



A Vision 2030 Flagship Project



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

FEBRUARY 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 still within normal ranges but on worsening trends out of expected seasonal ranges. No rainfall were received in the month of February 2022. The January Vegetation Condition Index values for Tana North-Bura, Galole and Tana river sub-county are above normal but on declining trend for the county by February 2022. The Water levels in most water pans were above normal at 4-5(45%-75%) 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 poor in pastoral and marginal mixed but fair to good in mixed farming livelihoods in both quality and quantity 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 available forage and pasture conditions. Livestock migrations towards the fall back grazing fields have been observed during the month. <p>Access indicators</p> <ul style="list-style-type: none"> Terms of trade on an improving trend. Attributed to increasing prices of goat and decreasing maize prices due to market dynamics. Distances to water sources for households currently on a increasing 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 increase compared to previous month. Copping strategy index for households is on increasing trend due high food prices and lack of enough food at household level. 	PASTORAL	NORMAL	WORSENING	
	MARGINAL MIXED	NORMAL	WORSENING	
	MIXED FARMING	NORMAL	WORSENING	
	COUNTY	NORMAL	WORSENING	
	Biophysical Indicators	Value for the month Tana River	LTA-Monthly Tana River	Normal ranges Kenya %
	Average rainfall MM (%)	0.00 mm	11 mm	80-120
	VCI-3month	62.11		35-50
	% Of water in the water pan	4-5(45-75%)		5-6
	Production indicators			
			Value	Normal ranges
	Livestock Migration Pattern		Normal	Normal
	Livestock Body Condition		3-4	4-5
	Milk Production (Ltr /HH/Month)		4.1	3.23
	Livestock deaths (for drought)		No death	No death
	Access Indicators			
		Value	Normal ranges	
Terms of Trade (ToT)		76.7	>=72	
Milk Consumption (Ltr)		1.7	>=1.9	
Water for Households-trekking distance (km)		6.5	<=4.84	
Distances to grazing for livestock (km)		10	<=14.73 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 (%)		20.0%	<10.00%	
CSI		13.18%	<=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:)

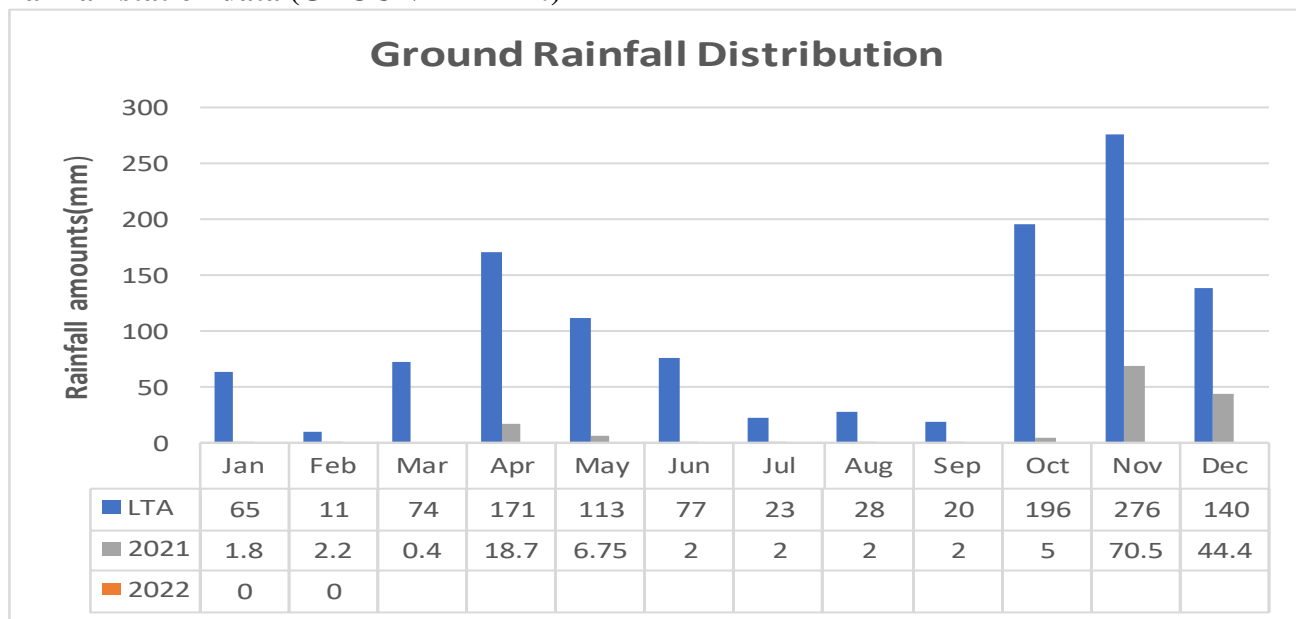
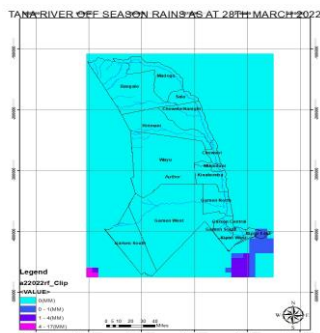


Fig .1.source: VAM-WFP

An average of 0.00 mm rainfall was recorded in February coupled with high temperatures. This is below the LTA of 11 mm. All wards did not receive any amounts of rainfall during the month.

1.2.RAINFALL TEMPORAL AND SPATIAL DISTRIBUTION



In the month of February, 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 amount of rainfall by 28 February 2022.

Fig.2.source: Continental Africa Dekadal DDE

1.3. TEMPERATURES

1.3.1. LAND SURFACE TEMPERATURE (LST)

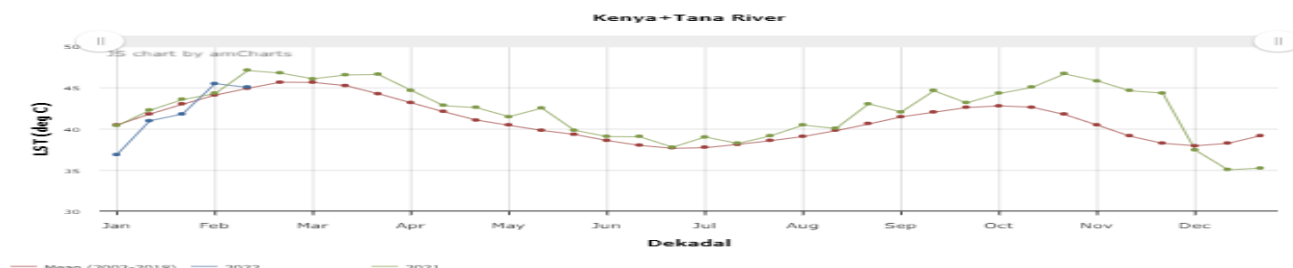


Fig.3.source: LST-C6

The February 2022 land surface temperature (LST) values for Tana River County increased to 45.05°C by the 2nd dekad of February 2022, which is normal (44.95°C) at this time of the year.

2.1. IMPACTS ON VEGETATION AND WATER

2.1.1. VEGETATION CONDITION INDEX (VCI)

The February 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 28 th February 2022	
TANA RIVER	County	51.33	62.11	Vegetation conditions experienced in the county still normal but depleting.
	Bura	41.13	52.73	
	Galole	56.21	65.54	
	Garsen	56.93	67.92	

Fig.4. Source BOKU

The information provided above reflects Tana River County is in normal drought phase across the three sub-counties, with the heavy showers received towards the end of December,the vegetation cover improved but currently on a worsening trend.

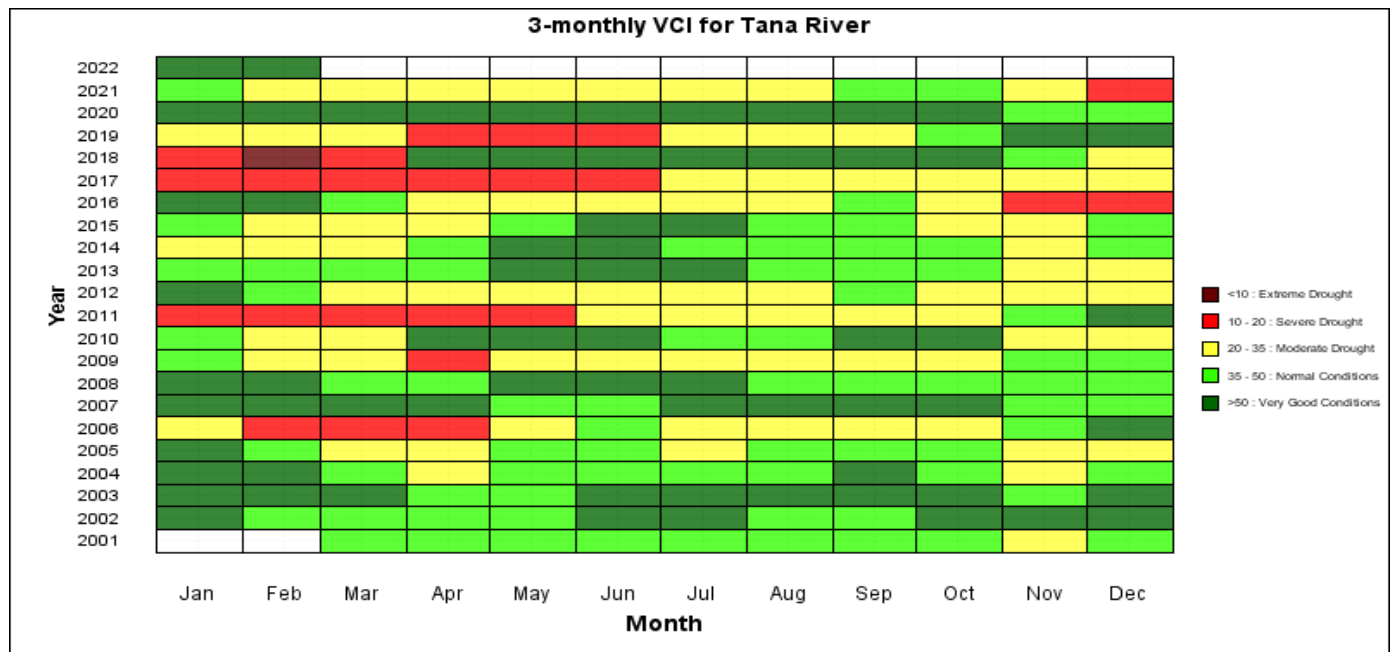


Fig.5.Source BOKU

In February 2022 the vegetation cover for Tana River County was at 62.11, which indicates normal drought conditions but on a decreasing trend. In comparison to the previous month the current vegetation cover has improved in quantity and quality.

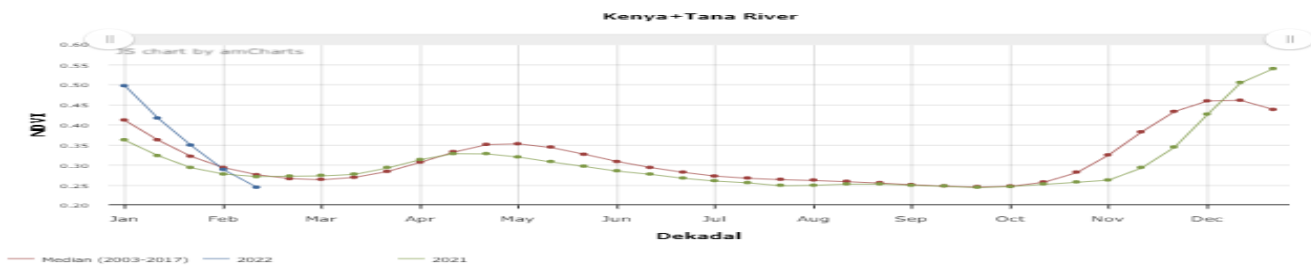


Fig.5.Source: NDVI-C6

The NDVI for Tana River County is currently showing decreasing trend in February 2022(0.24) which is below the LTA (0.28). This is attributed to high temperatures and evapotranspiration currently being experienced across all livelihood zones in the county.

2.1.2.Pasture

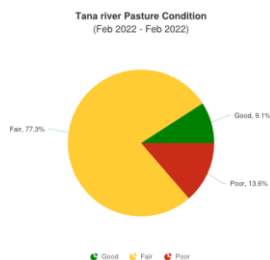


Figure 6: Tana River Pasture

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

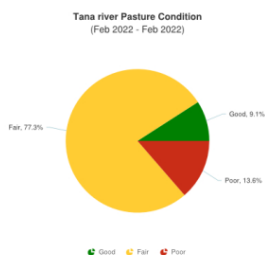


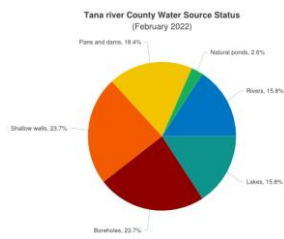
Figure 7: Tana River browse

The browse condition is fair to poor in quantity and quality in Pastoral livelihood zones, fair to good in Marginal mixed and mixed livelihood zones which is normal at this time of the year.

The available browse is expected to last for less than one month in all livelihood zone.

2.2 WATER RESOURCE

2.2.1 Sources



The main water sources for both livestock and human consumption across all livelihoods were shallow wells and bore holes(23.7%),Pans and dams(18.4%), rivers and lakes(15.8%).Bangale water pan at recharge level of about 45% 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 rainfall. Water born diseases are on the increase in pastoral livelihood zones.

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

Figure 8:Tana River water sources

2.2.2 Household access and Utilization

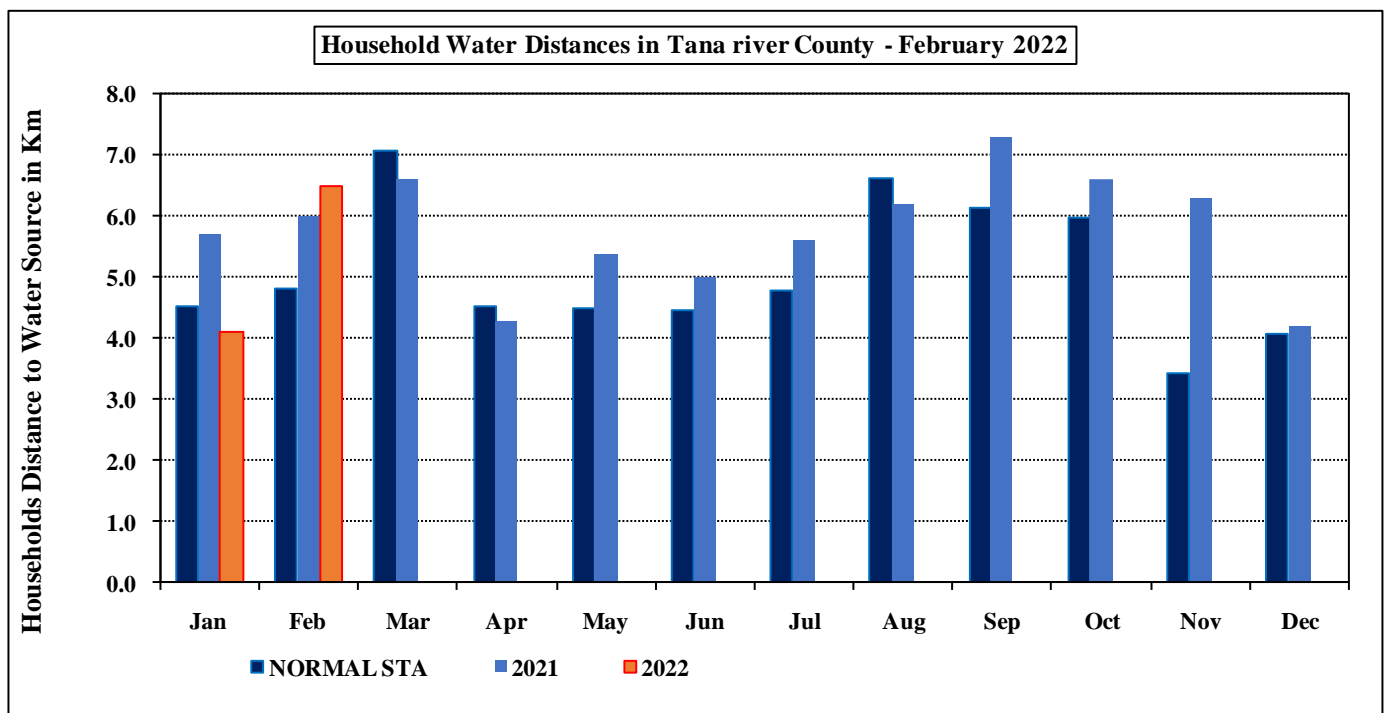


Fig.9.

- The households trekking distance increased to 6.5 km. The current distance is below the Long-term average of 4.8 km. This is attributed to lack of rains and high temperatures during the month that led to some water sources drying up and quality of water in some of them are not safe for drinking and therefore households prefer alternative sources.

2.2.3 Livestock access

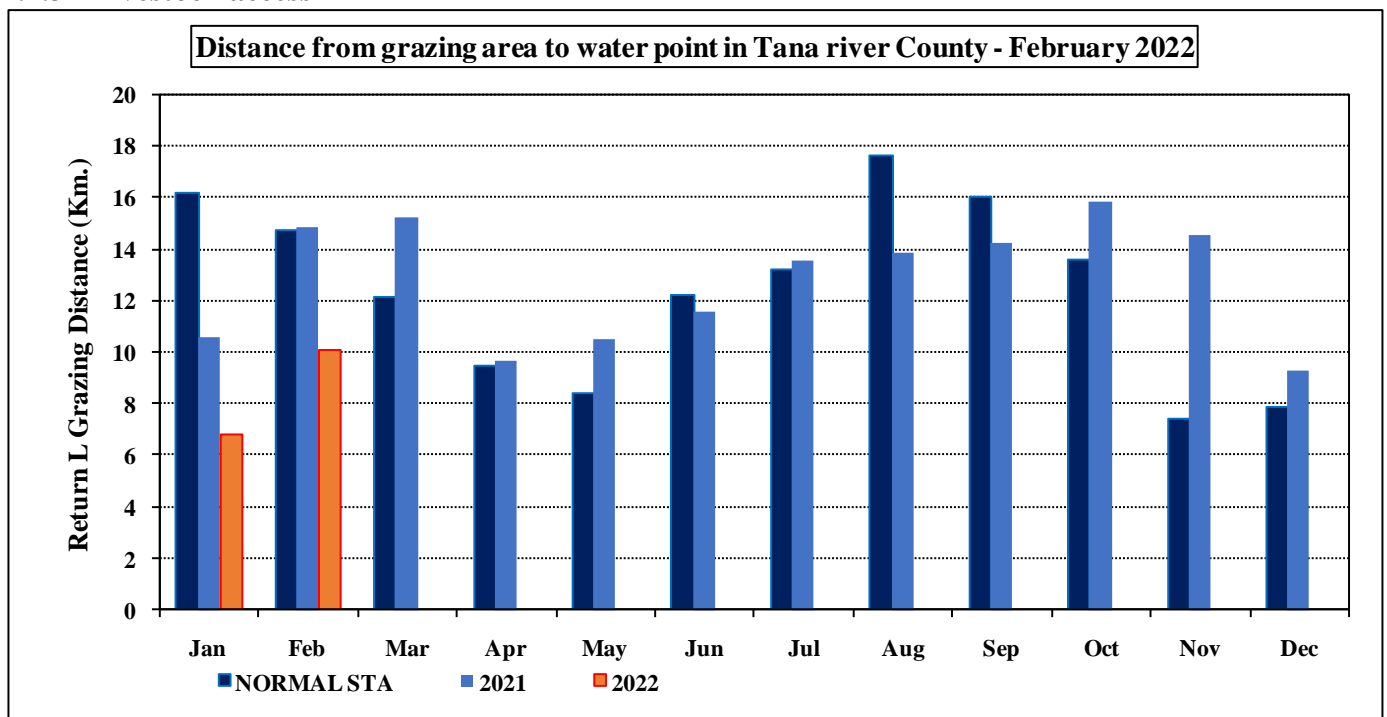


Fig.10.

- The return distance for livestock to grazing zones increased to 10.1 km during the month attributed to the reduction in water levels in most of open water sources and poor conditions of pasture and browse in Pastoral and Marginal mixed therefore livestock are walking long distances in search of good pasture and browse. some of livestock herds are currently moving towards fall back 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 in Pastoral but fair to good Marginal mixed and mixed livelihood zones. The situation was attributed to declining quality of pasture and browse. The heavy rains received during the month of December led that led to regeneration of pasture and browse, triggered in-migration from neighbouring counties of North eastern and therefore reducing the period that the current pasture will last more so within the pastoral livelihood zones. *(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 decreased to 4.1 litres compared to the previous month. This is attributed to declining quality of pasture and browse across all livelihood zones and increasing distances to water point for livestock.

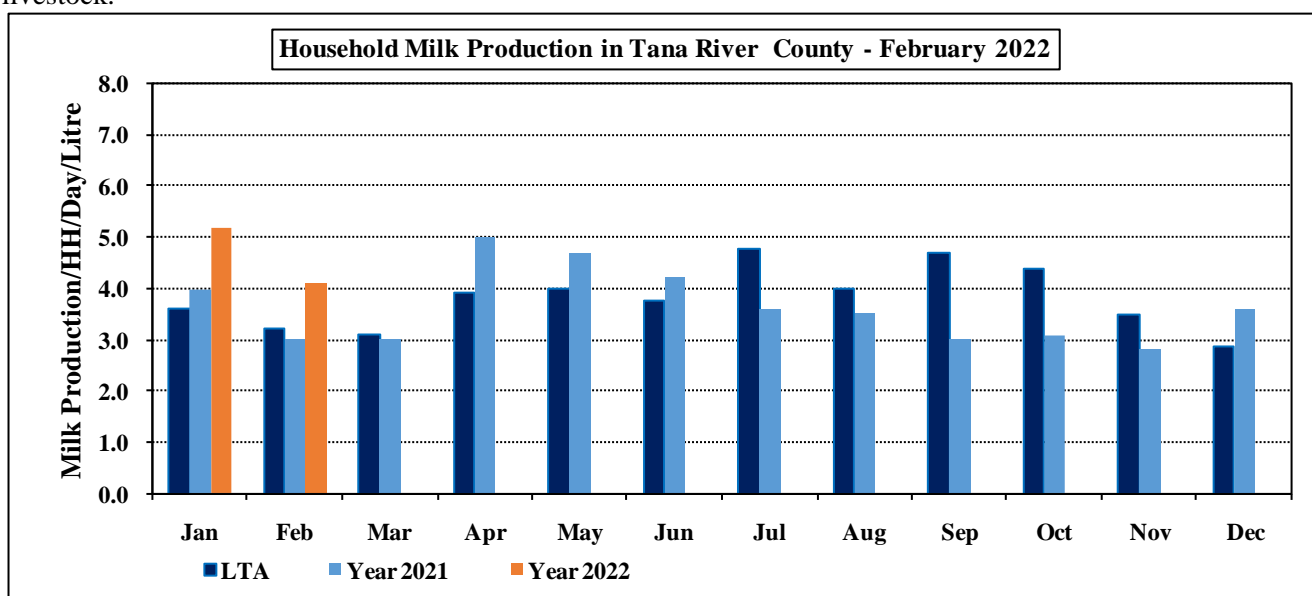


Figure 11

- In comparison to the long-term average of 3.23 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 short rains season have wilted and dried up due to moisture stress triggered by below average seasonal rains. Most farmers withing Marginal mixed and mixed livelihood zones are currently preparing their farms in readiness for the Long rains. Some have already planted and waiting for the rains.
- Within the major irrigation schemes (Bura and Tana Irrigation Schemes) maize is at harvesting stages

4. MARKET PERFORMANCE
4.1. LIVESTOCK MARKETING
4.1.1 Cattle Prices

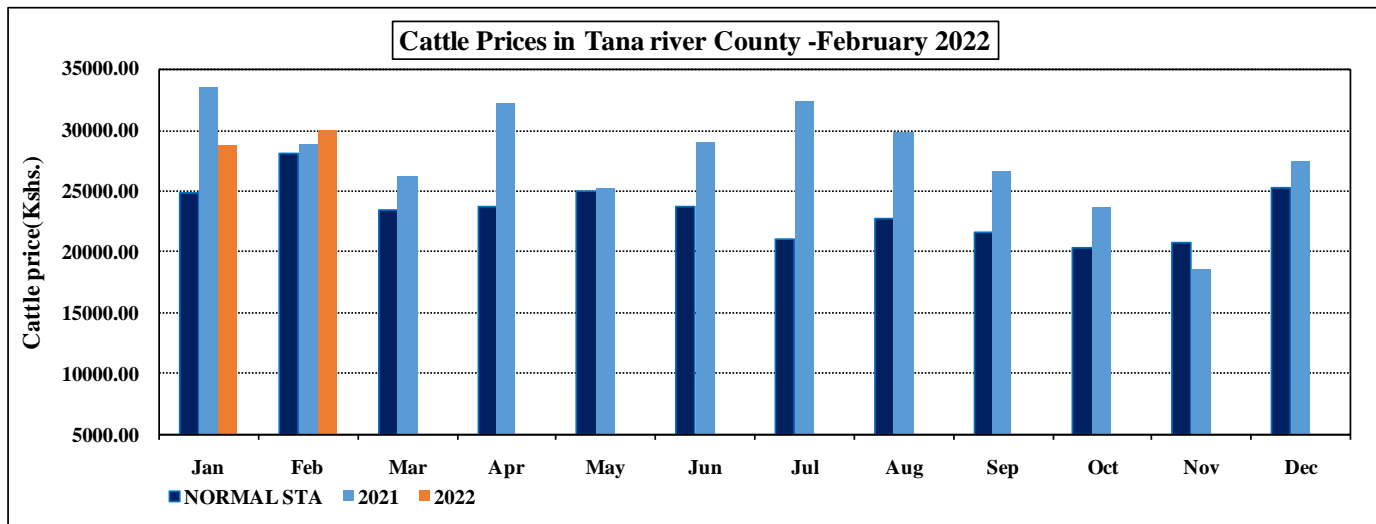


Fig.12.

- The average price for the medium sized cattle increased by 5% to Ksh.30,000 in the reporting month as compared to Ksh.28,667 of the previous month. This is attributed to the improved body conditions in the current month triggered by availability of pasture and browse. High cattle prices were reported in Pastoral livelihood zones at Ksh.36,714 while least prices were recorded in mixed farming at Ksh.19,667.

4.1.2 Goat Prices

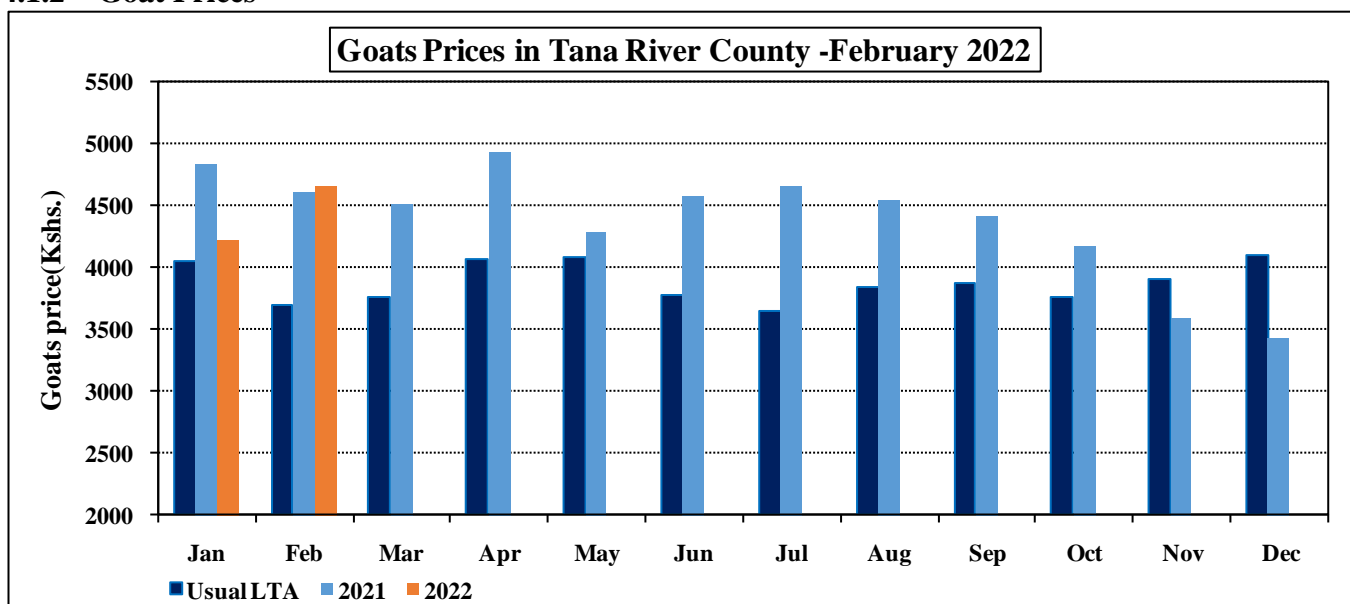


Fig.13.

- The average price of a goat increased by 10% to Ksh.4,664 as compared to previous month. This was attributed to improved body conditions thereby pushing the prices upwards.
- The average Goat prices were highest in pastoral livelihood zones at Ksh. 4,886 and lowest in Mixed farming at Ksh.4,500.

4.2. CROP PRICES

4.2.1 Maize

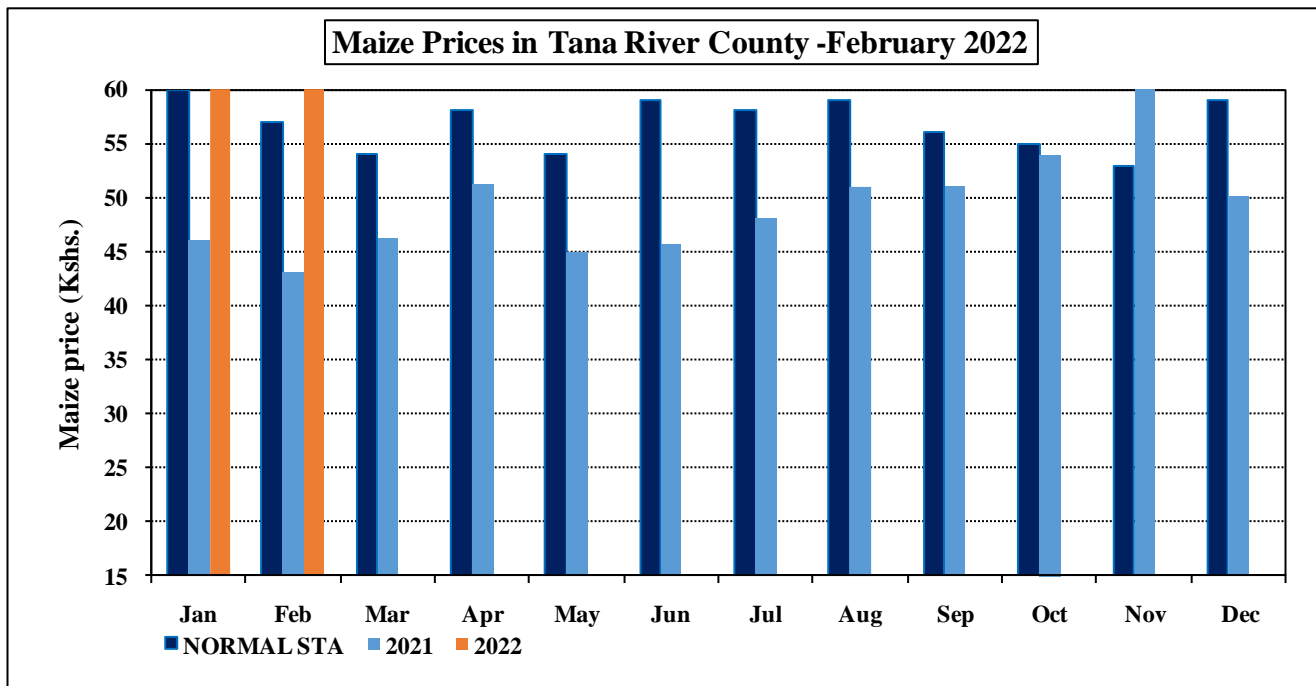


Fig.14.

- The average price for kilogram maize remained stable at 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

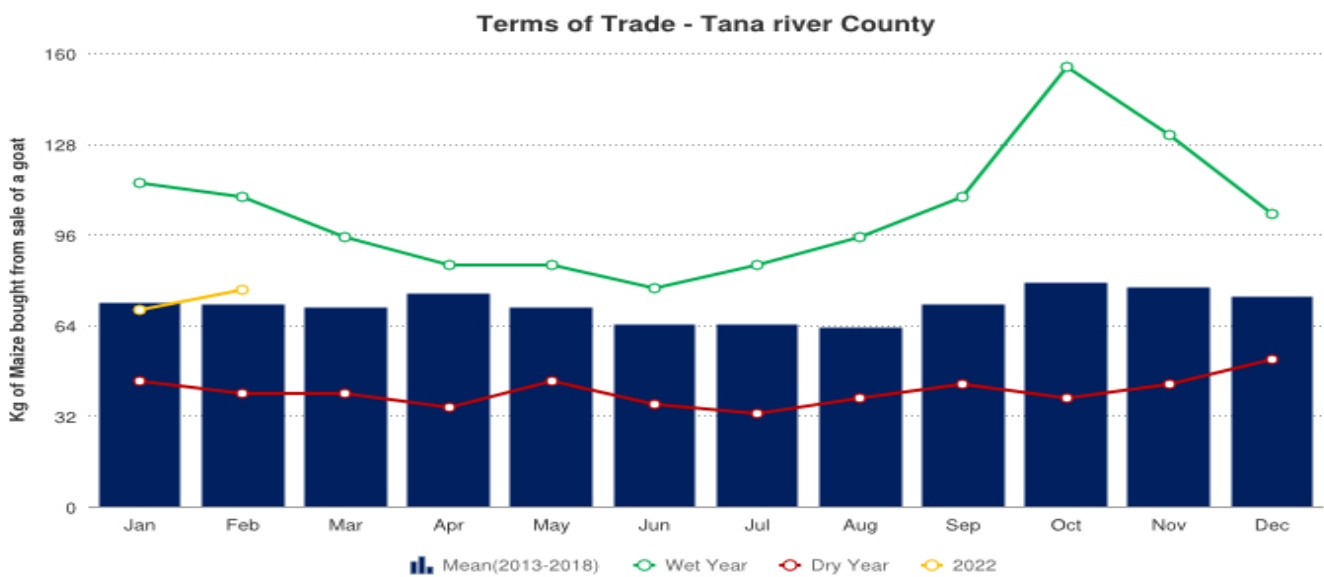


Fig .15.

- The terms of trade increased from 69.2 in January 2022 to 76.7 during the month of February 2022.
- The current term of trade is above the long-term average. This is attributed to high prices of goat compared to maize in the market. Terms of trade are still favourable for the pastoralists in the current month at 76.7 which is still above normal at this time of the year.

5.1. FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1. Milk Consumption

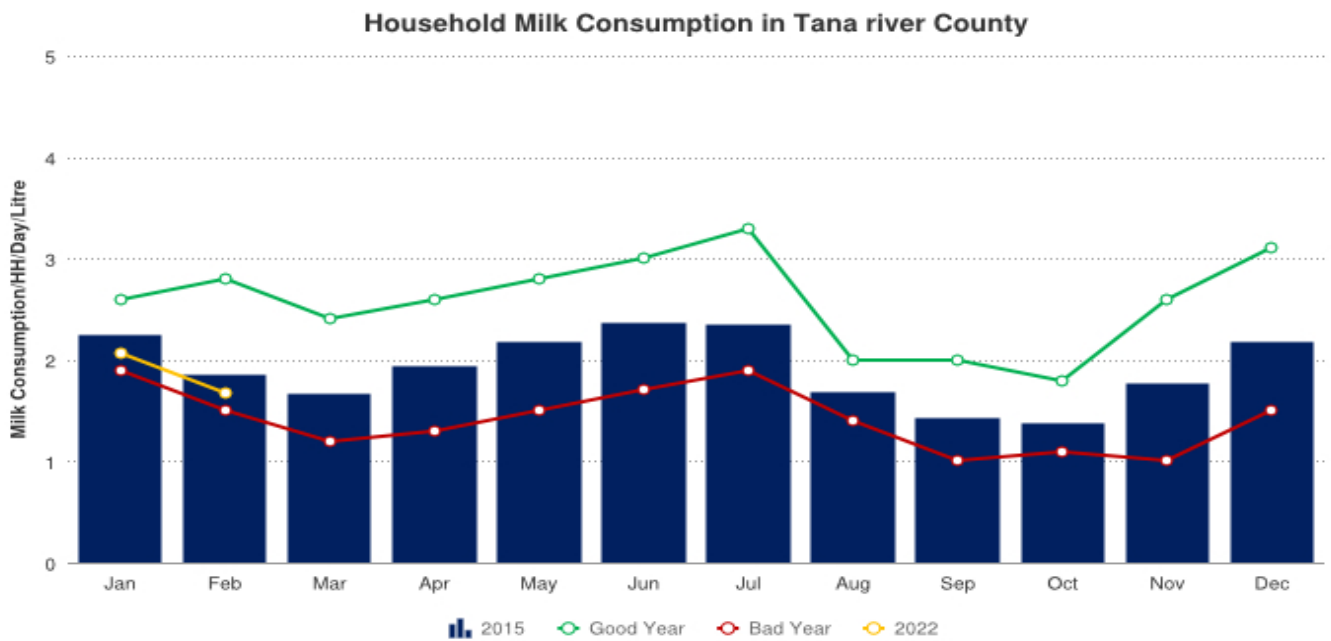


Fig. 16.

- The average milk consumption per household decreased to 1.7 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

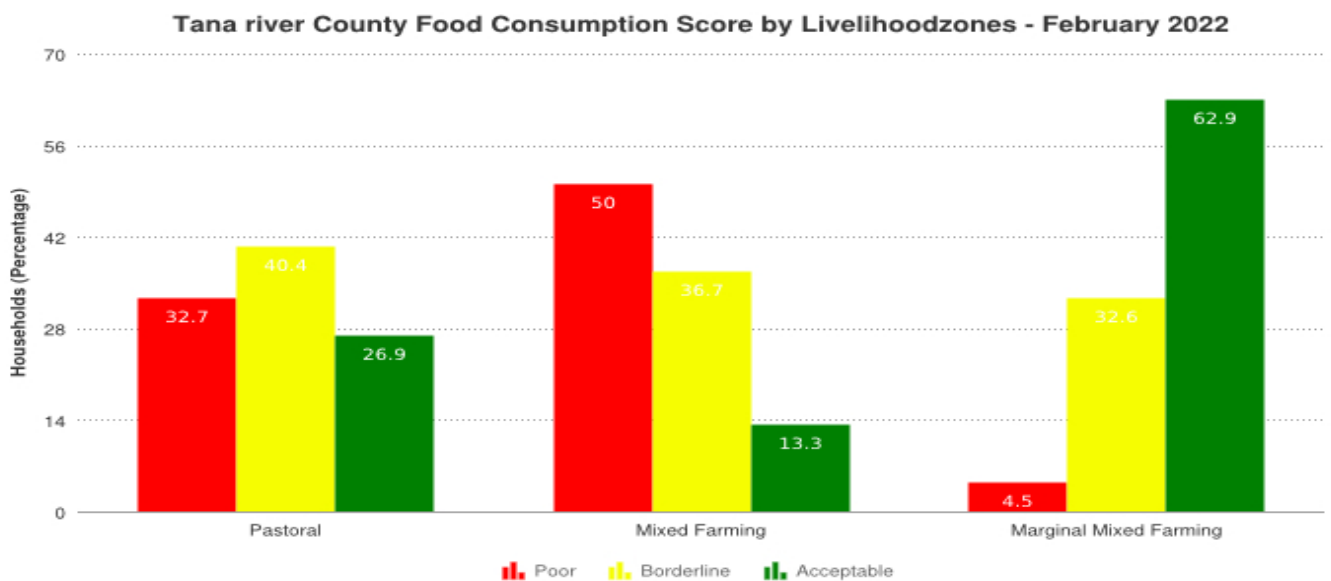


Figure 17: Tana River food consumption

There was higher proportion of households with poor food consumption gaps in Mixed farming Livelihood zones (50%) and lowest in Marginal mixed livelihood zones (4.5%). 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 Pastoral and Mixed farming livelihood zones at 40.4% and 36.7% respectively.

A proportion of 62.9% of households in marginal mixed livelihood zones have acceptable food consumption score.

5.1.3 Health and Nutrition Status

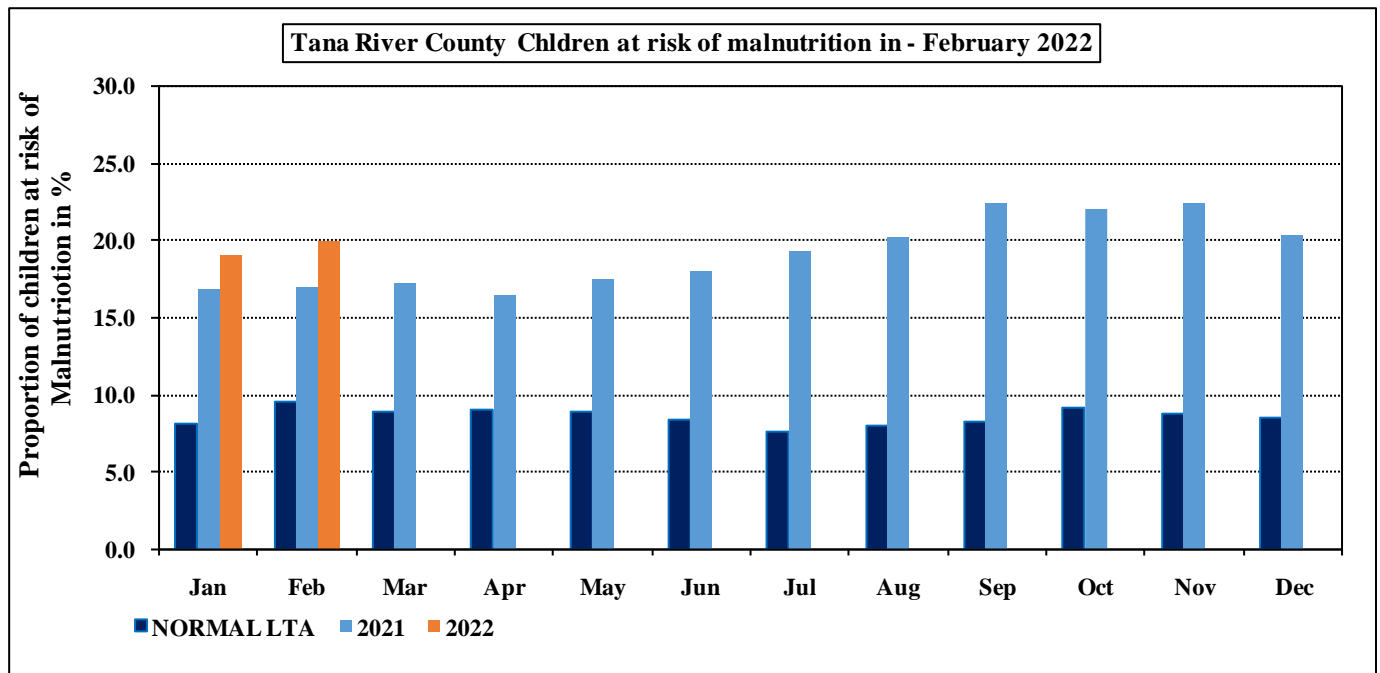


Fig.18.

- The proportion of sampled children under five years of age at risk of malnutrition increased to 20.0% compared to the previous month at 19.1%. This is attributed to reduction in milk production and consumption at household levels and scarcity 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 February 2022. Majority of women in the pastoral and marginal mixed 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

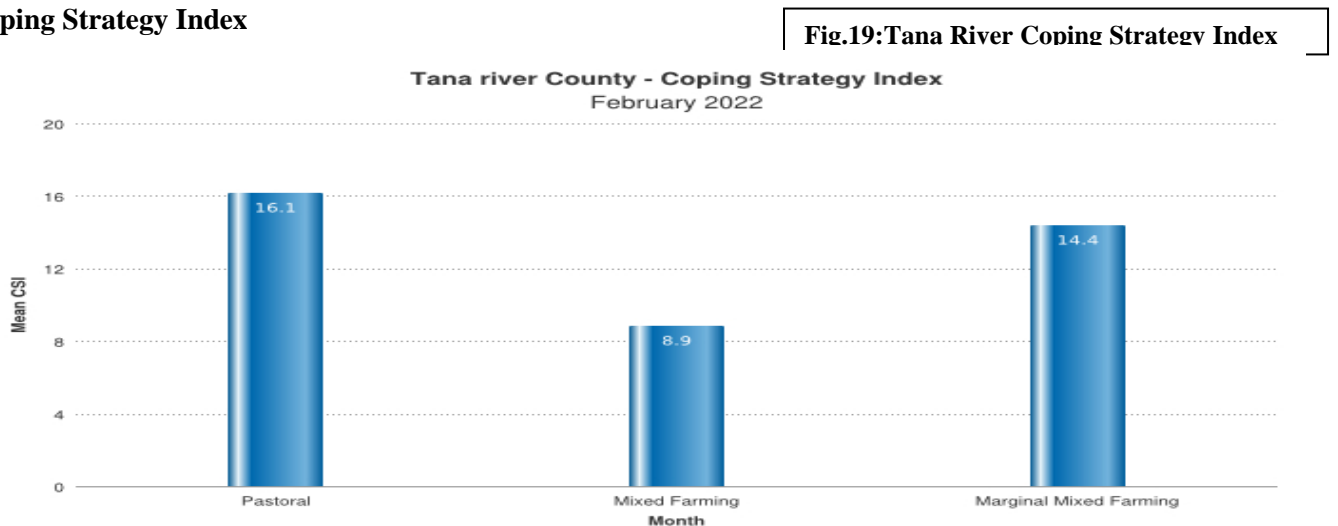


Fig.19:Tana River Coping Strategy Index

The average coping strategy index increased to 13.18 in February 2022 compared to last month. Meaning more households experienced stress to access food and water given the prevailing conditions. This might have been due to no rains received during month, high food prices, poor performance of the season and low purchasing power. Households in pastoral livelihood zones employed most coping strategies at 16.1 followed by marginal mixed livelihood zone at 14.4. The mixed farming livelihood zones employed least coping mechanisms at 8.9.

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,

6.2.3. Aldef Kenya

- support on WASH activities through public health promotion.
- Support coordination activities like CSGs and Sub-CSGs coordination meetings

6.2.4. CISP

- Support coordination activities like CSGs and Sub-CSGs coordination meetings.
- Support Short rains assesment process and dissemination of the final report.

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 MAM weather outlook from the Kenya Meteorological department, the March to May 2022 rains season in bimodal areas of Kenya is most likely to be near average within the coastal strip.
- Based on the near average long rains performance and under production during the short 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 April.
- 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 end of May when the long rain start. Increase in livestock migrations towards the fall back grazing fields expected in the next one months which might lead to increased cases of resource based conflicts within mixed livelihood zones.
- More households likely to have poor Food consumption score in the next 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 population.

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, Kinakomb a	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 2 CUs		MOH UNICEF KRCS	2,500,000	Technical Staffs	March-Jul
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, Dukanotu 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
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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 TECHNICALS STAFF	TECHNICAL STAFF	OCT- JAN
TANA NORTH/ MADOGO & 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 TECHNICALS STAFF	TECHNICAL STAFF	OCT- JAN

Medium and Long Term recommended Interventions							
Tana delta/Garsen 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/Garsen 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/Garsen 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 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.