



A Vision 2030 Flagship Project



National Drought Management Authority Tana River County Drought Early Warning Bulletin for January 2022

JANUARY EW PHASE	Early Warning Phase Classification			
 Drought Status: NORMAL Shughuli za kawaida	LIVELIHOOD ZONE	EW PHASE	TRENDS	
<p>Drought Situation & EW Phase Classification Drought Phase: NORMAL</p> <p>Biophysical Indicators</p> <ul style="list-style-type: none"> Biophysical indicators are showing positive trends towards expected seasonal ranges. Below average amount of rainfall were received in the month of January 2022. The January Vegetation Condition Index values for Tana North-Bura, Galole and Tana river sub-county are above normal and indicating normal vegetation conditions for the county by January 2022. The Water levels in most water pans were above normal at 4-5(45%-80%) across all livelihood zones. <p>Socio Economic Indicators (Impact Indicators)</p> <p>Production indicators:</p> <ul style="list-style-type: none"> The forage condition is fair to good in pastoral and marginal mixed but good in mixed farming livelihoods in both quality and quantity. Improvement observed across all livelihood Livestock body condition is normal in mixed and moderate in marginal mixed and pastoral livelihood zones. Milk production is above average in Pastoral and marginal mixed livelihood zones. This is attributed to improved forage and pasture conditions. Livestock have migrated towards the traditional grazing fields of Pastoral and Marginal mixed livelihoods. <p>Access indicators</p> <ul style="list-style-type: none"> Terms of trade on an improving trend but still below normal. Attributed to increasing prices of maize and decreasing goat prices due to market dynamics. Distances to water sources for households currently on a decreasing trend and below 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 decrease compared to normal. Copping strategy index for households is on a decreasing trend due to improvement in milk and crop production. 	PASTORAL	NORMAL	IMPROVING	
	MARGINAL MIXED	NORMAL	IMPROVING	
	MIXED FARMING	NORMAL	IMPROVING	
	COUNTY	NORMAL	IMPROVING	
	Biophysical Indicators	Value for the month Tana River	LTA-Monthly Tana River	Normal ranges Kenya %
	Average rainfall MM (%)	0.00 mm	65 mm	80-120
	VCI-3month	51.33		35-50
	% Of water in the water pan	4-5(45-80%)		5-6
	Production indicators			
			Value	Normal ranges
	Livestock Migration Pattern		Normal	Normal
	Livestock Body Condition		3-4	4-5
	Milk Production (Ltr /HH/Month)		5.2	3.61
	Livestock deaths (for drought)		No death	No death
	Access Indicators			
		Value	Normal ranges	
Terms of Trade (ToT)		69.2	>=72	
Milk Consumption (Ltr)		2.1	>=2.3	
Water for Households-trekking distance (km)		4.10	<=4.54	
Distances to grazing for livestock (km)		9.3	<=7.86 km	
Seasons production (90 kg bags)(by January 2022)		0.0(maize) 0.0(green grams)	LTA (51,804(bags) LTA (12,384(bags)	
Utilization indicators				
		Value	Normal ranges	
At Risk (%)		19.0%	<9.00%	
CSI		11.24%	<=15.0	

<ul style="list-style-type: none"> Short rains harvests Short dry spell Reduced milk yields 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:)

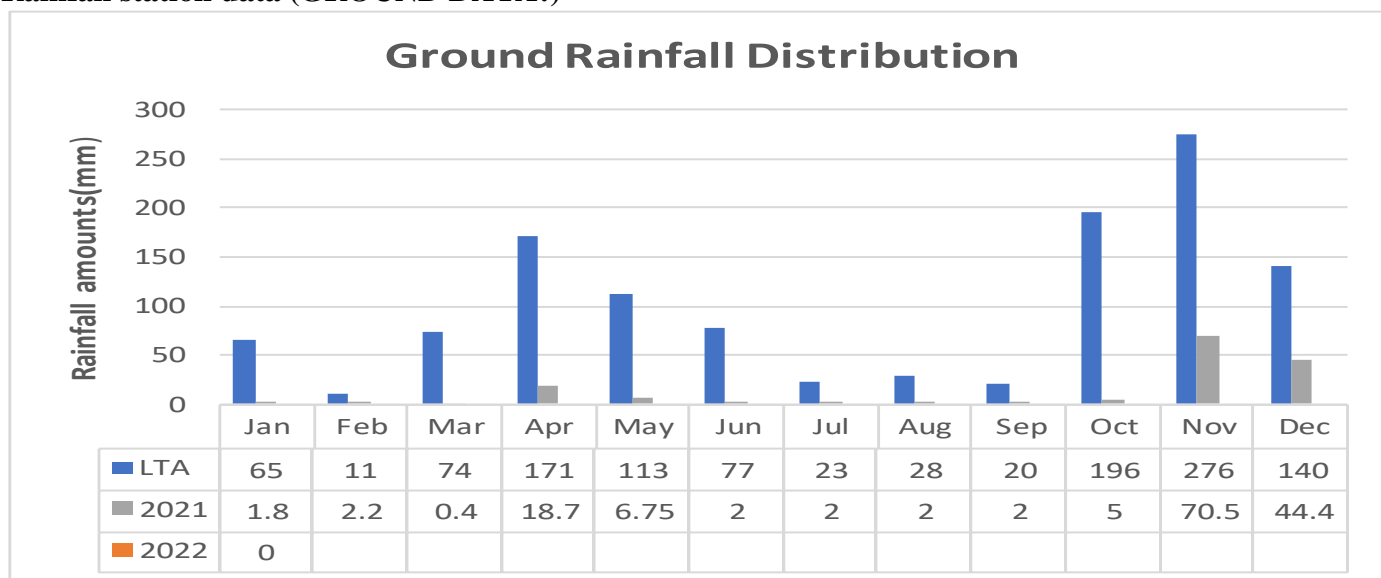
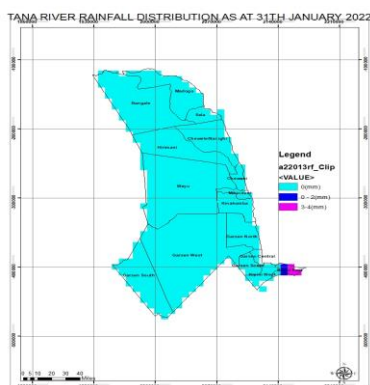


Fig .1.source: VAM-WFP

An average of 0.00 mm rainfall was recorded in January coupled with high temperatures. This is below the LTA of 65 mm. All wards did not receive any amounts of rainfall during the month.

1.2.RAINFALL TEMPORAL AND SPATIAL DISTRIBUTION



In the month of January, on average 00.00 mm of rainfall was received in Tana North(Bura), 00.00 mm received in Galole sub-county and 00.00 mm received in Tana Delta(Garsen) respectively. 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 January 2022.

Fig.2.source: Continental Africa Dekadal DEF

1.3. TEMPERATURES

1.3.1. LAND SURFACE TEMPERATURE (LST)

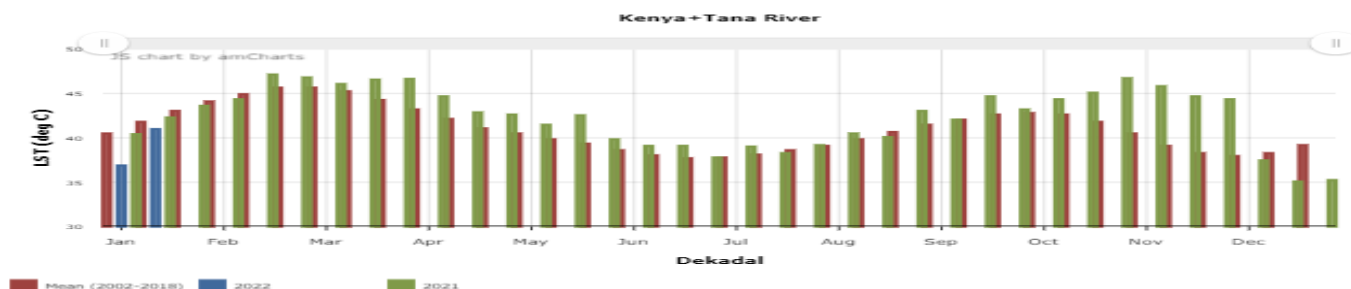


Fig.3.source: LST-C6

The January 2022 land surface temperature (LST) values for Tana River County increased to 41.02°C by the 2nd dekad of January 2022, which is below normal (41.83°C) at this time of the year.

2.1. IMPACTS ON VEGETATION AND WATER

2.1.1. VEGETATION CONDITION INDEX (VCI)

The January vegetation cover for Tana River County shows Normal vegetation conditions for the county across the three sub-counties (Bura ,Tana Delta and Galole) attributed to heavy rains received in the month of December 2021. All sub-counties are currently experiencing normal vegetation conditions.

COUNTY	Sub County	VCI as at 31s January 2022	VCI as at 31 st December 2021	
TANA RIVER	County	51.33	19.14	Vegetation conditions experienced in the county still depleted. All sub counties are still in drought mode.
	Bura	41.13	15.44	
	Galole	56.21	18.98	
	Garsen	56.93	28.06	

Fig.4. Source BOKU

The information provided above reflects Tana River County is in normal drought phace across the three sub-counties, with the heavy showers received towards the end of December,the vegetation cover improved.

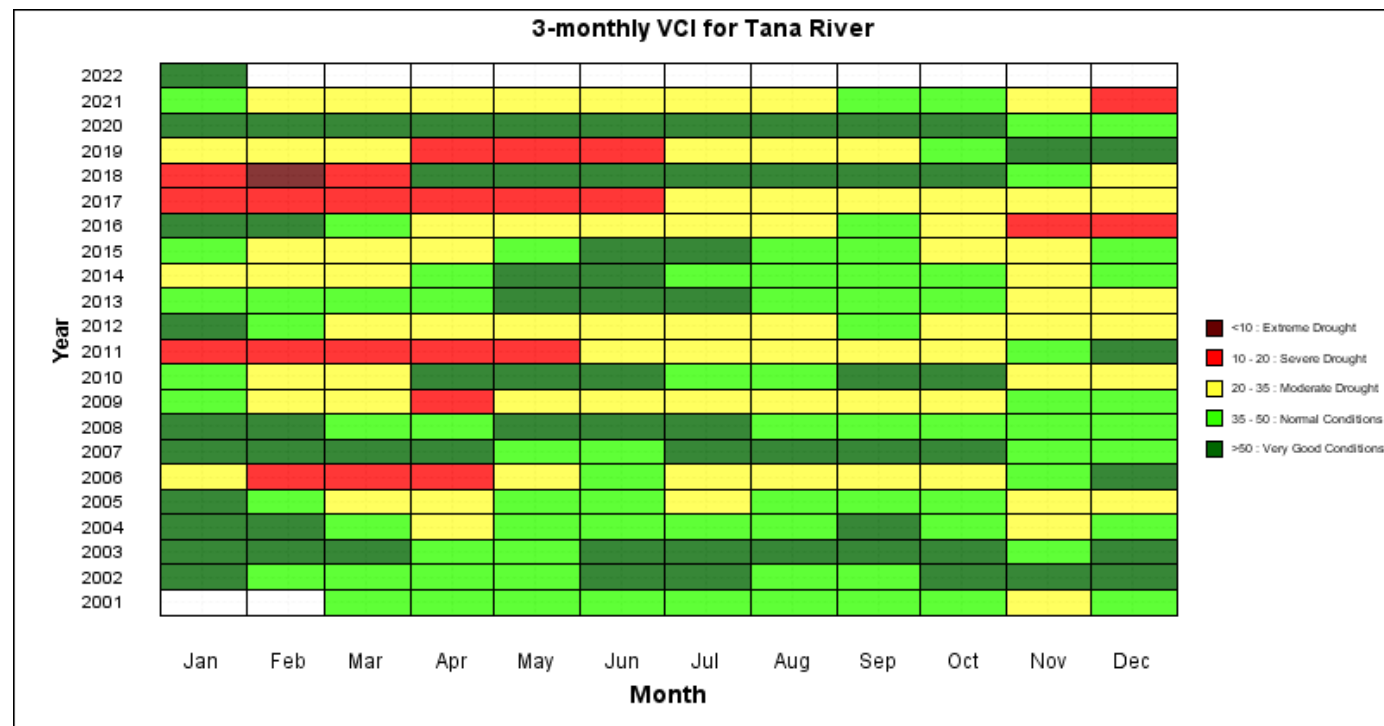


Fig.5.Source BOKU

In January 2022 the vegetation cover for Tana River County was at 51.33, which indicates normal drought conditions. In comparison to the previous month the current vegetation cover has improved in quantity and quality.

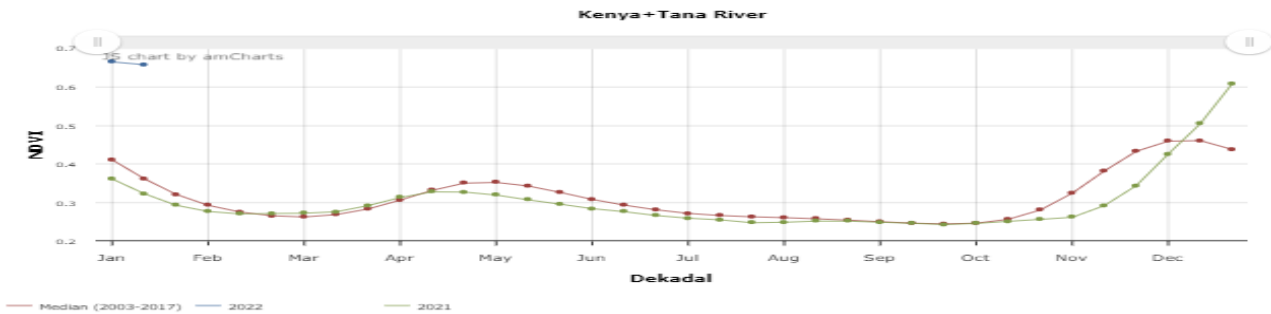


Fig.5.Source: NDVI-C6

The NDVI for Tana River County is currently showing increasing trend in January 2022(0.66) which is above the LTA (0.41). This is attributed to heavy showers received during the month of December 2021.

2.1.2.Pasture

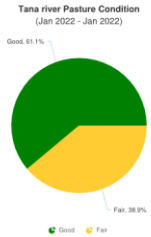


Figure 6:Tana River pasture conditions

The pasture condition is good to fair in quantity and quality across all livelihood zones. This is attributed to heavy showers received during the month of December, pasture conditions is expected to deteriorate in the coming weeks with high influx of livestock from North eastern. The current pasture is expected to last for one month in Pastoral and marginal mixed and two months in the Mixed farming livelihood zones.

2.1.3.Browse



Figure 7: Tana River 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 less than two month in all livelihood zone.

2.2 WATER RESOURCE

2.2.1 Sources

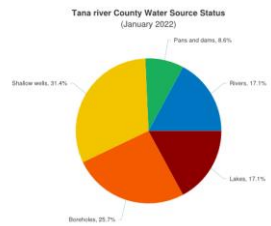


Figure 8:Tana River water sources

The main water sources for both livestock and human consumption across all livelihoods were shallow wells(31.4%),bore holes(25.7%), rivers and lakes(17.1%)pans and dams(8.6%).Bangale water pan at recharge level of about 55% of its full capacity. Currently water levels in most water pans and dams have improved but most are are still below average due to lack of enough rainfall. Water born diseases are on the decrease in pastoral livelihood zones.

The current water sources are expected to last for less than one months across all livelihood zones.

2.2.2 Household access and Utilization

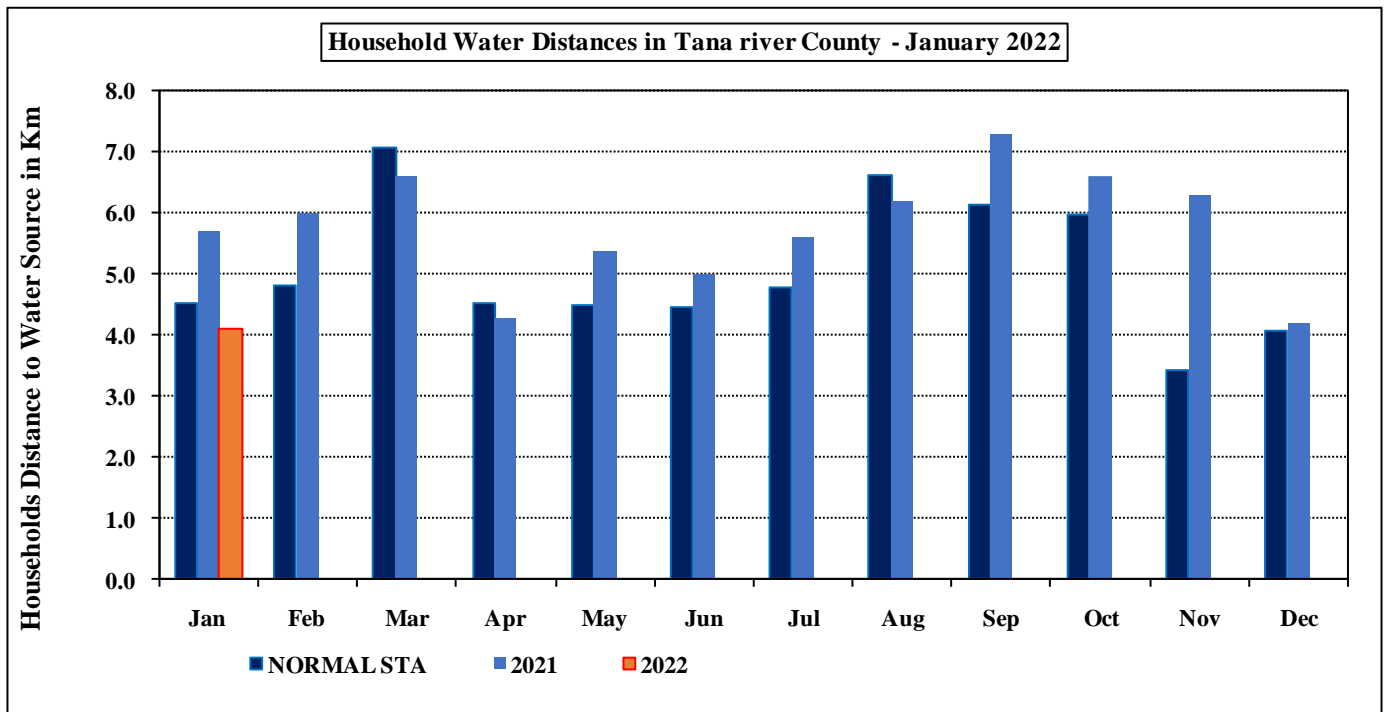


Fig.9.

- The households trekking distance decreased to 4.1 km. The current distance is below the Long-term average of 4.54 km. This is attributed to showers received towards the end of the month which led to recharge of some open water sources across the county.

2.2.3 Livestock access

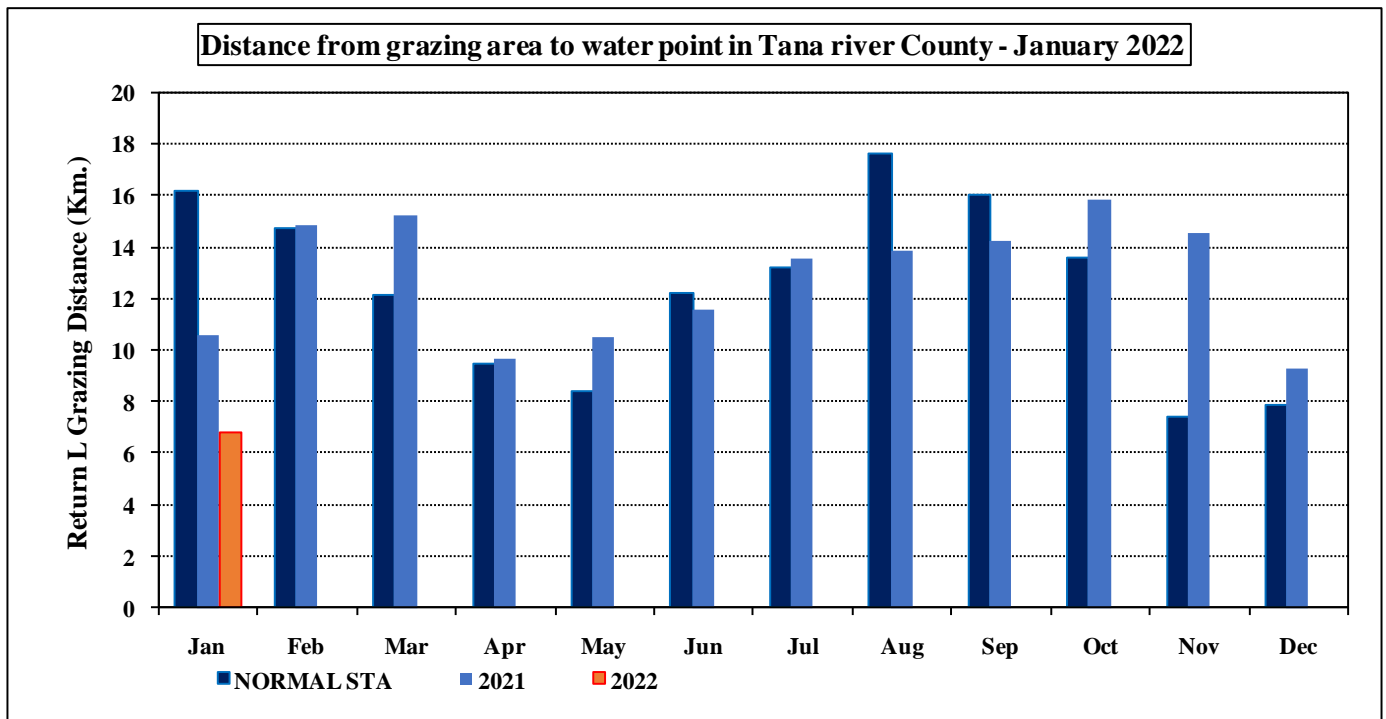


Fig.10.

- The return distance for livestock to grazing zones decreased to 6.8 km during the month attributed to the heavy showers received towards the end of the month of December 2021 which recharged most of the open water sources. Most of livestock herds are currently within the traditional grazing fields. The recharge levels in most open water sources within pastoral livelihood zones are on the decline and most livestock might start migrating toward fall back grazing fields by mid February.

3.0. PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- The livestock body condition was fair to good in Pastoral and Marginal mixed livelihood zones but good in Mixed livelihood zones. The situation was attributed to fair to good quality of pasture and browse. The heavy rains received during the month of December led to regeneration of pasture and browse, recharge of water reservoirs 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

- livestock diseases are on the decrease, 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 increased to 5.2 litres compared to the previous month. This is attributed to improved quality of pasture and browse across all livelihood zones and availability of water. Distances to water points have decreased across all livelihood zones.

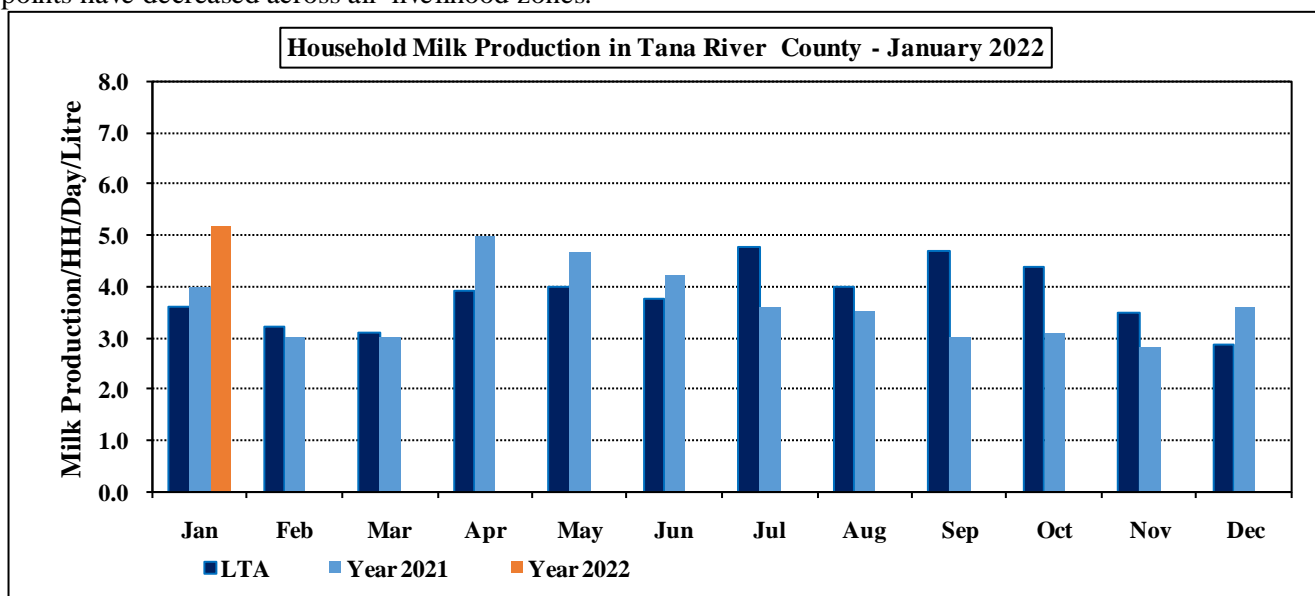


Figure 11

- In comparison to the long-term average of 3.61 litres; the current amount is above 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 short rains season are at flowering to knee high due to late planting by farmers. Most crops are experiencing moisture stress and at high risk of drying up before maturity.
- within the major irrigation schemes (Bura and Tana Irrigation Schemes) maize is at flowering stages

4. MARKET PERFORMANCE
4.1. LIVESTOCK MARKETING
4.1.1 Cattle Prices

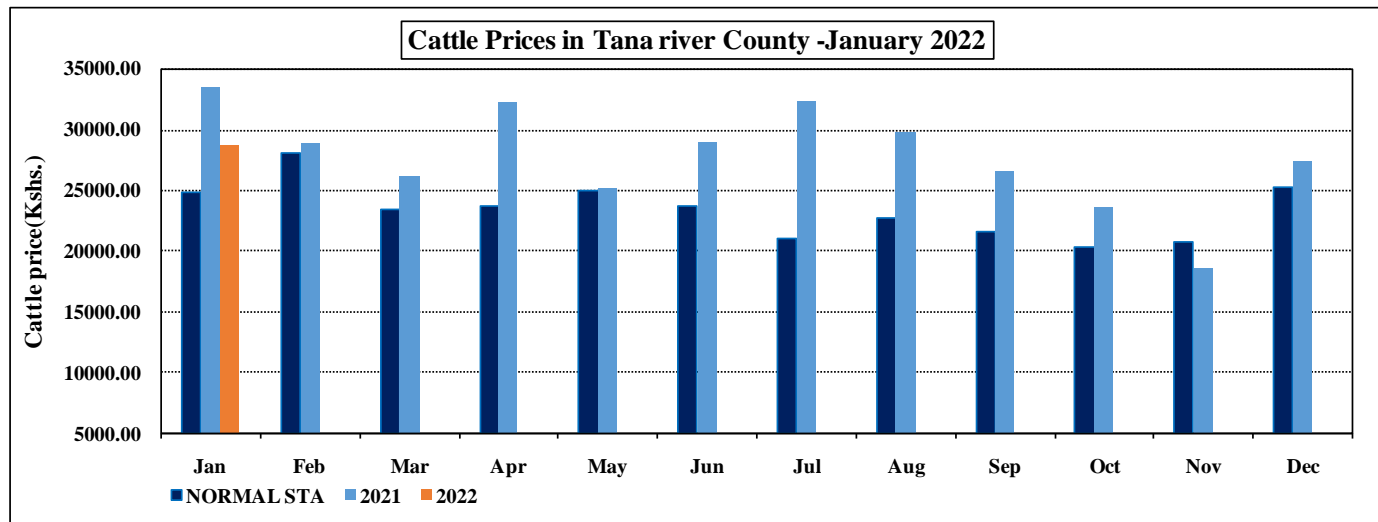


Fig.12.

- The average price for the medium sized cattle increased by 5% to Ksh.28, 667 in the reporting month as compared to Ksh.27,421 of the previous month. This is attributed to the improving body conditions in the current month triggered by regeneration of pasture and browse conditions. High cattle prices were reported in marginal mixed farming livelihood zones at Ksh.30,667 while least prices were recorded in mixed farming at Ksh.25,000.

4.1.2 Goat Prices

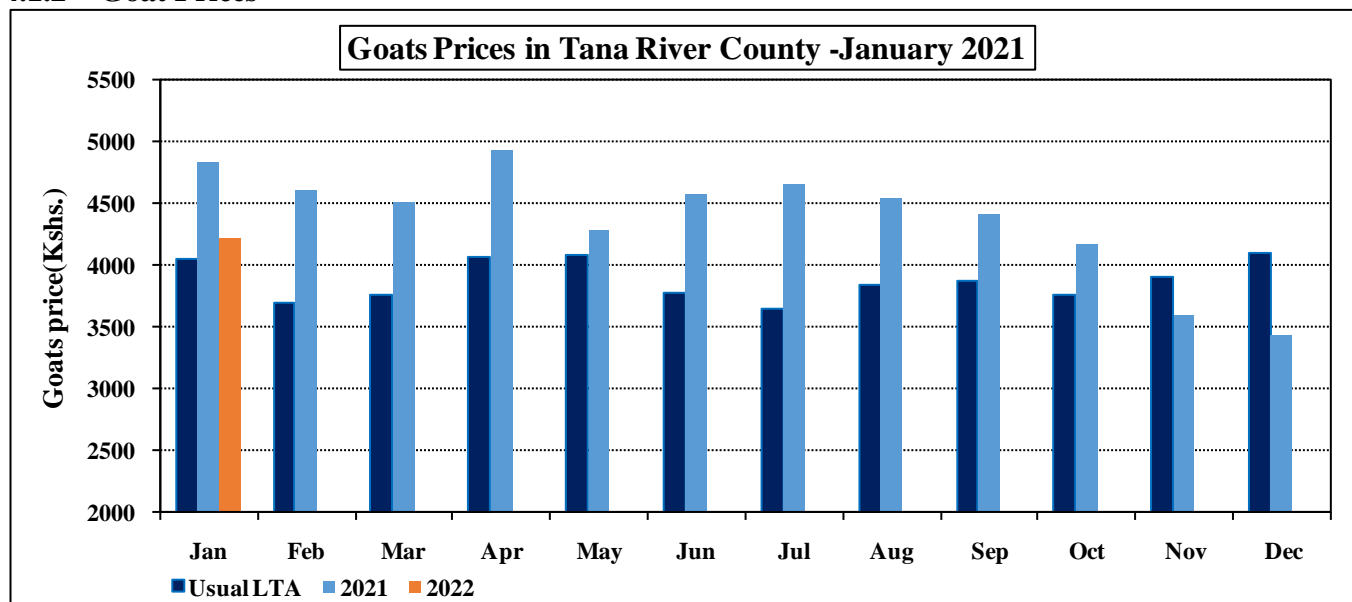


Fig.13.

- The average price of a goat increased by 23% to Ksh.4,228 as compared to previous month. This was attributed to improved body conditions thereby pushing the prices upwards.
- The average Goat prices were lowest in pastoral livelihood zones at Ksh. 4,033 and highest in Mixed farming at Ksh.4,500.

4.2. CROP PRICES

4.2.1 Maize

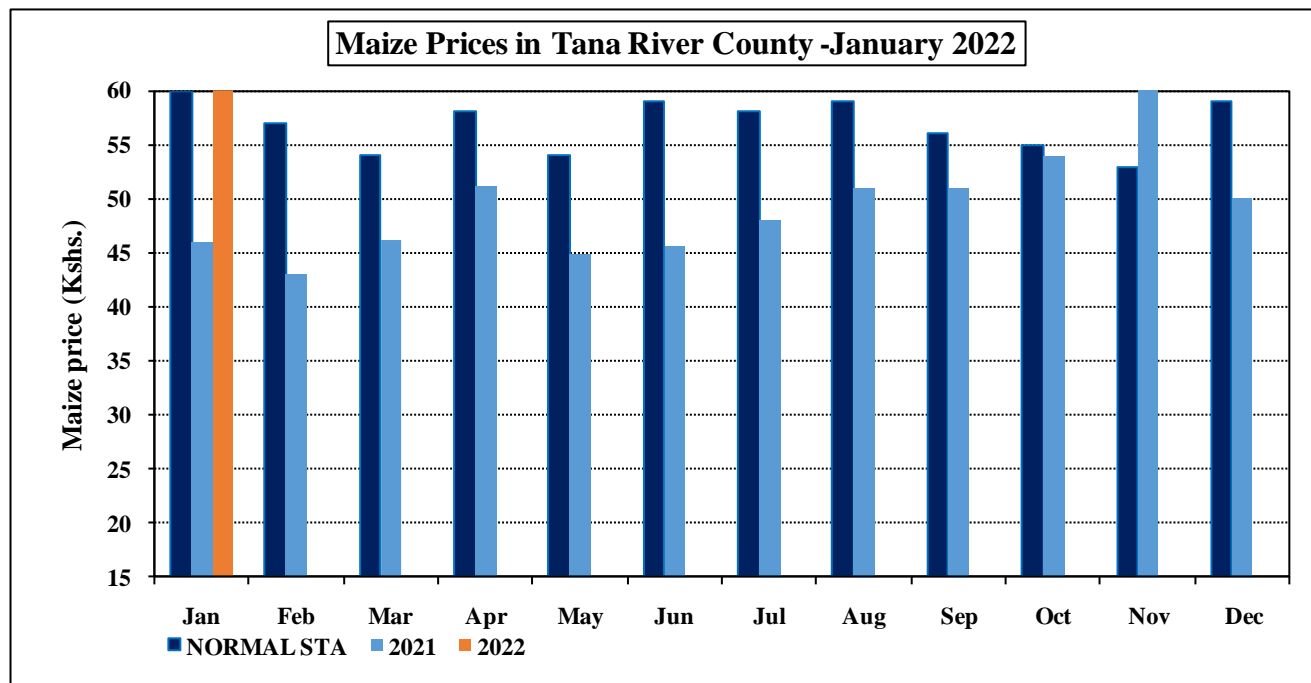


Fig.14.

- The average price for kilogram maize increased to Ksh.61 during the month compared to the previous month. This was attributed to scarcity of maize in the market due poor performance of the short rains. The prices were above normal at this time of the year compared to the long-term average. The prices were higher in Pastoral livelihood zones at Ksh.80 per kilogram on average and low in mixed livelihood zones at Ksh.52.

4.3. Livestock Price Ratio/Terms of Trade

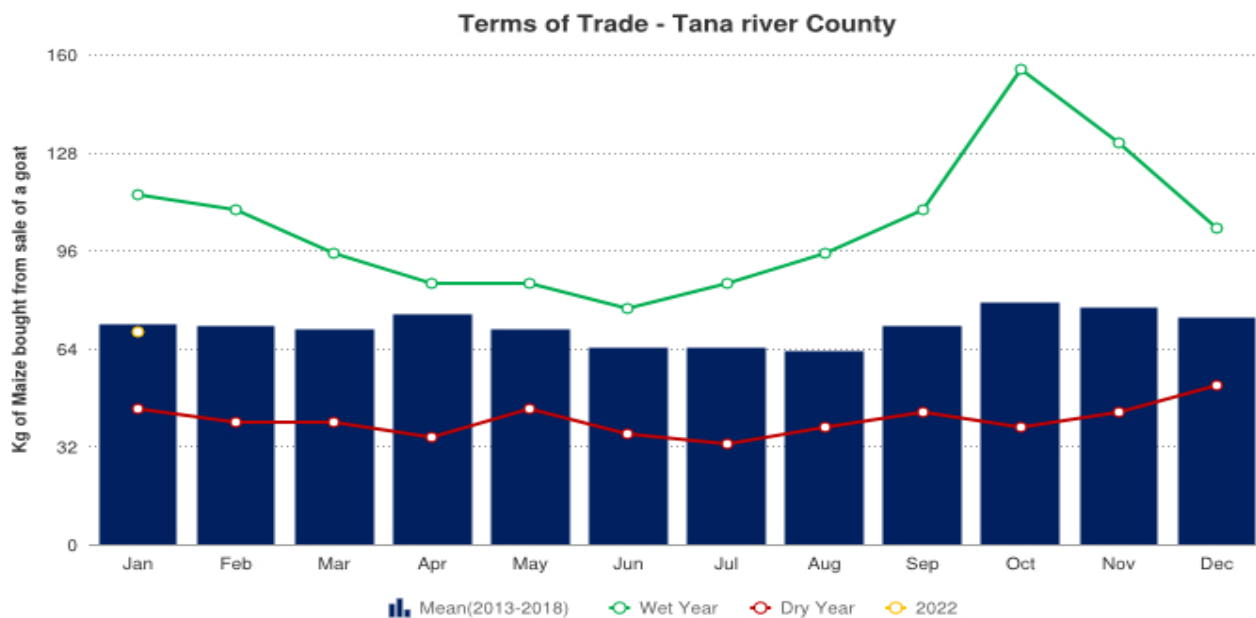


Fig .15.

- The terms of trade decreased from 78.9 in December 2021 to 69.2 during the month of January 2022.
- The current term of trade is below the long-term average. This is attributed to high prices of maize compared to goat in the market. Terms of trade are still favourable for the pastoralists in the current month at 53.8 which is still below normal at this time of the year.

5.1. FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1. Milk Consumption

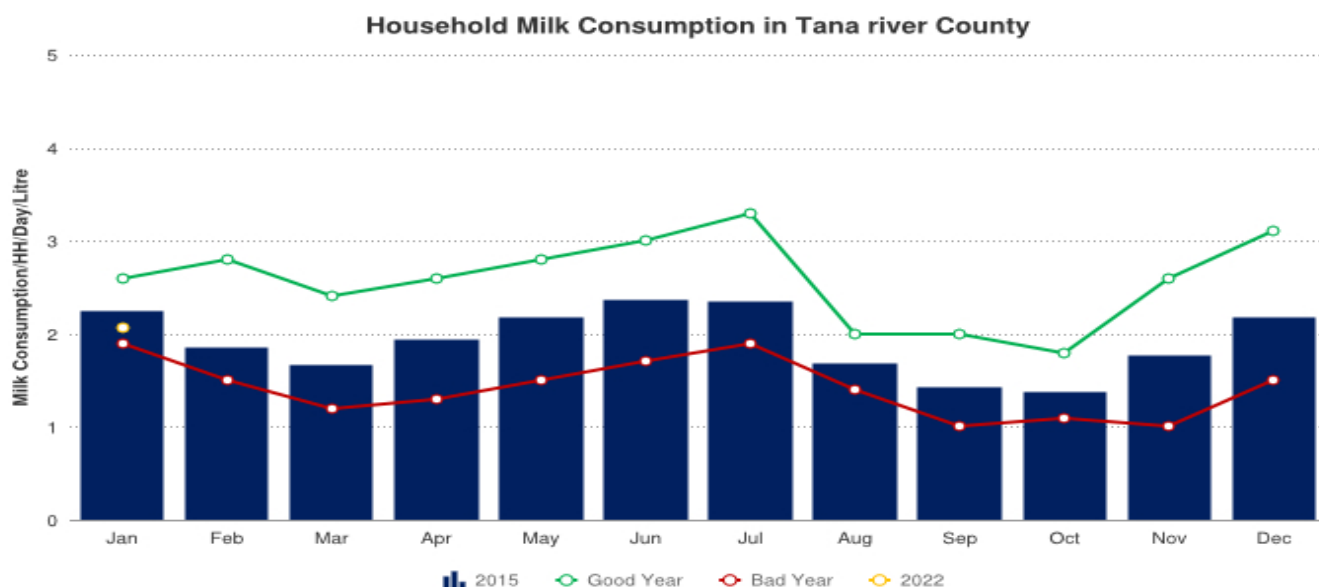
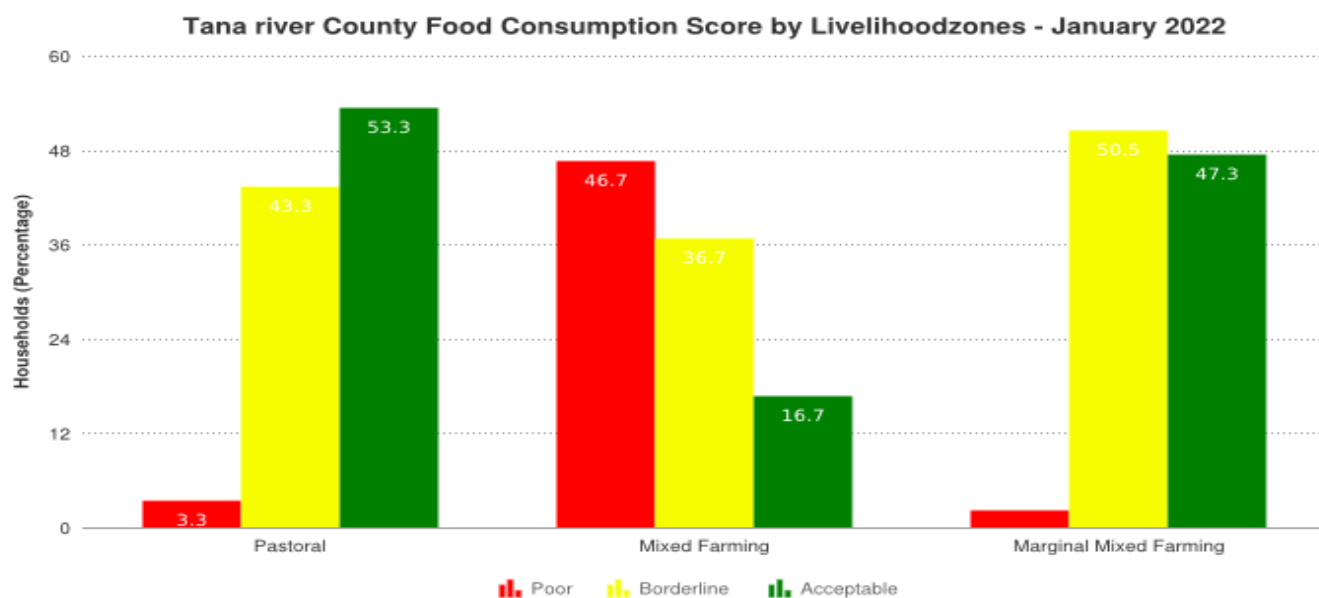


Fig. 16.

- The average milk consumption per household increased to 2.1 litres compared to the previous month.
- The amount consumed is below the long term average at this time of the year.

5.1.2. Food Consumption Score



There was higher proportion of households with poor food consumption gaps in Mixed farming Livelihood zones(46.7%) and lowest in Marginal mixed livelihood zones(2.2%).Attributed to high food prices, lower purchasing power, crop failure, below average milk consumption and crop production.

The proportion of households with borderline food consumption score were high in Marginal mixed and Pastoral livelihood zones at 50.5% and 43.3% respectively.

A proportion of 53.3% of households in pastoral livelihood zones have acceptable food consumption score.

5.1.3 Health and Nutrition Status

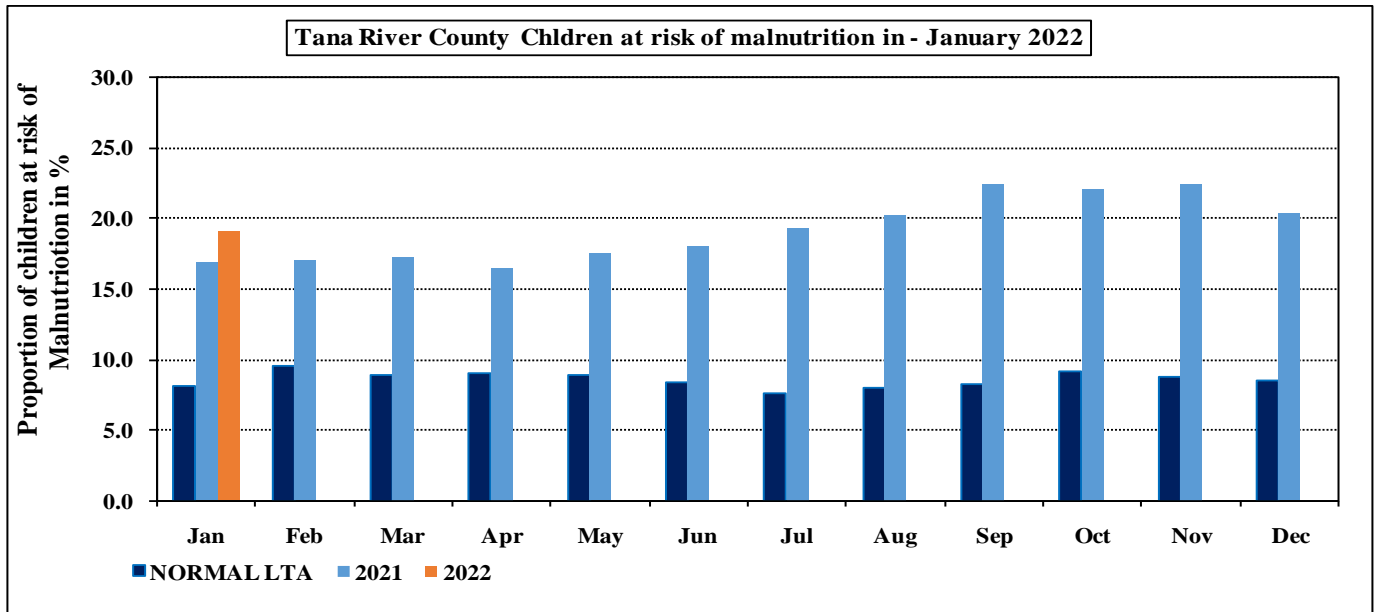


Fig.18.

- The proportion of sampled children under five years of age at risk of malnutrition decreased to 19.0% compared to the previous month at 20.4%. This is attributed to improvement in milk production and consumption at household levels and availability of vegetables. 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 Jan2022. 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

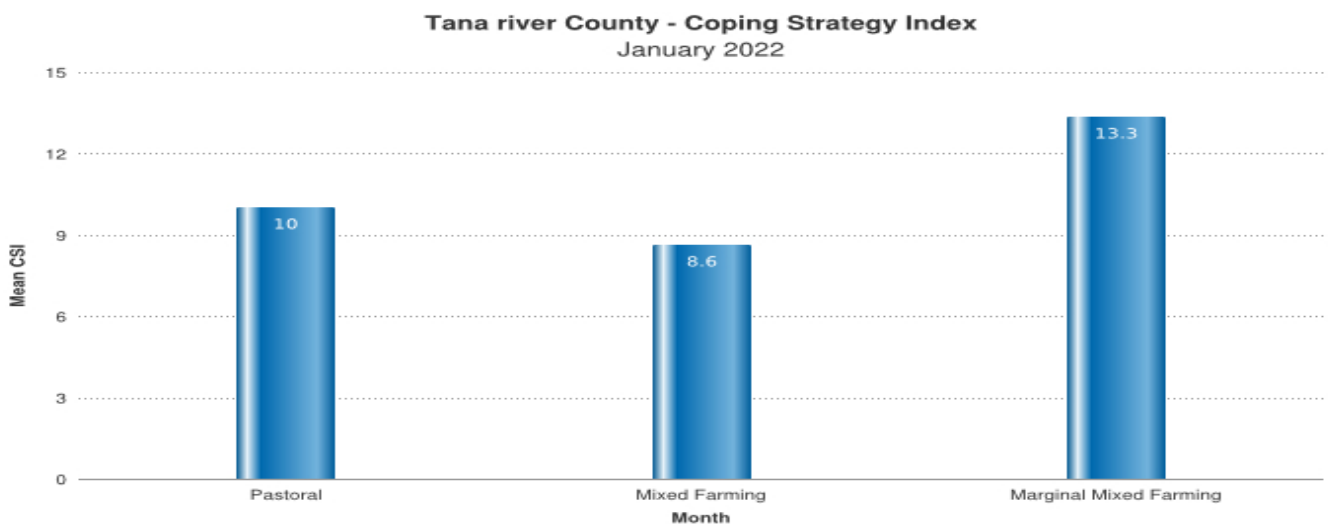


Fig.19:Tana River Coping Strategy Index

The average coping strategy index decreased to 11.24 in January 2022 compared to last month. Meaning less households experienced stress to access food and water given the prevailing conditions. This might have been due to the rains received which led to improvement of crop and livestock production.

Households in Marginal mixed livelihood zones employed most coping strategies at 13.2 followed by pastoral livelihood zone at 10.0. The mixed farming livelihood zones employed least coping mechanisms at 8.6.

6. CURRENT INTERVENTION MEASURES.

6.1 Non-food and food interventions

6.1.1 World Vision Tana River

- Distribution of Cash assistance to 1300 most drought affected households
- Integrated health outreaches - mass screening in ten (10) hard to reach sites in Tana North to identify and treat malnourished children
- Training of farmers on Pre-Post Harvest Management (PPHM)
- Completed and handed over Idsowe water project to County Government (water department)
- Hygiene promotion Campaigns Targeting over 1000HH both Tana Delta and North sub-county
- Sensitization of pregnant and lactating mothers with Maternal Infant and Young Child Nutrition (MIYC) messaging and COVID 19 sensitization. 397 PLWs reached.

6.1.2 Kenya Redcross Tana River(Krcs)

- Food distribution to 5,813HHs across the county through sustainable food systems supported by KRCS and WFP(Bulley,beans,pulses and Vegetable oil).
- Livestock off-take for 687 cattle byNG through KRCS and KMC.

6.1.3 German Agro Action Tana River(GAA)

- Support farmers in Galole with farm inputs(Bananas,Mangoes,Oranges and tangerine seedlings)
- Support ministry of health to do nutrition surveillance through integrated outreaches in Galole and Tana North
- (Hara,Koticha,Matagala,Kesi,Lakole,Halgamisa,Mwanja,Musurujani,Kaloleni,Mitic hiraka)

6.1.4 County Government Tana River

- Water trucking across the county
- Livestock feeds distribution across the county targeting 4600 bags
- Distribution of water storage facilities.

6.1.5 World Food Programme(WFP)

- Sustainable food systems across the county targeting 35,000 people
- Provision of nutrition commodities for treatment of moderate acute malnutrition across the county.
- Assets creation for resilient livelihoods.
- Support on extension services for both agriculture and livestock.
- Provision of farm inputs to enhance production.

6.1.6 National Drought Management Authority

- Support integrated outreaches in 15 hard to reach areas through the ministry of health in Tana North and Tana river .
- Mass registration of cash transfer beneficiaries across the county.

6.1.7 Interior(Office Of The County Commissioner

- Distribution of food to the three sub-counties (1500 bags of Rice 50kg,500 bags per sub-county,600 bags of beans,200 bags per sub-county).
- Carry out Pease initiatives across the county.

6.1.8 Concern World Wide

- Active case finding and referral for malnutrition in 15 villages in Tana North; 3 in Tana River and 6 in Tana Delta.

- Logistical facilitation for farmer extension services across the three sub counties.
- Irrigation canal access for 900 acres benefitting 946 farmers.
- Distribution of drought tolerant seeds to 67 farmers in Tana North .
- Training of 50 health workers on Integrated management of acute malnutrition.
- Training of 54 health workers and CSOs (Curriculum support officers) on hygiene promotion in the context of COVID-19

6.2.0 . Plan international

- Provision of Therapeutic RTU commodities to health facilities for under five children who are malnourished for the next 5 months.

6.2.1. Church World Service.

- Provision of relief food to 15,000 people for the next 4 months by Church World Service.

6.2.2. Islamic Relief.

- Unconditional Cash Transfer by Islamic Relief –K in the Sub-County targeting 1,200 HHs.
- Constructions of classrooms to schools,

7.0 .EMERGING ISSUES

7.0.1.Insecurity/Conflict/Human Displacement

- Human wild life conflicts reported in Sala, Nanighi, Saka, Kipini, Chara and Kilelengwani.
- Increase in prices of the essential commodities as a result of increase in fuel prices.
- Mild floods previously reported within marginal mixed livelihood zones of mororo, nanighi, majengo and Wenje.
- Increase tension in Tana Delta as a result of frequent terror attacks.

7.0.2. Migration - limited to migrations of persons.

80% of Livestock have migrated (Cattle and Camels) back to traditional grazing fields due to light showers received in those areas but 30% of livestock are still within the fall back grazing fields within mixed livelihood zones. There were cases of livestock mortalities within the mixed livelihood zones due to depleted pasture and browse.

7.0.3 Food Security Prognosis(effects on food security outcomes)

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

- According to OND weather outlook from the Kenya Meteorological department, the October to December 2021 rains season in bimodal areas of Kenya is most likely to be below average within the coastal strip.
- Based on the below average long rains performance and under production during the short rains of 2021 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 May.
- High cases of malnutrition cases expected in the next three months. Attributed to below average crop and livestock production and lower purchasing power.
- Forage and water resources are expected to be below normal until March when the long rain start. Migrations towards the fall back grazing fields expected in the next one months which might lead to cases of resource based conflicts within mixed livelihood zones.
- More households likely to have poor Food consumption score in the one to two months given the poor performance of the short rains, below average purchasing power, below average crop and livestock production.

- More households across all livelihood zones expected to apply irreversible coping strategies in the next three months in order to survive. Attributed to below average crop and livestock production and below average purchasing power due to poor performance of the short rains.

7.0.4. Phase Classification

According to recently conducted short rains food security assessment report, Tana river county has remained in stressed phase(IPC Phase 2) with a possibility of progressing to Crisis phase(IPC Phase 3) if the onset of the long rains is delayed. All livelihood zones are currently classified in stressed phase(IPC Phase 2). The estimated population in urgent need of food assistance in Tana North and Tana delta is estimated to be 30-35 percent of the population,while population in need of urgent food assistance in Tana river sub county is estimated to be 25-30 percent of the poppulation.

8.0 RECOMMENDATIONS

8.1.1. General Recommendations:

- a) Restocking highly recommended
- b) Implementation of Covid-19 response plans and regulations by Ministry of Health and partners .
- c) Provision of water treatment chemicals to address issues of increasing water borne diseases.
- d) Provision of clean water to areas with water stress more so Pastoral and Marginal mixed Livelihood zones.
- e) Enhance security surveillance and peace Barazas in hot spot areas of Tana Delta and Tana North.
- 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) Installation of hand washing kits to existing schools in preparation for re-opening of schools.
- i) Provision of storage facilities to help farmers store their long rains harvests to control destruction by pests.
- j) Mass vaccination and treatment of migrating herds to control the spread of livestock diseases.
- k) Provision of supplementary livestock feeds to affected livestock farmers with weak livestock.
- l) Provision of farm inputs to farmers within mixed farming and marginal mixed livelihood zones.

8.1.2.PROPOSED RECOMMENDATIONS(SRA-2021)

County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Agriculture							
Tana river	All wards	Provision of Assorted farm inputs and tractors hire	5000	Department of agriculture and Stakeholders	Funding from the County	Technical experts	2020-2022
Tana River	Chewele, Madogo, Sala, Hirimani	Assorted relief seeds- maize, rice, green grams		-Department of agriculture GAA -Concern Worldwide, ADS Pwani, World Vision.		Technical skills	2022
Tana River	Chewele, Madogo, Sala, Hirimani	Effective locust invasion control		Department of agriculture and FAO	Chemicals Equipment	Technical skills	2022
Tana river	All wards	Rehabilitation and Establishment of new irrigation schemes	3000HH	Dept. of Agriculture	Funding from the County	Technical Experts	2020-2022
Livestock							
Tana River	Entire county	Entire co Fodder production and conservation to form a feed reserve unity	5,000 HH	Livestock	Land for irrigation Grass seeds Labour	Extension staff	Feb2022- Feb2023
Tana River	Entire county	Entire count Strengthening of grazing management committees to manage grazing resources	10,000 HH	Livestock -Pastoral community -sub county administrators -Internal security dept	Fuel Allowances Grazing control Act	Extension staff	Feb2022- Feb2023
Health and nutrition							
Tana river	Bangali, Sala, Chewele, Hirimani , Wayu, Kinakomba	Undertake integrated medical outreaches		MOH UNICEF World Concern World Vision KRCS	3,200,000	Technical Staffs	March-Jul
Tana river	Madogo, Bangali, Sala, Chewele	Upscaling disease surveillance		TRCG-MOH KRC KANCO	500,000	Technical staffs	March-Jul
Tana river	Tana Delta	Implement Family MUAC		MOH UNICEF	2,500,000	Technical Staffs	March-Jul

		2 CUs		KRCS			
Tana river	Wayu, Kinakomba, Chewani, Mikinduni	Protection Ration		TRCG/Plan International/CRS	4,800,000	Technical staffs	March-Jul
Tana river	Wayu, Kinakomba and Garsen W Wards.	Promote Agri-Nutrition Activities amongst the MtMSGs and Farmer Groups		WFP, ADS-PWANI	3,500,000	Technical Staffs	Jul-Dec
Tana river	Hirimani, Wayu, Kinakomba and Garsen W Wards.	Promote high nutrition Value crops- Orange Fleshed Sweet Potatoes, High Iron Beans		WFP/WHH	4,800,000	Technical staffs	Jul-Dec

Education

Tana River	Assa, Bangale, Dukantuu Wayu Waldena Chiffiri Chewele	Provision of clean water and school meals programmes to 16 pry and 8 Early Years Education centers	8522 pupils	MOE TRCG WHH WFP	2.9M	0	Immediate
Tana River	all	Borehole drilling,	213 schools, 92449 pupils	Partners, NGOs MOE TRCG	106.5 million	0.00	Immediately
Tana River		Construction of 534 classrooms	178 schools, 82811 pupils	MOE/NGCDF/TRCG/NGOs	373.8 million	0.00	Immediately

Water Sector

Immediate recommended Interventions

Sub County/Ward	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Tana River/Chewani	Stock piling of water treatment chemicals (pur and aquatabs) and household water storage facilities e.g. jerricans	N/A	10,000	TRCG, GOK, CWWDA and other development partners	Funds Transport vehicles Technical Staff	Technical staff	OCT-JAN

Tana River/Chewani	Purchase and distribution of plastic (PVC) and collapsible water tanks	N/A	10,000	TRCG, GOK, CWWDA and other development partners	Funds Transport vehicles Technical Staff	Technical staff	OCT-JAN
Tana River/Wayu	Operationalization of Boreholes	Titila, Konekaliti, Waldena, Wayu Boro	6,000	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS & SPARE PARTS/FITTINGS TECHNICAL STAFF	TECHNICAL STAFF	OCT-JAN
Tana delta sub county/Garsen west	Rehabilitation of shallow wells	Assa	2,500	TRCG, CWWDA and other development agencies	Funds, fittings, spare parts and technical staff	Technical staff	OCT-JAN
Tana delta sub county/Garsen south	Rehabilitation of shallow wells	Wachuda	6000	TRCG, CWWDA and other development agencies	Funds, fittings, spare parts and technical staff	Technical staff	OCT-JAN
Tana delta sub county/Garsen west	Rehabilitation of shallow wells	Assa	2,500	TRCG, CWWDA and other development agencies	Funds, fittings, spare parts and technical staff	Technical staff	OCT-JAN
Tana North/Sala and Hirimani	BOREHOLE REPAIR AND OPERATIONALIZATION	HIRIMANI Mororo	5,800	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS & SPARE PARTS/FITTINGS TECHNICAL STAFF	TECHNICAL STAFF	OCT-JAN
TANA NORTH / MADO GO & SALA	Distribution of collapsible tanks, jerricans and HH water treatment chemicals e.g., pur/aquatabs	Mororo & Madogo locations	3,000	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS & SPARE PARTS/FITTINGS TECHNICAL STAFF	TECHNICAL STAFF	OCT-JAN
Medium and Long Term recommended Interventions							

Tana delta/G arsen west	Drilling of more boreholes within the sub-county	Shirikisho	20,000	TRCG, CWWDA and other development agencies	Drilling rig, funds, technical staff	Drilling rig and technical staff	Oct-jan
Tana delta/G arsen south. west	Harvesting of water using 300,000M ³	Shirikisho Assa	5,000	TRCG, CWWDA and other development agencies	Drilling rig, funds, technical staff	Drilling rig and technical staff	Oct-jan
Tana delta	Purchase and distribution of collapsible tanks, stock piling of water treatment chemicals (pur & aquatabs)	N/A	50,000	TRCG, CWWDA and other development agencies	Store, funds and technical staff	Technical staff	Oct-jan
Tana delta/G arsen west	Drilling of more boreholes within the sub-county	Shirikisho	20,000	TRCG, CWWDA and other development agencies	Drilling rig, funds, technical staff	Drilling rig and technical staff	Oct-jan
Tana River/Wayu Tana North/Bangale, Hirimani, Sala	De-silting and repair of Water Pans	Gofisa Kesi Hakoka Lakole Bangale Hirimani Sala-Areri	33,500	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	TECHNICAL STAFF	Oct-jan
Tana River/Kinakomba	Flushing, development and equipping of Strategic Boreholes	Haroresa	2,700	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	FUNDS FOR MACHINERY OPERATORS, FLUSHING & DEVELOPMENT MACHINERY, FUELS FOR MACHINERY, TECHNICAL STAFF	TECHNICAL STAFF FLUSHING MACHINERY	Oct-jan

Tana River/Wayu	Construction of 50,000m ³ - 100,000m ³ large water pans to harvest the excess run off	Wayu, Chifiri, Kesi	7,500	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	TECHNICAL STAFF	Oct-jan
Tana River/Kinakomba	Construction of 50,000m ³ - 100,000m ³ large water pans to harvest the excess run off	Haroresa,	2,700	COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	Technical Staff	Oct-jan
Tana River/Cross Cutting	Capacity Building of Technical officers and Community on Disaster Risk Management			COUNTY GOVERNMENT, GOK, NGOs & OTHER DEVELOPMENT PARTNERS	Funds Vehicles for mobility		Oct-jan

REFERENCE TABLES

Table 1: Drought Phase Classification

Normal	Alert	Alarm	Emergency
All environmental and 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.