Garsen west	Registration of famers	12,000 farmers	TRCG, NDMA	DSA	Staff	4 months
					Fuel	Farmers	
					Staff		
					Farmers		
					Stationery		
Tana Delta	Kipiniwest,Kipinieast,garsentral,Garsensouth,Garsen North	Irrigation water pump sets/kits	2800 farmers	TRCG, NDMA, WFP, World Vision, ADS-Pwani, KCSAP, Nature Kenya	Funds Human capital	Human capital	4 months
Tana Delta	Kipiniwest,Kipinieast,garsentral,Garsensouth,Garsen North	Provision of planting package targeting one acre per farmer(seed, fertilizer and chemical)	2000 farmers	TRCG, NDMA, WFP, World Vision, ADS-Pwani, KCSAP, Nature Kenya, PGI,	Funds Human capital	Human capital	6 months
Medium term/Long Term interventions							
Sub County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Tana River	All Wards	Rehabilitation of establishment of new Solar	3000 HH	Dept. of Agriculture and	Technical Experts	Techni	2020 - 2022

		powered irrigation schemes		other stakeholders	Funding from County or Other Stakeholders	Technical Experts	
Tana North	Chewele, Madogo, Sala, Hirimani	Provision of solar-powered water pump sets & accessories; and revival of schemes		Department of agriculture and other stakeholders		Technical skills	2021/2022
Tana Delta	Garsen North, Garsen South and Kipini East	Rehabilitation of three minor irrigation schemes (kitanga, wema, hewani and oda)	3200	KCSAP, WFP, TRCG	Funds Human capital	Human capital	2 years
Tana delta	Garsen central	Upgrading and jump starting Tanariver mango marketing cooperative society plant at Garsen	3400 farmers	KCSAP, WFP, TRCG	Funds Human capital	Human capital	2 years

Livestock Sector Recommended Interventions

County	Sub County	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Tana River	All	Rangeland management training	10,000	Livestock dept,	Extension staff	Extension staff	March – June 2020
				Other stakeholders	Fuel		
					Finances		
Tana River	All	Upscaling of Fodder production conservation and seed bulking	1,000 Households	County dept of livestock	*100 acres of irrigable land	*Qualified extension staff	Apr – Aug 2022
				Other partners	*Water source		
					*Pasture seeds		
					*Hay harvesting equipment		
					*fodder stores		
	All	Upscaling of feedlot fattening of beef animals	10000	Livestock dept, KCSAP and other stakeholders	*100 acres of irrigable land	*Qualified extension staff	Apr – Aug 2022
					*Water source		
					*Pasture seeds		

					*Hay harvesting equipment		
					*fodder stores		
		Upscaling of the livestock insurance	10000	Livestock dept and other stakeholders			

Education Sector Recommended Interventions

Sub-county	Intervention	Location	Number of beneficiaries	Implementers	Impact in terms of food security	Time frame	
All	Provision of clean water	3 sub-counties	57018	MOE/TRCG	Easy to prepare school meals; clean drinking water	Immediately	
All	Mobilisation of out of school children back to school	3 sub-counties	6870	UNICEF,MOE	Increased enrolment in schools ; improved literacy levels	Immediately	
Tana River sub-county	WASH facilities	Tana River sub-county	3200(16 schools)	CISP, other partners	Improved hygiene levels; good health	Immediately	
All	Construction of infrastructure	3 sub-counties	57018	MOE/NGCDF/TRCG/NGOs	Increased institutional capacity to admit more learners ; social distancing	Immediately	
All	Provision of masks, sanitizers, thermos-guns	3 sub-counties	178 primary schools and 32 secondary	MOE/TRCG/OTHER PARTNERS	Protection against COVID-19	immediately	

				schools				
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Health Sector recommended Interventions

Immediate Recommended Interventions

Sub County/Ward	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Time Frame
Madogo, Bangali, Sala, Chewele, Hirimani, Wayu, Kinakomba and Garsen W Wards.	Undertake integrated medical outreaches in hard to reach areas of the County			MOH	3,200,000	Jul-Dec
				UNICEF		
				World Concern		
				World Vision		
Madogo, Bangali, Sala, Chewele, Hirimani, Wayu, Kinakomba, Garsen W, Garsen N, Garsen S Kipini E and Kipini W wards	Upscaling disease surveillance			TRCG-MOH	500,000	Jul-Dec
				KRC		
				KANCO		
TANA DELTA	Implement Family MUAC			MOH	3,900,000	Jul-Dec
				UNICEF		
				World Concern		
				World Vision		
SUB TOTAL					7,600,000	

Medium and Long term Recommended Interventions

Sub County /Ward	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Time Frame
Madogo, Bangali, Sala, Chewele, Hirimani, Wayu, Kinakomba and Garsen W Wards.	Promote Agri-Nutrition Activities amongst the MtMSGs and Farmer Groups			WFP,ADS-PWANI	3,500,000	Jul-Dec
Madogo, Bangali, Sala, Chewele, Hirimani,	Promote high nutrition Value crops-Orange Fleshed Sweet Potatoes, High Iron Beans			WFP/WHH/P GI	4,800,000	Jul-Dec

Wayu, Kinakomba and Garsen W Wards.							
SUB TOTAL					8,300,00 0		

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.
Recovery: 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
	> +1.5 or 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	
	≥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.