




A Vision 2030 Flagship Project



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

APRIL EW PHASE	Early Warning Phase Classification			
	LIVELIHOOD ZONE	EW PHASE	TRENDS	
<p>Drought Situation & EW Phase Classification Drought Phase: Normal-Improving</p> <p>Biophysical Indicators</p> <ul style="list-style-type: none"> Most Biophysical indicators are showing positive fluctuations towards the expected seasonal ranges. Good amount of rainfall were received in the month of April 2020. The March Vegetation Condition Index values for Tana River County are above normal and clearly indicating good vegetation conditions across all sub-counties. The Water levels in water pans were above normal at 5(65%-99%) in all livelihood zones. <p>Socio Economic Indicators (Impact Indicators)</p> <p>Production indicators:</p> <ul style="list-style-type: none"> The forage condition is good to fair in both quality and quantity but the hatched locusts will reduce the quantity and quality.. Livestock body condition is good to fair across all livelihood zones. Milk production remains stable at 3 litres across the livelihood zones. This is attributed to fair forage and pasture conditions. No Livestock deaths were reported in all Livelihood zones. <p>Access indicators</p> <ul style="list-style-type: none"> Terms of trade are currently above normal range. Distances to water sources for households currently below normal ranges. <p>Utilization indicators:</p> <ul style="list-style-type: none"> The number of under-fives at risk of malnutrition stood at 14.50%, which is above normal at this time of the year. Copping strategy index for households is within normal ranges but on an improving trend. 	PASTORAL	NORMAL	WORSENING	
	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 (%)	140.00 mm	171 mm	80-120
	VCI-3month	87.85		35-50
	% Of water in the water pan	5(65-99%)		5-6
	Production indicators	Value	Normal ranges	
	Livestock Migration Pattern	normal	Normal	
	Livestock Body Condition	4-5	4-5	
	Milk Production (Ltr /HH/Month)	3.0	3.10	
	Livestock deaths (for drought)	No death	No death	
	Access Indicators	Value	Normal ranges	
	Terms of Trade (ToT)	82	>=43	
Milk Consumption (Ltr)	1.2	>=2.00		
Water for Households-trekking distance (km)	5.1	<=7.0		
Distances to grazing for livestock (km)	8.5	<=12.0		
Seasons production (90 kg bags)(by February 2019)	10,560(maize) 3,780(green grams)	LTA (28,992Ha) LTA (4,400(Ha)		
Utilization indicators	Value	Normal ranges		
At Risk (%)	14.50%	<8.8%		
CSI	17.4%	<=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:)

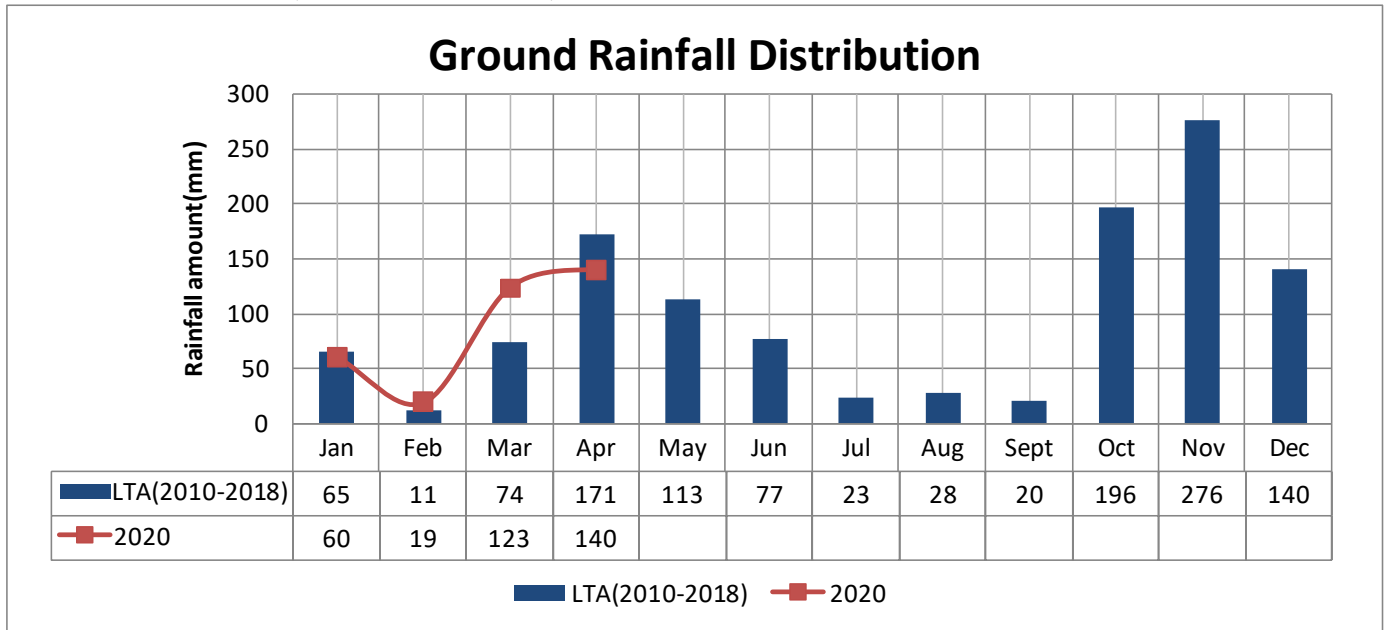
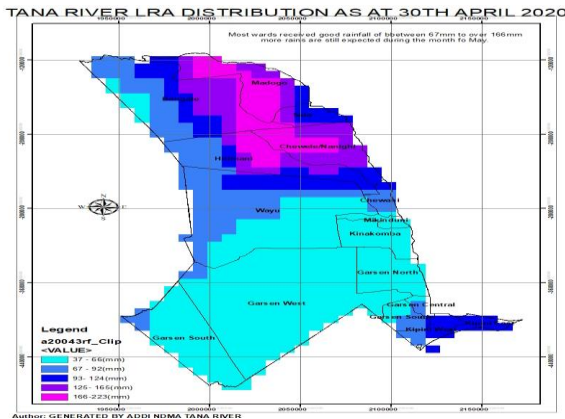


Fig .1.source: ARV

An average of 140.0 mm rainfall was recorded in April coupled with decreasing temperatures. This is below the LTA of 171 mm.

1.2. RAINFALL TEMPORAL AND SPATIAL DISTRIBUTION

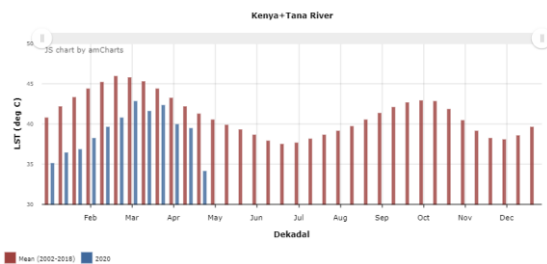


In the month of April, on average 176.0 mm of rainfall was received in Tana North, 112.00 mm received in Galole and 132 mm received in the Delta respectively. The amounts received were above normal at this time of the year. Spatial and temporal distribution was good.

The rainfall were evenly distributed across all the three sub-counties. Most wards reported onset of seasonal rainfall by second dekad of March.

Fig.2.source: Continental Africa Dekadal RFE.

1.3. TEMPERATURES



1.3.1. LAND SURFACE TEMPERATURE (LST)

The April 2020 land surface temperature (LST) values for Tana River County have decreased to 34°C by the 3rd dekad of April, which is below normal (41°C) at this time of the year.

Fig.3.source: LST-C6

2.1. IMPACTS ON VEGETATION AND WATER

2.1.1. VEGETATION CONDITION INDEX (VCI)

The April vegetation cover for Tana River County shows improved vegetation cover on average for the county across all the three sub-counties. The current trend has decreased compared to the month of March 2020.

COUNTY	Sub County	VCI as at 30 th March 2020	VCI as at 27 th April 2020	
TANA RIVER	County	98.96	87.85	Decreasing trends in vegetation conditions experienced in all the sub-counties. Normal vegetation cover experienced in all livelihoods
	Bura	81.98	68.03	
	Galole	115.81	96.83	
	Garsen	102.84	99.05	

Fig.4. Source BOKU

The information provided above reflects all sub-counties currently experiencing improved vegetation greenness, improving trend is observed across all the sub-counties but on a reducing trend compared to the previous month.

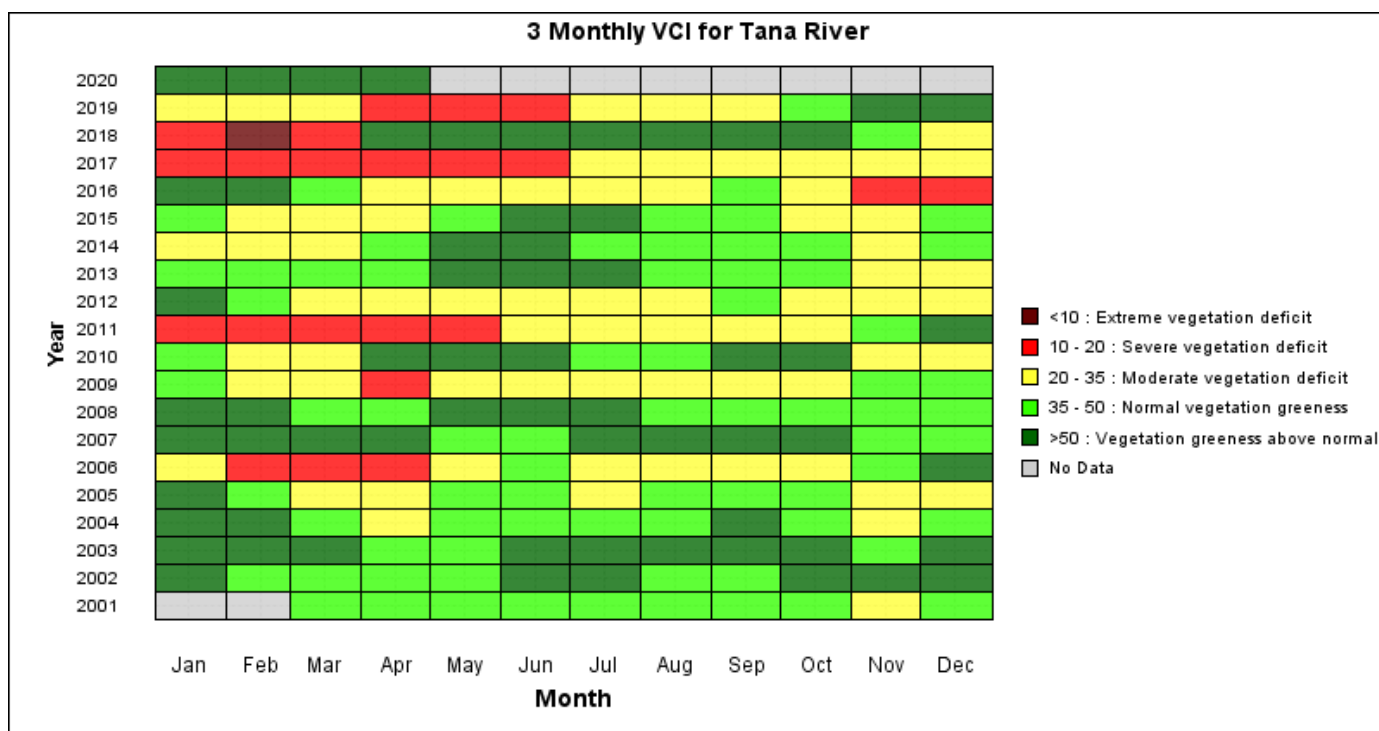
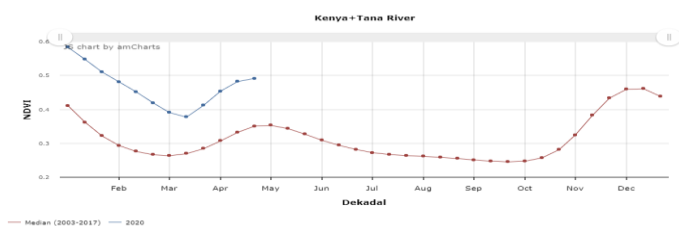


Fig.5.Source BOKU

In April the vegetation cover for Tana River County was at 87.85, which indicates good vegetation condition. In comparison to the previous month the current vegetation cover has decreased in quantity and quality.



The NDVI for Tana River County is currently showing improving trend in April 2020(0.49) which is above the LTA (0.35). This is attributed to ongoing rains being experienced across the county.

Fig.5.Source: NDVI-C6

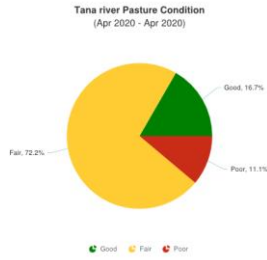


Figure 6: Tana River pasture conditions

2.1.2 Pasture

The pasture condition is fair to good in quantity and quality across all livelihood zones in the county. Pasture condition across all livelihood zones have improved due to ongoing rains.

The current pasture is expected to last for two months in Pastoral and Marginal mixed livelihood zones and three months in the mixed farming livelihood zones.

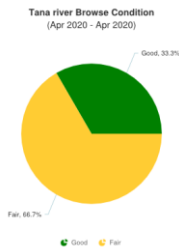


Figure 7: Tana River browse

2.1.3. Browse

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

The available browse is expected to last for 2 months in Pastoral and Marginal mixed livelihood Zones and three month in mixed farming livelihood zone.

2.2 WATER RESOURCE

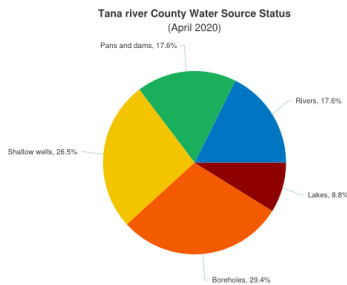


Figure 8: Tana River water sources

2.2.1 Sources

The main water sources for both livestock and human consumption across all livelihoods were Bore holes (29.4%) and Shallow wells (26.5%), Pans, Dams and Rivers (17.6%), Lakes (9%).

Most water pans and dams were at 50-95% of their full capacity. Most households are currently using Bore holes, Shallow wells, rivers, Pans and dams.

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

2.2.2 Household access and Utilization

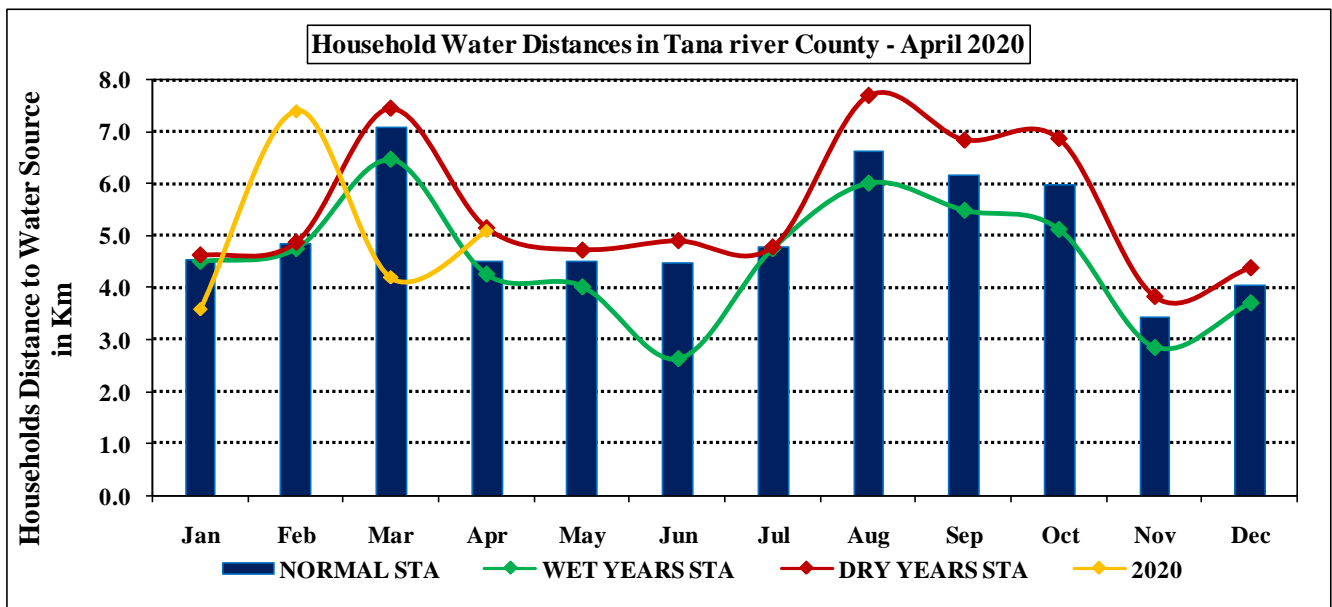


Fig.9.

- The households trekking distance increased in the month from 4.2 km to 5.1 km. The current distance is below the Long-term average of 4.5 km. This is attributed to the fact that most open water sources have been flooded and most households are relying on boreholes where they have to walk long distances to access.

2.2.3 Livestock access

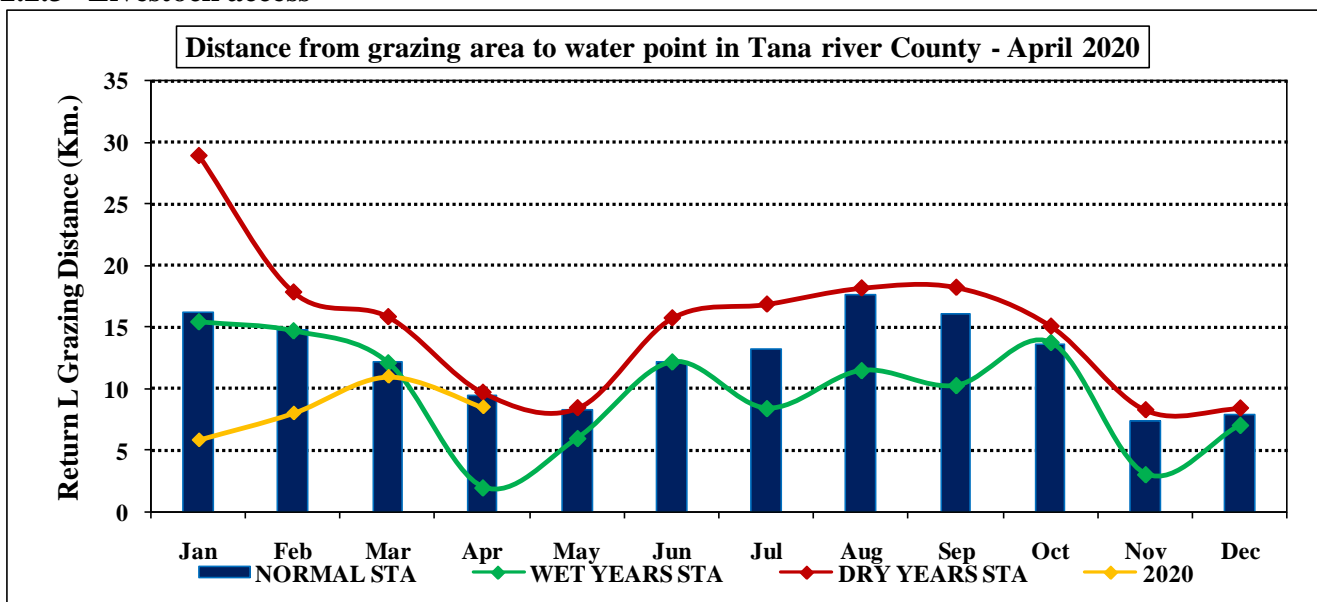


Fig.10.

- The return distance for livestock to grazing zones decreased to 8.5 km during the month.
- The situation is attributed to availability of water and good to fair pasture and browse conditions.

3.0. PRODUCTION INDICATORS

3.1 Livestock Production

3.1.1 Livestock Body Condition

- The livestock body condition is good to fair across all livelihood zones. The situation was as result of good pasture, browse and availability of water which has led to livestock still walking within normal ranges. *(Refer to table 4 in annex)*

3.1.2 Livestock Diseases

- LSD,CCPP in Garsen north and Wayu Ward.

- Trypanosomiasis, foot rot, helminthiasis, ORF, diarrhoea syndrome in Tana Delta, Garsen Central, Garsen South, Kipini East and West.
- Heavy infestations of worms across all livelihood zones triggered by rains
- Threat of Rift valley fever outbreak due to heavy rains and floods.
- No notifiable livestock diseases incidences were reported; the disease incidences were within normal seasonal ranges

3.1.3 Milk Production

- The average milk produced per household remained stable at 3.0 litres compared to the previous month. This is attributed to the fact that pasture and browse is improving in quantity and quality.
- In comparison to the long-term average; the current amount is below but on an improving trend given the current conditions of good pasture and browse.

3.2. RAIN-FED CROP PRODUCTION.

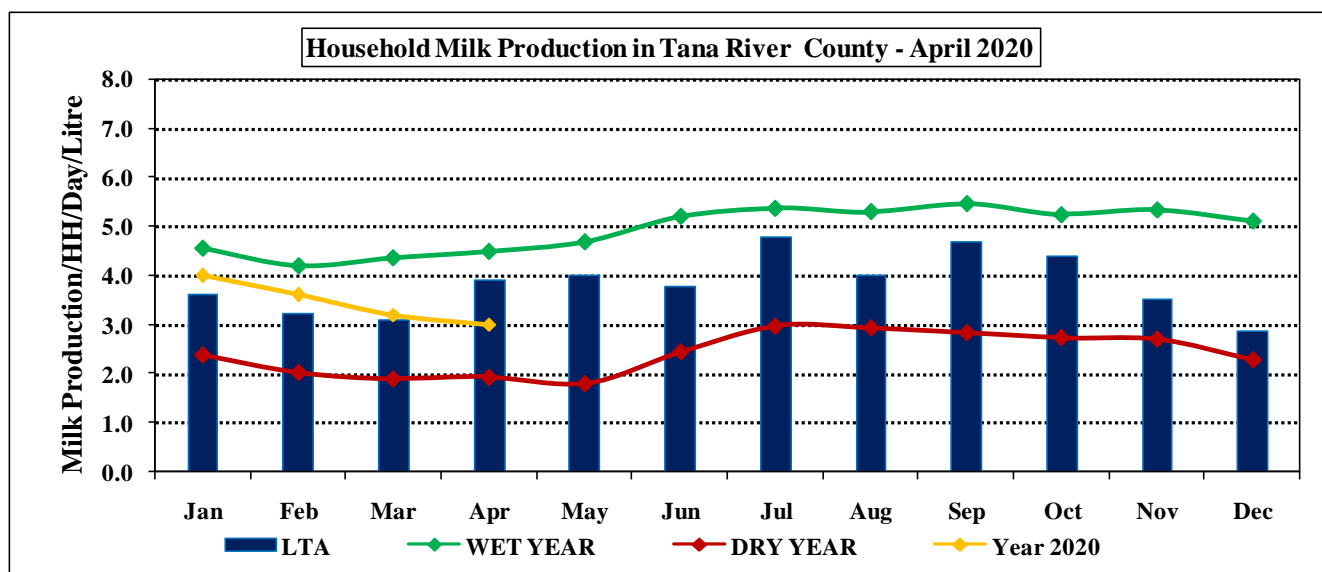
3.2.1 Stage and Condition of food Crops

- Farmers had planted their crops more so within the mixed and marginal mixed livelihood zone and most of them are currently weeding. About 50,000 hectares of crop land have been submerged in flood waters. Some farmers were unable to plant on time due to lack of farm inputs.

4. MARKET PERFORMANCE

4.1. LIVESTOCK MARKETING

4.1.1 Cattle Prices



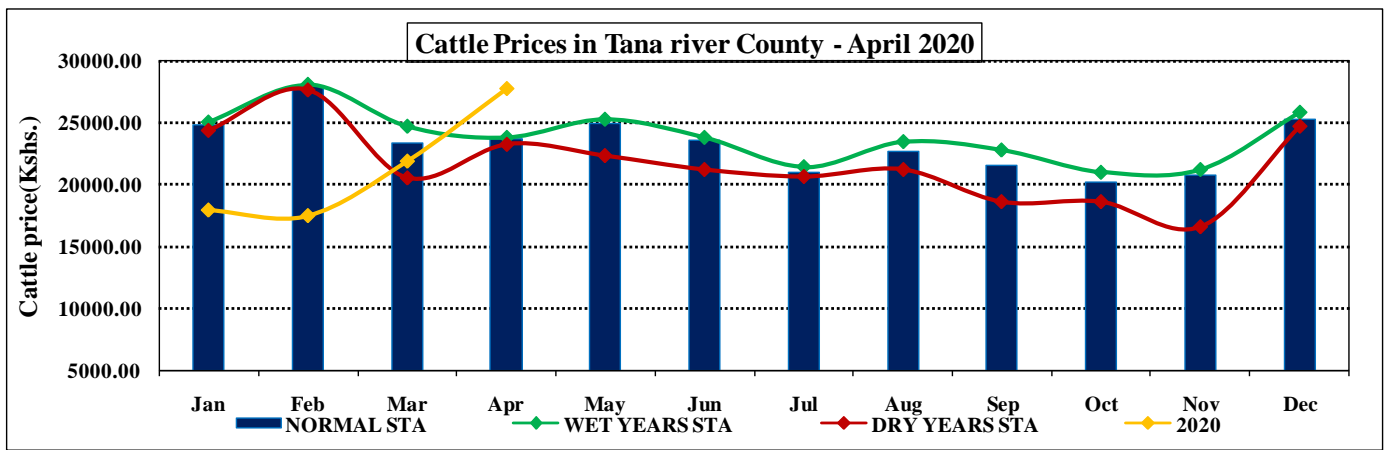


Fig.12.

- The average price for the medium sized cattle increased by 27% to Ksh.27, 767 in the reporting month as compared to Ksh.21,933 of the previous month.

4.1.2 Goat Prices

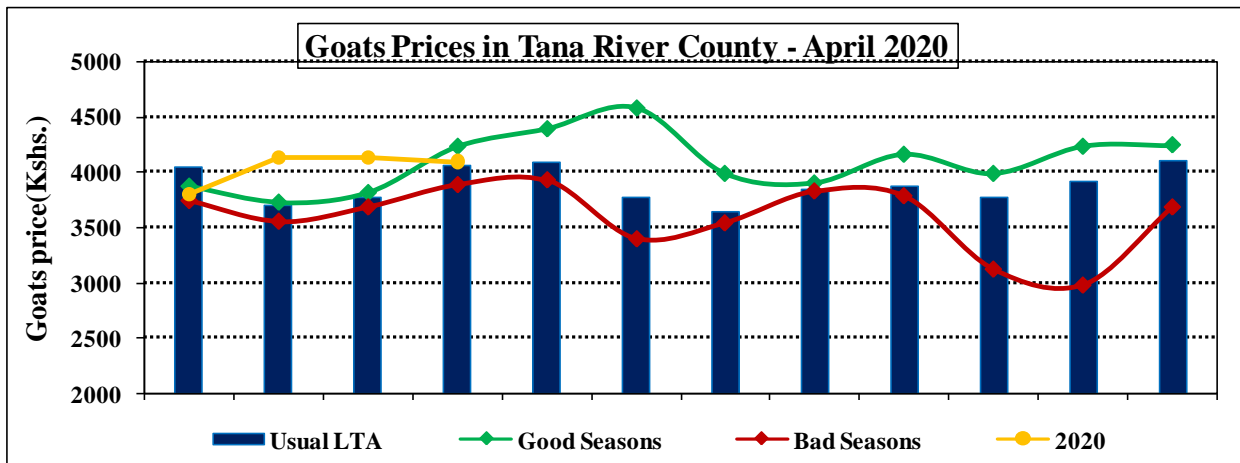


Fig.13.

- The average price of a goat decreased to Ksh.4,083 as compared to previous month attributed to market dynamics.
- The average Goat prices were lowest in Mixed and Marginal Mixed livelihood zone at Ksh. 3,833 and 3,867 respectively.
- The prices were above the long-term average . This is attributed to the availability of pasture and browse in all livelihood zones.

4.2. CROP PRICES

4.2.1 Maize

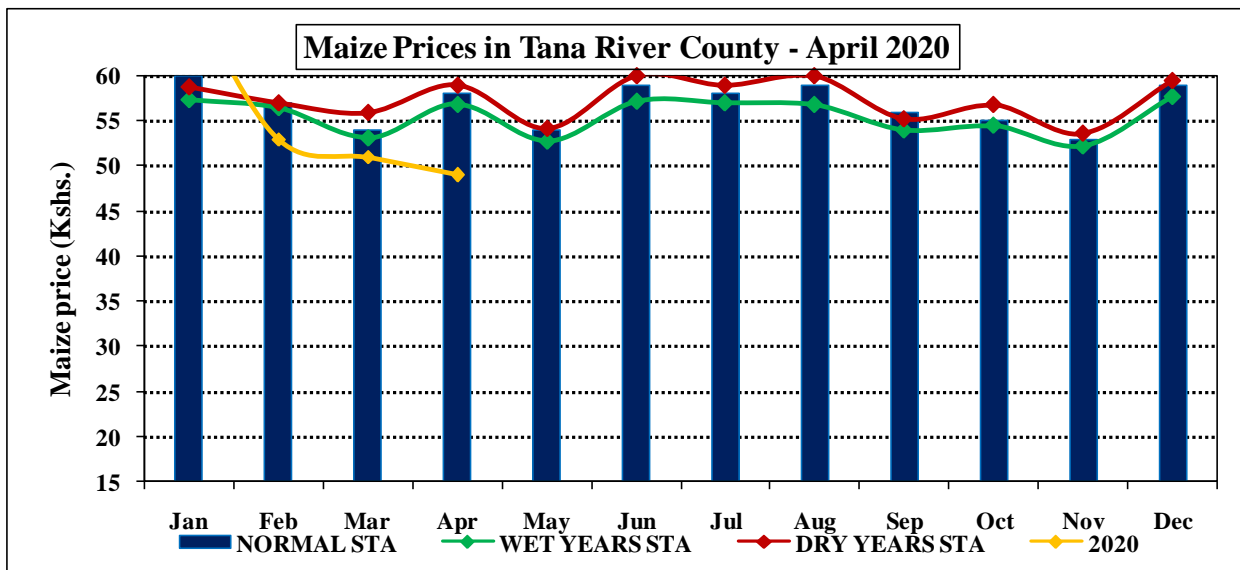


Fig.14.

- The average price for kilogram maize was Ksh.49 during the month, which was a decrease compared to the previous month. Attributed to the availability of maize from previous harvest. The price was below the long-term average at this time of the year by 16%.

4.3. Livestock Price Ratio/Terms of Trade

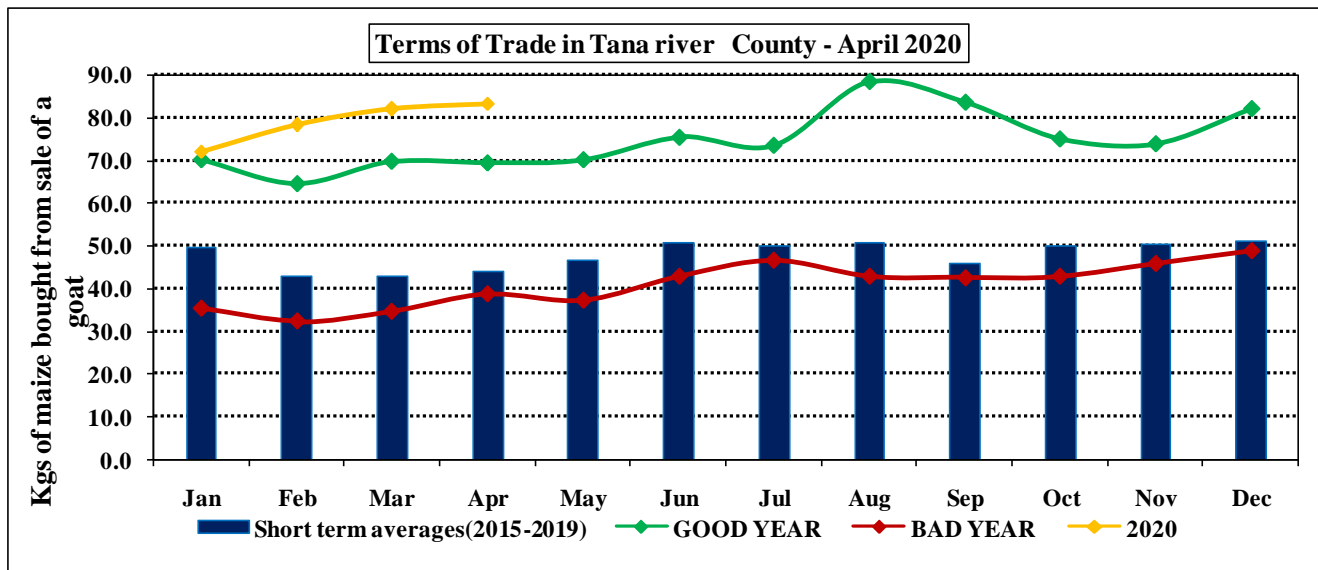


Fig .15.

- The terms of trade increased from 82 in March to 83.3 during the month of April 2020.
- The current term of trade is above the long-term average. This is attributed to market dynamics and the fact livestock have a good body condition.

5.1. FOOD CONSUMPTION AND NUTRITION STATUS

5.1.1. Milk Consumption

- The average milk consumption per household per day decreased to 1.2 litres compared to the previous month. The amount consumed is below the long term average at this time of the year. Reduction in milk consumption is attributed to low milk production at households level.

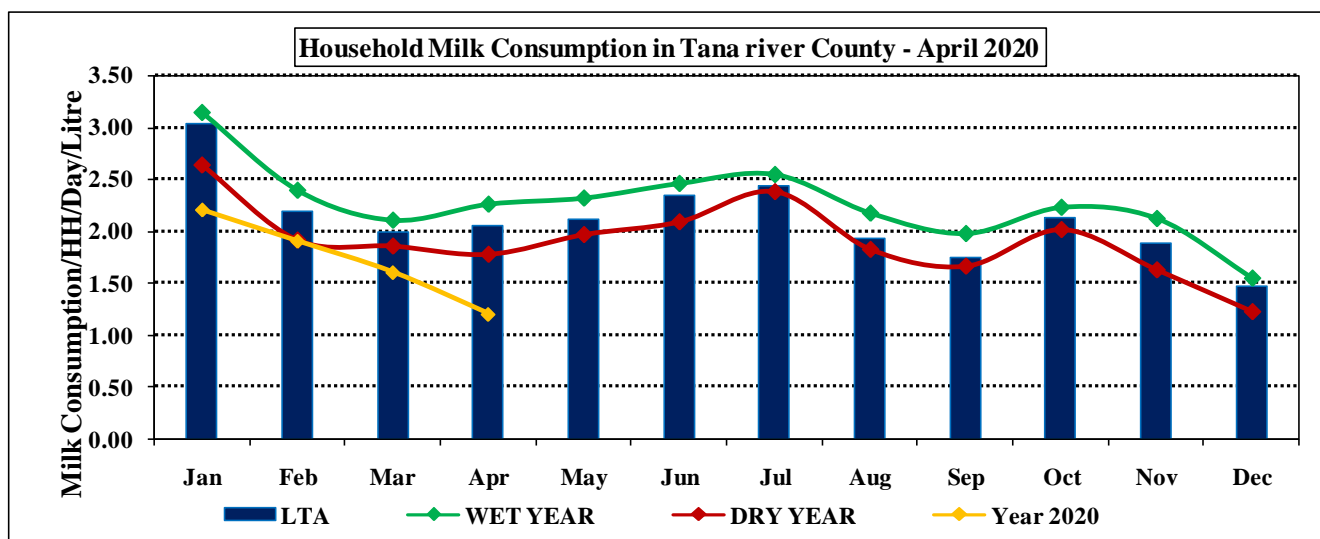
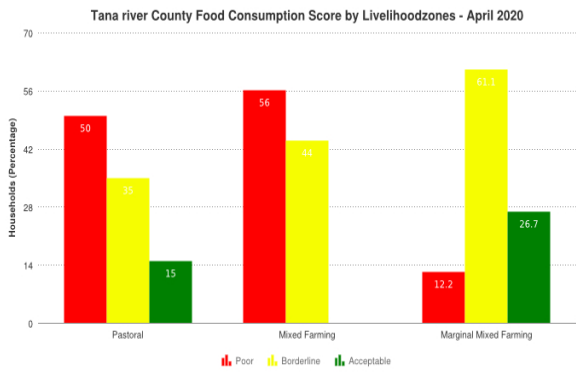


Fig. 16.

5.1.2. Food Consumption Score



food consumption score respectively.

There was higher proportion of households with poor food consumption gaps in Mixed Livelihood zones (56%) and Marginal mixed farming livelihood zones (50%). This is attributed to continuous flooding in the area.

The proportion of households with borderline food consumption score was high in Marginal mixed livelihood zones at 61.1% and lowest in Pastoral livelihood zones at 35%.

A proportion of 27% and 15% of the households across marginal mixed and pastoral livelihood zones have acceptable

Figure 17:Tana River food consumption

5.1.3 Health and Nutrition Status

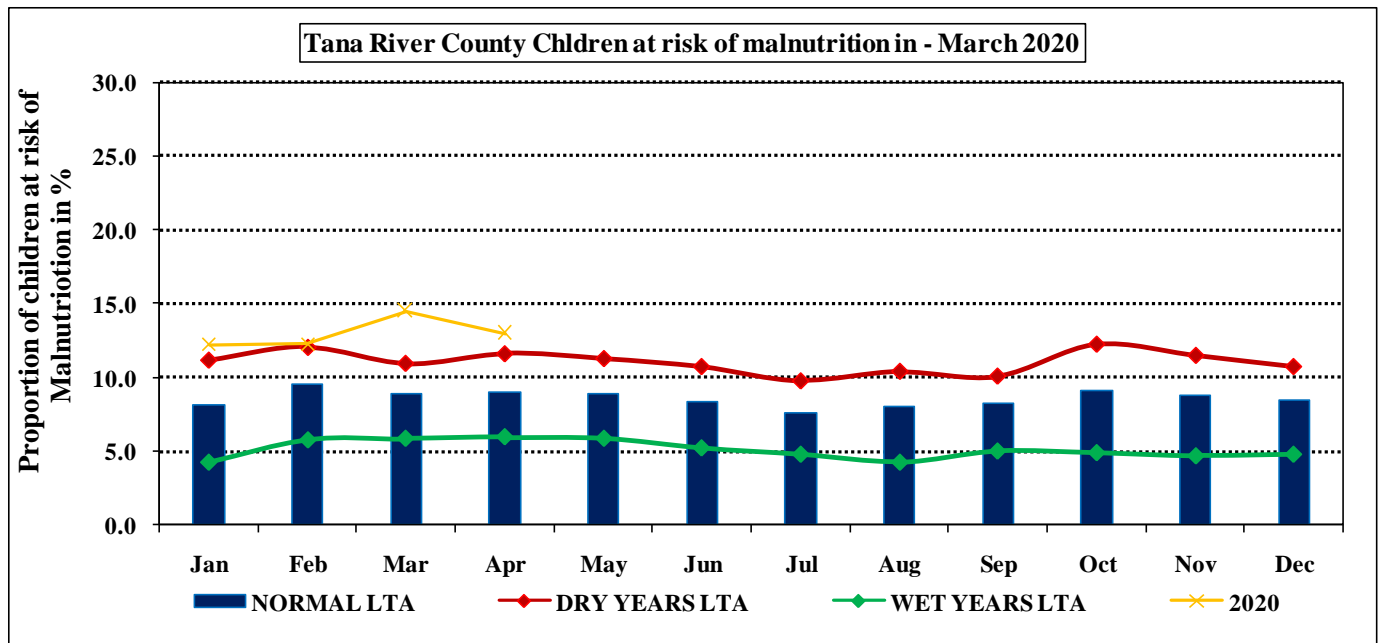


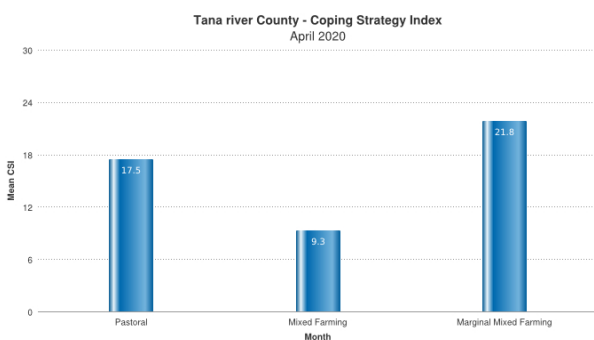
Fig.18.

- The proportion of sampled children under five years of age at risk of malnutrition decreased to 13% as compared to the previous month at 14.50%. This is attributed to availability of milk and vegetables at household level more so within Pastoral and Marginal Mixed livelihood Zones.

5.2. Health

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

5.3. COPING STRATEGIES



Coping Strategy Index

The average coping strategy index increased to 17.4 in April 2020 compared to last month. Meaning most households are experiencing stress to access food.

Households in Marginal mixed livelihood zone employed most coping strategies at 21.8 followed by Pastoral at 17.5. The mixed farming livelihood zones employed least coping mechanisms at 9.3.

6.1 Non-food interventions

- Activation of Covid-19 response plans by Ministry of Health.
- Mitigation of covid 19 through sensitization by MOH.
- Rehabilitation of dams by Ministry of Water and WFP.
- Distribution of mosquito nets by Public health to flood affected victims.
- SFS supported by WFP targeting households in Tana Delta, Tana North and Tana River sub-counties.
- Hygiene promotions and distribution of water treatment chemicals in Tana Delta (Katsangani, Safaricom, Tana Salt, Msurujani, Timboni, Vumilia and Orolle) by Samaritan Purse/NDMA.
- Aerial locusts sprays in Tana North(Sala, Bangale, Hirimani,) by OXFARM/ALDEF/GoK.
- Cash transfer to 1000 floods affected victims in Tana Delta by KRCS.
- Integrated outreaches in hard to reach areas supported by Concern World Wide.

6.2 Food Aid

- Relief food distribution in areas currently facing food shortages in Tana Delta, Tana North and Galole supported by KRCS/National Government/Samaritan purse/WFP/ADS/SPECIAL PROGRAMS.

7.0 EMERGING ISSUES

7.0.1. Insecurity/Conflict/Human Displacement

- Hatching of second generation locusts in Tana North(Boka, Hirimani, Buwa, Nanighi, Sala, Bangale, Mbalambala) the impacts were minimal.
- Human wild life conflicts reported in Kipini, Chara and Kilelengwani.
- Over 4500 households had been affected by floods in Tana Delta, Tana River and Tana North and over 5,000 hectares under crops destroyed by floods. but the displaced has since gone back to their homes.

7.0.2. Migration - limited to migrations of persons.

- Typical livestock migrations back into the traditional grazing areas occurred earlier in the season following the early onset of the long rains. Given the fair conditions of pastures, browse and water resources, most livestock are expected to remain within the wet season grazing areas through the March to May long rains season.

7.0.3. Food Security Prognosis

- According to the Greater Horn of Africa (GHACOF) forecast, the March to May long rains are expected to be average to above average due to an increased probability for Neutral ENSO and Indian Ocean Dipole (IOD) phases from March.
- The risk of flooding along the Tana River basin in the Marginal Mixed Farming Livelihood Zone and the Mixed Farming Livelihood zone is likely to remain elevated between April and May following an average to above average long rains forecast.
- The food crops replanted following the 2019 October to December short rains flooding are unlikely to reach maturity given the anticipation of flooding from April through to May. Similarly, crop production during the March to May long rains season is likely to be below average as the anticipated floods are likely to result in significant crop damage.
- The prices of staple foods are anticipated to remain above average, between February and June, following below the average 2019 October to December short rains production and cumulative deficits from two previously below average harvests.

7.0.4. Phase Classification

Pastoral and Mixed livelihood zones are classified under stressed Phase (IPC Phase 2) while, Marginal mixed Zone is classified under Crisis Phase (IPC Phase 3). The County has improved to Stressed food insecurity phase.

8.0 RECOMMENDATIONS

8.1.1. General Recommendations:

- a) Implementation of Covid -19 response plans by Ministry of Health .
- b) Evacuation of flood victims in hotspot areas of Tana North and Tana Delta.
- c) Enhance security surveillance and peace Barazas in hot spot areas.
- d) Enhance integrated outreaches in hard to reach areas across all the sub-counties more so in flood affected areas.
- e) Upscaling of food aid to the population in need in Tana North, Tana River and Tana Delta sub-counties.
- f) Provision of water harvesting facilities by Ministry of Water.
- g) Conducting of flood rapid assessment to ascertain the population affected and hectares destroyed by floods.

8.2.0 Proposed Recommendations

County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Agriculture							
Tana River	All wards	Assorted relief seeds (drought tolerant & early maturing varieties)	12000hh	Department of agriculture and other stakeholders	30m	Technical skills	2020
Tana river	All wards	Assorted farm inputs (seeds, fertilizers & pesticides)	6000hh	Department of agriculture and other stakeholders	18m	Technical skills	2020
Tana river	All wards along the riverine	Provision of portable water pump sets & accessories; and revival of dormant minor irrigation schemes	3000hh	Department of agriculture and other stakeholders	133m	Technical skills	2020
Tana river	All wards	Capacity building of farmers on crop production,	9000hh	Department of agriculture and other stakeholders	6m	Technical skills	2020

		agro-forestry & marketing					
Livestock							
Tana river	All sub counties	Fodder production and conservation	1000 Households	County Government and partners RPLRP, WFP	150 acres of irrigable land Water source Pasture seeds Hay harvesting equipment fodder stores	Qualified extension staff	By June 2021
Tana river	All sub counties	Rangeland resource management	1000 households	County dept of livestock Pursue RPLRP, WFP KRCS FAO	Rangelands Pasture seeds	Qualified extension staff	March – June 2020
Tana river	All sub counties	Restocking	1500 households	County governments and partners	Funds	Ext. agents	By June 2021
Health and nutrition							
Tana river	Bangale, Sala Hirimani, Wayu Ward	Mass screening	35000	MOH/KRCS/ COCERNWORLD WIDE	1,500,000	Staffs/vehicles	March - May
Tana river	All hotspots 34 in Tana North/ Galde	Conduct integrated outreaches	3500	MOH/KRCS/ COCERNWORLD WIDE	2,500,000	Staffs/vehicles	March - May
Tana river	Bangale, sala, hirimani, Wayu and madog o wards	GFD /Cash Transfers to affected households	6000	MOH/KRCS/COE ERNWORL DWID E/TRCG/PGI/WFP	9,000,000	Staffs/ vehicles	March - May
Tana river	Bangale, sala, hirimani,	Provide water treatment chemicals	34 HOTSPOTS	MOH/KRCS/COE ERNWORL DWID E	500,000	Staffs/ vehicles	March - May

	Wayu and madog o wards						
Tana river	Health facilities	Imam surge training	47 health facilities	MOH/CONCERN WORLDWIDE/UNICEF	250,000	Staffs/ vehicles	March - May
Tana river	All wards	BFCI training	20 CUs	MOH/CONCERN WORLDWIDE/UNICEF	500,000	Staffs/ vehicles	March - May

Education

Tana River	Assa, Bangale, Dukanotu Wayu Walden a Chiffiri Chewele	Provision of clean water to 16 pry and 8 Early Years Education centers	8522 pupils	MOE TRCG WHH WFP	2.9M	0	Immediate
	Wachuda Bilisa Nanighi Mbala mbala Walden a Milalulu and Kipini	Provision of handwashing facilities to 60 schools	12000 pupils	MOE TRCG WFP	1.2M	0	1 Month
	Milalulu Bilisa Ndura Bangali Chewele Chara Mwina Wayu Chifiri and Hakoka	Provision of energy saving jikos	52000 students	MOE TRCG WFP NDMA	2M	0	3 Month

Water Sector

Immediate recommended Interventions

Sub County/ Ward	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Tana River County	Repair of 6no Strategic Boreholes	Madogo, Titi la, Idsowe (4no)	10,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	FUNDS & SPARE PARTS/ FITTINGS TECHNICAL STAFF	TECHNICAL STAFF	Feb - April
Tana River County	Flushing, Development and equipping of 2no Strategic Boreholes	Idsowe, Haroresa	7,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	FUNDS FOR MACHINERY OPERATORS, FLUSHING & DEVELOPMENT MACHINERY, FUELS FOR MACHINERY, TECHNICAL STAFF	TECHNICAL STAFF FLUSHING MACHINERY	Feb - April
Tana River County	Capacity Building of Community Water Committees on WASH Facilities Management, Catchment Protection and O & M.		30 Water Committees	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds Vehicles for mobility		Feb - April
Tana River County	REHABILITATION OF SHALLOW WELLS DAMAGED BY FLOODS	WACHU ODA	6,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	TECHNICAL STAFF, FUNDS & SPARE PARTS/ FITTINGS	TECHNICAL STAFF	Feb - April
Tana River County	REHABILITATION OF SHALLOW WELLS DAMAGED BY FLOODS	ASSA	1,500	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	TECHNICAL STAFF, FUNDS & SPARE PARTS/ FITTINGS	TECHNICAL STAFF	Feb - April
Tana River County	REHABILITATION OF SHALLOW WELLS DAMAGED BY FLOODS	SALAMA, MWINA	10,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	TECHNICAL STAFF, FUNDS & SPARE PARTS/ FITTINGS	TECHNICAL STAFF	Feb - April
Tana River County	REHABILITATION OF SHALLOW WELLS DAMAGED BY FLOODS	CHARA, WACHU ODA & KONE MANSA	9,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	TECHNICAL STAFF, FUNDS & SPARE PARTS/ FITTINGS	TECHNICAL STAFF	Feb - April
	REHABILITATION OF	KIPINI	11,000	TRCG, GOK, WFP, UNICEF,	TECHNICAL STAFF, FUNDS &	TECHNICAL STAFF	Feb - April

	SHALLOW WELLS DAMAGED BY FLOODS			GAA, WV, NDMA, OXFAM GB, KRCS.	SPARE PARTS/ FITTINGS		
Tana River County	Rehabilitation of Fafbare village water system	Madogo	1,100	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Technical Staff, Vehicles for Monitoring	Technical Staff	Feb - April
Tana River County	Rehabilitation of Buwa and Asako community water systems, including capacity building of beneficiary communities	Asako	1,500	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Technical Staff, Vehicles for Monitoring	Technical Staff	Feb - April

Medium and Long Term recommended Interventions

Tana River County	Construction of 50,000m ³ - 100,000m ³ large water pans to harvest the excess run off in water stress areas of the County.	Wayu, Haboye, Bangale, Chifiri, Kesi, Hara, Haroresa, Hurara, Assa, Hirimani	35,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	TECHNICAL STAFF	June - October
Tana River County	Rehabilitation and expansion of existing strategic water pans (depending on the outcome of the MAM Long Rains)	Bangale, Kesi, Gofisa, Haroresa, Odoganda, Assa,	16,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	Technical Staff	June - October
Tana River County	Closure of the Matomba, Kitere, Handaraku and Kalota Brooks.	Garsen, Kinakomba	25,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Excavation and Construction Machinery, Specialized Design and Supervision Team, Technical Staff Vehicles for mobility during implementation and M & E.	Technical Staff	Feb - April
Tana River County	Equipping of Boreholes	Kipini, Handampia	4,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA,	Funds, Technical Staff, Vehicles for Monitoring	Technical Staff	Feb - April

				OXFAM GB, KRCS.			
Tana River County	Drilling of High Yielding Shallow Wells	Ngao	3,500	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	DRILLING RIG & ASSOCIATED MACHINERY, FUNDS FOR MACHINERY OPERATORS, FUELS FOR MACHINERY, TECHNICAL STAFF	DRILLING RIG & ASSOCIATED MACHINERY TECHNICAL staff	Feb - April
Tana River County	Construction of a Major Water Supply Pipeline from Madogo to Bangale	Bangale	25,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	FUNDS, SPECIALIZED DESIGN & SUPERVISION SKILLS, Technical Officers, Vehicles for M & E	Technical Staff	2 Years
Tana River County	CONSTRUCTION OF 250,000LTRS STEEL ELEVATED TANK AT MADOGO PALACE, MADOGO WARD	Madogo	5,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Technical staff	Technical Staff	Feb-Dec
Tana River County	Construction of MADERTE WATER SUPPLY, MADERTE VILLAGE, BUWA LOCATION IN MADOGO WARD	Madogo	1,800	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, DRILLING RIG & ASSOCIATED MACHINERY, FUNDS FOR MACHINERY OPERATORS, FUELS FOR MACHINERY, TECHNICAL STAFF	Technical Staff	Feb-June
Tana River County	Pipeline extension from the tank at Madogo Palace to Boji, Hagaroti then Adelle (across the lagha)	Madogo	1,400	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Technical staff, Vehicle for Monitoring	Technical Staff	Feb-June
Tana River County	Hydrogeological survey and Drilling of a Borehole around Katumba area.	Bangale	3,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA,	Funds, DRILLING RIG & ASSOCIATED MACHINERY, FUNDS FOR MACHINERY OPERATORS,	Technical Staff	Feb-Dec

				OXFAM GB, KRCS.	FUELS FOR MACHINERY, TECHNICAL STAFF		
Tana River County Tana River County	Construction of Kuruso Water Supply Project Construction of 50,000m ³ - 100,000m ³ large water pans to harvest the excess run off in water stress areas of the County.	Madogo Wayu, Haboye, Bangale, Chifiri, Kesi, Hara, Haroresa, Hurara, Assa, Hirimani	1,800 35,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS. TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, DRILLING RIG & ASSOCIATED MACHINERY, FUNDS FOR MACHINERY OPERATORS, FUELS FOR MACHINERY, TECHNICAL STAFF Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	Technical Staff TECHNICAL STAFF	Feb- June June - October
Tana River County	Rehabilitation and expansion of existing strategic water pans (depending on the outcome of the MAM Long Rains)	Bangale, Kesi, Gofisa, Haroresa, Odoganda, Assa,	16,000	TRCG, GOK, WFP, UNICEF, GAA, WV, NDMA, OXFAM GB, KRCS.	Funds, Excavation Machinery, Technical Staff Vehicles for mobility during implementation and M & E.	Technical Staff	June - October

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
	> +1.5or more	Wet Conditions
	0 to +1.5	No drought
	-0.1 to -0.99	Mild drought
	-1 to -1.99	Severe drought
	<-2 and less	Extreme drought

Table 3: Vegetation Condition Index Values (VCI)

Color	VCI values	Agricultural Drought Category
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	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.

