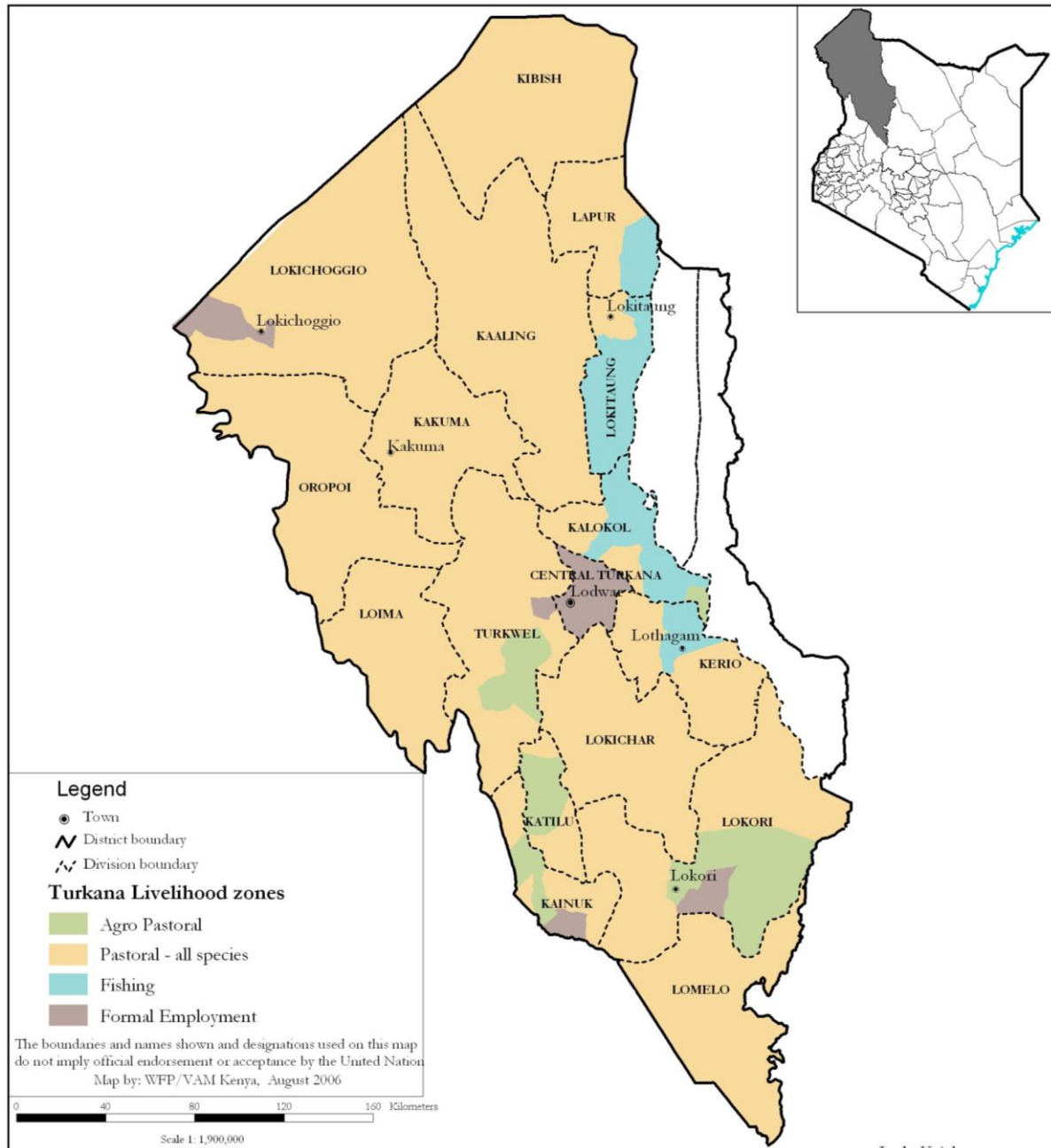


TURKANA COUNTY 2016 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



A Joint Report by the Kenya Food Security Steering Group¹(KFSSG) and Turkana County Steering Group (CSG)

August 2016

¹ Joseph Kamau Swala – Department of Livestock, Don Owino – USAID and Turkana County Steering Group (CSG)

Tables of Contents

1.0 INTRODUCTION	3
1.1 County Background.....	3
2.0 COUNTY FOOD SECURITY SITUATION	3
2.1 Current Food Security Situation.....	3
2.2 Food security Trends.....	3
2.3 Rainfall Performance.....	4
3.0 IMPACT OF RAINFALL PERFORMANCE, SHOCKS AND HAZARDS.....	4
3.1 Crop Production	4
3.2 Livestock Production.....	6
3.3 Water and Sanitation	8
3.4 Market and Trade	9
3.5 Health and Nutrition.....	11
3.6 Education.....	14
3.7 Coping Mechanisms	15
4.0 FOOD SECURITY PROGNOSIS	15
4.1 Prognosis Assumptions	15
4.2 Food Security outcomes from August to October.....	16
4.3 Food Security Outcomes for November to January	16
5.0 CONCLUSION AND RECOMMENDATIONS	16
5.1 Conclusion.....	16
5.2 Summary of Recommendations	16
3.8 Sub-County Ranking.....	17
6.0 ANNEXES	18
6.1 On-going Interventions by Sector	18
6.2 Proposed Intervention	20

1.0 INTRODUCTION

1.1 County Background

Turkana County covers an area of 77,000 square kilometers with an estimated population of 855,399 persons (KNBS 2009). The County is divided into six sub-counties namely: Turkana Central, Turkana East, Turkana North, Turkana West, Turkana South and Loima. It consists of four livelihood zones, pastoral, agro-pastoral, fishing and formal employment (Figure 1).

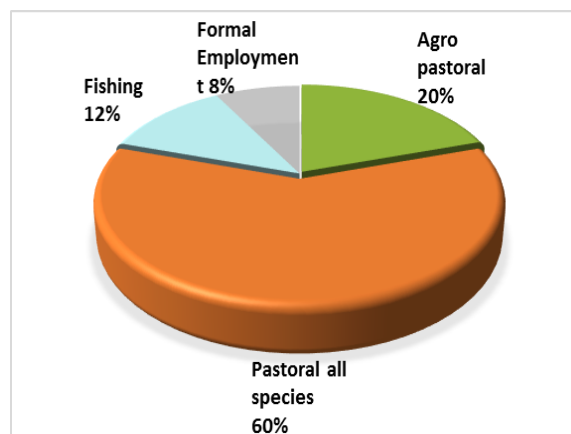


Figure 1. Population by livelihood zone

2.0 COUNTY FOOD SECURITY SITUATION

2.1 Current Food Security Situation

The County is classified as Stressed (IPC Phase 2) across all livelihood zones. Food security was affected by poor temporal distribution of the long rains, recurrent insecurity and conflicts over rangeland resources, locust infestation on forage in the pastoral livelihood zones in the north, low fish catch due to the fishing ban, pests in the agro-pastoral livelihood zones and flash floods that claimed some livestock. Households with acceptable food consumption score increased from 29.9 percent in May 2015 to 53.6 percent during the same period in 2016, implying improved dietary diversity and food frequency (Food Security Outcome Monitoring report, FSOM, May 2016). The SMART survey in June 2016 also indicated that only 30 percent of the households had poor and borderline food consumption scores. In May 2016, the coping strategy index (CSI) was 18 compared to 23 during the same period in 2015, implying that households were engaging less frequently in insurance consumption-based strategies. The proportion of children at risk of malnutrition based on mid-upper arm circumference (MUAC <135 mm) was 12 percent lower than normal.

2.2 Food security Trends

Table 1: Food security trends

Indicator	Current situation	Previous season
Food insecurity phase	Stressed (IPC Phase 2) in all livelihood zones	Stressed (IPC Phase 2) in all livelihood zones
Household food stocks	47% below the Long-Term Average (LTA)	18% below the LTA (LRA, August 2015)
Household water consumption per person per day	Agro-pastoral livelihood zones: 40 litres Pastoral livelihood zone: 30 litres Fishing livelihood zone: 30 litres	Agro-pastoral livelihood zone: 30 litres Pastoral livelihood zone: 15 litres Fishing livelihood zone: 15 litres

Indicator	Current situation	Previous season
Terms of trade (TOT)	41kg maize/one goat	34kg maize/one goat
Coping strategy index	18	25
Food consumption score	Acceptable -53.6%	Acceptable-29.9%
Children at risk of malnutrition	12% below the 5-year average	17% which was also below the 5-year average

2.3 Rainfall Performance

The onset was late in the first dekad (10 - day period) of April, compared to the second dekad of March normally. Generally, the county received above-normal rainfall of 110 – 140 percent. However, the pastoral livelihood zone (Kibish in the north, Lomelo and Lokori in the south) and the fishing livelihood zone received 90 – 110 percent of the normal rainfall. The spatial distribution of rains was even in most parts of the county (Figure 2). Temporal distribution was poor as there was a false onset in the first dekad of March, followed by a dry spell with most of the rainfall received between the first dekad of April to the first dekad of May. Cessation was early in the second dekad of May compared with the third dekad of May.

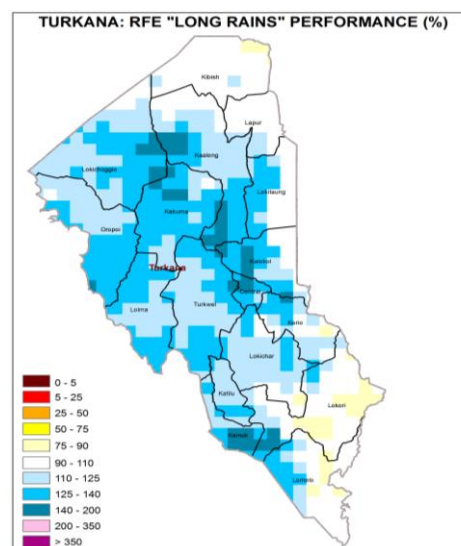


Figure 2. Rainfall Performance

3.0 IMPACT OF RAINFALL PERFORMANCE, SHOCKS AND HAZARDS

3.1 Crop Production

The county is mainly long rains-dependent. The season contributes about 70 percent to the annual crop production. In the agro-pastoral livelihood zone, food crop production contributes 40 and 60 percent to income and food respectively. Food crop production contributes 1 – 2 percent to cash in pastoral all species and fishing livelihood zones. The main crops grown are maize, sorghum and cowpeas.

Rain-fed Crop Production

The area under maize decreased by 34 percent compared to the long-term average (LTA). The county government delayed the provision of farm inputs (seeds) that led to delayed planting. A pest, the maize stalk-borer was also eating up maize stalks in the on-farm crop. Consequently, the maize production was projected to decrease by 41 percent. The area under sorghum was normal as most farmers preferred planting it to maize because its demand in the market was higher. Its production was also projected to increase by seven percent due to above-average rainfall performance in the agro-pastoral livelihood zone. The area under cowpeas (green leaf) increased by 13 percent which was attributed to availability of seeds from the previous season and its production was expected to be normal (Table 1).

Table 1. Rain-fed crop production

Crop	Area planted during 2016 Long rains season (Ha)	Long Term Average area planted during the Long rains season (Ha)	2016 Long rains season production (90 kg bags)/MT Projected	Long Term Average production during the Long rains season (90 kg bags)/MT
1.Maize	652	990	2302	3,890
2.Sorghum	1,739	1,790	18,990	17,700
3.Cowpeas	220	195	2,455MT	2,445MT

Irrigated Crop

The area under maize, sorghum and cowpeas (green leaf) decreased by 41, 22 and 13 percent respectively compared to the LTA. The reduction in irrigated crop acreage was attributed to delayed support on farm inputs/seeds and destroyed/silted irrigation schemes. The projected production of the three crops was also expected to decline by 41, 46 and 26 percent respectively compared to the LTA (Table 2). The expected decline in production was attributed to delayed supply of seeds that delayed planting and reduced acreage. In Katilu irrigation scheme, members opted to plant sorghum rather than maize due to increased demand of sorghum.

Table 2. Irrigated crop production

Crop	Area planted during 2016 Long rains season (Ha)	Long Term Average area planted during the Long rains season (Ha)	2016 Long rains season production (90 kg bags)/MT Projected	Long Term Average production during the Long rains season (90 kg bags)/MT
1.Maize	1,270	2,170	25,400	43,400
2.Sorghum	1,105	1,420	13,100	24,400
3.Cowpeas	265	305	6,800MT	9,150MT

Maize Stocks

The stocks held by households are 47 percent below the LTA (Table 3) although they are expected to increase once harvesting begins from August. Traders held higher-than-normal stocks (18 percent above the LTA) in anticipation of the increase in demand for maize as its production was projected to be poor.

Table 3. Maize stocks

Maize stocks held by	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	6,330	11,835
Traders	12,675	10,710
Millers	0	0
NCPB	2,640	13,828
Total	21,645	36,373

3.2 Livestock Production

Livestock is the main source of income for most pastoral communities in the county. The main livestock kept by households are goats, sheep, cattle and camels. Livestock production contributes 91 and 25 percent to cash income in pastoral all species and agro-pastoral livelihood zones respectively. In the fishing livelihood zone, livestock production contributes 18 percent to households' cash income.

Forage condition

Pasture and browse condition was good across all livelihood zones (Table 4) which is normal at this time of the year supported by above-average performance of long rains. Cases of insecurity have hindered the pastoralists in accessing pasture especially in the northern region bordering South Sudan and Ethiopia – Kibish and Lokichoggio areas. Locusts had also invaded browse in the pastoral livelihood zone in the north. Failed crops (maize and sorghum) in the agro-pastoral livelihood areas are used to supplement livestock feed. Pasture condition is likely to deteriorate through to August.

Table 4. Forage condition by livelihood

Livelihood zone	Pasture condition			Browse condition		
	Current	Normally	Projected Duration to last (Months)	Current	Normally	Projected Duration to last (Months)
Pastoral all species	Good	Good	2 months (July – August and partly September)	Good (above normal)	Good	3
Agro pastoral	Good	Good	2 months (July – August and partly September)	Good (above normal)	Good	3
Fishing	Good	Good	2 months (July – August and partly September)	Good (above normal)	Good	3

Livestock Productivity

Livestock body condition

Body condition of livestock was good for all livestock species across all livelihood zones, which was normal at this time of the year (Table 5). The condition was attributed to good pasture and browse conditions. However, it is likely to deteriorate to between fair and poor from September due to deterioration of rangeland resources and increasing distances to water sources particularly for cattle and sheep.

Table 5. Livestock body condition by livelihood zone

Livelihood zone	Cattle		Sheep		Goat		Camel	
	Current	Normally	Current	Normally	Current	Normally	Current	Normally
Pastoral all species	Good	Good	Good	Good	Good	Good	Good	Good
Agro pastoral	Good	Good	Good	Good	Good	Good	Good	Good
Fishing	Good	Good	Good	Good	Good	Good	Good	Good

Milk production, consumption and prices**Table 6. Milk production, consumption and prices at livelihood zone level**

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres)/Household		Prices (Ksh)/Litres	
	Current	LTA	Current	LTA	Current	LTA
Pastoral all species	1.7	2-3	1.7	2	80	80
Agro pastoral	1	2-3	1	1.5	80	80
Fishing	1	2	1	1.5	80	80

Birth rates and Tropical Livestock Units

The birth rates are normal for all livestock types across all livelihood zones. The TLUs have also remained within seasonal ranges (Table 7).

Table 7. Average TLUs at household level

Livelihood zone	Average TLUs/Household	
	Current	Normal
Pastoral all species	60	60
Agro pastoral	15	15
Fishing	22	25

Migration

There are no livestock migrations into or outside the County. However, livestock movements (intra-migration) have been observed within, when normally they are expected to have migrated to neighbouring counties.

Livestock Diseases and Mortalities

Livestock diseases include Contagious Caprine Pleural Pneumonia (CCPP) in goats, Trypanosomiasis, Contagious Bovine Pleuro-pneumonia (CBPP), tick-borne diseases, Mange and Poxes in camels, cattle, goats and sheep. Livestock in areas around Kibish – Ethiopia border are grazing together increasing the likelihood of the transmission of Pestes des Petits Ruminants (PPR), which has been reported in Ethiopia. Vaccination and mass treatment have been carried out to control the diseases. There were no unusual livestock mortalities across the livelihood zones, except for the livestock that were lost through flash floods (approximately, 39,000 sheep/goats, 650 camels, 650 cattle, and 360 donkeys).

Water for Livestock

The return trekking distance has relatively reduced across all livelihood zones due to increased water points and high recharge as a result of above-average performance of long rains (Table 8).

Table 8. Water for livestock

Livelihood zone	Sources of water for livestock		Return trekking distances (Km)		Expected duration to last (Months)		Watering frequency	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral all species	Water pans, hand dug wells and boreholes	Normal	9	10	2	1	Cattle-after one day	Cattle-after two day
							Sheep/Goat-Daily	After one day
Agro pastoral	Rivers (Tukwel and Kerio)	Normal	5	6	2	2	For all species after one day	Normal
Fishing	Hand dug wells, boreholes and Lake Turkana	Normal	5	6	2	2	For all species after one day	Normal

3.3 Water and Sanitation

The major water sources for both domestic and livestock use are rivers (Turkwel and Kerio), boreholes, shallow wells, sand dams and traditional hand-dug wells. Others include springs and water-harvesting structures such as water pans and earth dams. The above-average performance of long rains recharged open water sources to 60 – 70 percent. The current operational sources of water (boreholes, shallow wells and water pans) increased by 13, nine and 20 percent respectively compared to normal operational sources as a result of interventions by the county government (Table 9).

The distance to water for domestic use reduced from 5 – 7 km normally to 2 – 5 km currently due to above-average recharge levels in open sources as well as increased water points through interventions by the county government. The cost of water in the pastoral, agro-pastoral and fisher-folk livelihood zones remained within normal levels at between Ksh 5 – 10. An exception was in the fisher-folk areas of Kalokol, where water sold by vendors averaged Ksh 50 per 20-litre jerrican compared to the normal of Ksh 30, attributed to destruction of the water piping system by floods.

Waiting time at the sources has also declined across all livelihood zones, due to the increased number of water points and enhanced water yield. Water consumption at household level was 30 – 40 litres per person per day compared to 10 – 20 litres normally due to reduced distances to water sources and waiting time.

Table 9. Water availability

Sub county / livelihood zone	Sources of water				Distance to Water for Domestic Use (Km)		Waiting Time at Water Source (Minutes)		Average HH Use (Litres/person/day)		Projected duration of water availability in current water sources (months)
	Normal operational		Current operational		Normal	Current	Normal	Current	Normal	Current	
	Source	No.	Source	No.							
Agro-Pastoral	B/Holes Shallow Wells	105 400	B/Holes Shallow Wells	140 390	5	2	15	10	20	30	Other sources (b/holes)are permanent
Pastoral	B/Hs Pans	491 78	B/Hs Pans	430 65	5	3	10	4	15	40	2-3 months for water pans.
Fishing	B/Hs Shallow Wells	66 70	B/Hs Shallow Wells	60 60	7	5	30	15	10	30	Other sources (b/holes)are permanent

3.4 Market and Trade

Market operations

The main markets in the pastoral livelihood zones are Lokitaung, Lokichar, Kakuma, Lokichogio, Turkwel and Lorugumu. Lodwar town in formal employment and Kalokol and Kerio are located in the fishing livelihood zones. The main sources of crop commodities remained Kitale market, with some supplies coming from Uganda. All markets operated normally without any disruptions except in fishing zones where there was a fishing ban due to use of inappropriate fishing gear that resulted in low fish trade. The main livestock sold in the markets included cattle, goats, sheep and camels. The main staple food commodities include maize, beans and meat whose supplies to the markets remain slightly above-normal levels. The volumes traded for livestock were below normal at this time of the year which was due to availability of pastures resulting to low off-take. The main supply areas of livestock to the markets are from Kerio, Loima, Kalapata, Kakong, Lochwa, Kokuro, Kaikor where the supply was normal. The main challenge in trading of camels was the long distances for traders who move their camels from Lokichar to Kakuma via Lodwar.

Market Prices

Maize Prices

The average price of maize in July was normal and comparable to the price at a similar time in 2015. The price remained within normal ranges due to external market supplies (Figure 3). Maize prices are expected to decline further once harvesting begins from this month. In the fishing livelihood zone, maize prices were 75 percent higher compared to those in the agro-pastoral livelihood zone as a result of high demand for the commodity as farming was not practiced in the area and poor road network.

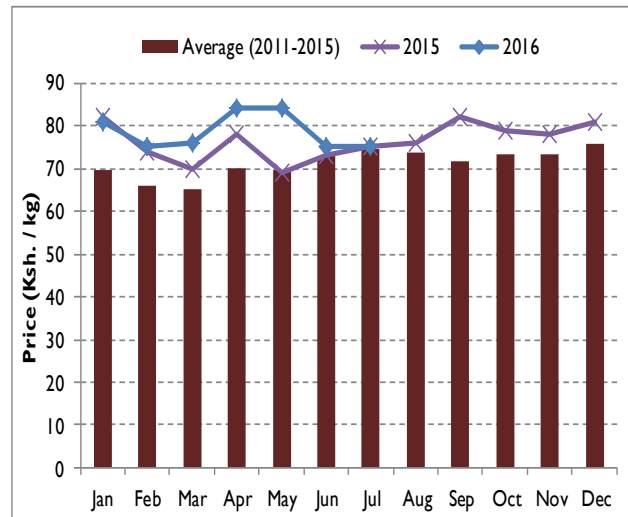


Figure 3: Maize price trends in Turkana County

Goat Prices

Goat prices in July were 47 percent higher than normal and 13 percent higher compared to a similar period in 2015 largely attributable to good body condition (Figure 4).

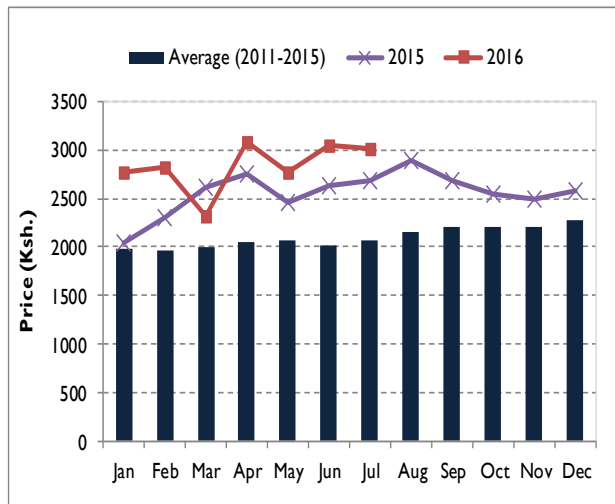


Figure 4: Goat price trends in Turkana County

The prices are likely to remain fairly stable as goats' body condition is also likely to maintain a similar trend. Prices were higher by 42 percent in the fishing livelihood zone compared to the agro-pastoral livelihood zone since sheep were preferred to goats in the former livelihood zone due to their fat back and tail ideal for food and better body condition.

Terms of Trade (ToT)

The ToT were 43 percent above the LTA and 10 percent above that posted at a similar time last year (Figure 5). Households were therefore able to currently purchase more maize with the proceeds from the sale of a goat compared to normal times and last year. The TOT is likely to remain stable through to December as goat prices are likely to remain stable following sustained good body condition.

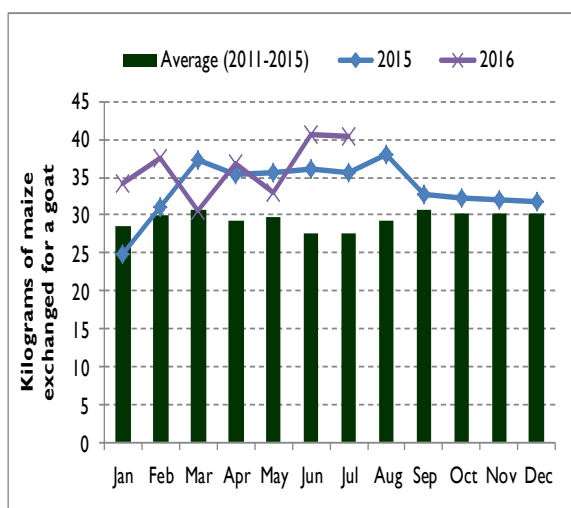


Figure 5: Trends in terms of trade in Turkana County

3.5 Health and Nutrition

Morbidity Patterns

All common diseases for under – fives between January to June 2016 increased compared to a similar period in 2015 (Table 10) except diarrhoea. Diarrhoea incidences in under – fives dropped compared to previous year due to health awareness by community health volunteers (CHVs) and distribution of water treatment chemicals. Malaria incidences in under – fives and the general population similarly increased compared to last year due to increase in mosquito transmitting vectors, limited access to health, poor health-seeking behavior and low ownership of mosquito nets (only 24.9% of households own nets). Diarrhoea in the general population also increased due to use of contaminated water. Urinary Tract Infection (UTIs) and skin diseases in the general population increased due to poor hygiene practices (District Health Information System, DHIS).

Table 10. Morbidity patterns

Reported Morbidity cases for children under five				Reported Morbidity cases for General Population			
Disease	Jan-June 2015	Jan-June 2016	% Change	Disease	Jan-June 2015	Jan-June 2016	% Change
Diseases of Respiratory	47,679	49,340	3	Diseases of Respiratory	52,441	53,431	2
Diarrhea	29,387	26,857	-9	Malaria	36,980	77,506	110
Malaria	22,953	33,842	47	Skin Diseases	13,929	19,116	37
Skin Diseases	8,213	9,866	20	Diarrhea	11,891	15,896	34
Pneumonia	7,641	9,721	27	UTIs	5,263	9,019	71

Epidemic Prone Diseases

There were 36 cases of measles in the period between January to June 2016 which resulted in one death compared to 10 cases during the same period in 2015 (Table 11). There were also 46 cases of cholera in the same period of January to June 2016 compared to three cases in 2015. An

upsurge of dysentery, diarrhea and malaria by eight, 20 and 46 percent respectively in January to June 2016 was also recorded compared to a similar period in 2015 which was associated with contaminated water and breeding grounds for mosquitoes. Typhoid cases declined by 12 percent in January to June 2016 compared to the similar period in 2015, mainly attributed to increased water treatment at household level as well as awareness creation by stakeholders in health, water, sanitation and hygiene sectors. Other cases such as anaemia and malnutrition resulted to 42 deaths during the same period of 2016.

Table 11. Epidemic-prone diseases

Epidemic	January – June 2015		January – June 2016	
	No. of cases	Reported Deaths	No. of cases	Reported Deaths
Measles	10	0	36	1
Cholera	3	0	46	0
Dysentery	2274	0	2459	0
Diarrhea	34200	8	40971	5
Malaria	59533	65	87192	45
Typhoid	4657	0	4096	0
Others (Anaemia)	-	-	-	22
Others (Malnutrition)	-	-	-	20

Immunization and Vitamin A coverage

The proportion of fully immunized children remained relatively stable compared to the previous year (Table 12) because pastoralists did not move in search of pasture and water for their livestock, following above-average rainfall which supported pasture and water. The Diocese of Lodwar also increased support for community outreaches. Increased coverage in Oral Polio Vaccination (OPV 1 and OPV 3) vitamin A supplementation and measles (DHIS) was also associated with regular campaigns and vaccination drives (Table 13).

Table 12. Immunization coverage

Year	Percentage of fully immunized children in the County Source DHIS MOH 710 Vaccines and Immunizations	Percentage of children immunized against the mentioned diseases in the County Source Nutrition survey
January to June 2016	66.4	OPV 1 96.4 OPV 3 75.6 Measles 70.7
January to June 2015	63	OPV 1 74.5 OPV 3 47.8 Measles 66.6

Table 13. Vitamin A coverage

% Children < 12 months who received Vitamin A (DHIS 710)		% Children 1 to 5 years' old who received Vitamin A (DHIS 710)		% Children 6-11 Ones (Survey)		% Children 12-59 Twice (Survey)		% Children 6-59 Ones (Survey)	
Jan – June 2015	Jan – June 2016	Jan – June 2015	Jan – June 2016	Jan – June 2015	Jan – June 2016	Jan – June 2015	Jan – June 2016	Jan – June 2015	Jan – June 2016
63	120.6	37	66.8	96.7	132.6	33.7	71.3	40.7	78.1

Nutrition Status and Dietary Diversity

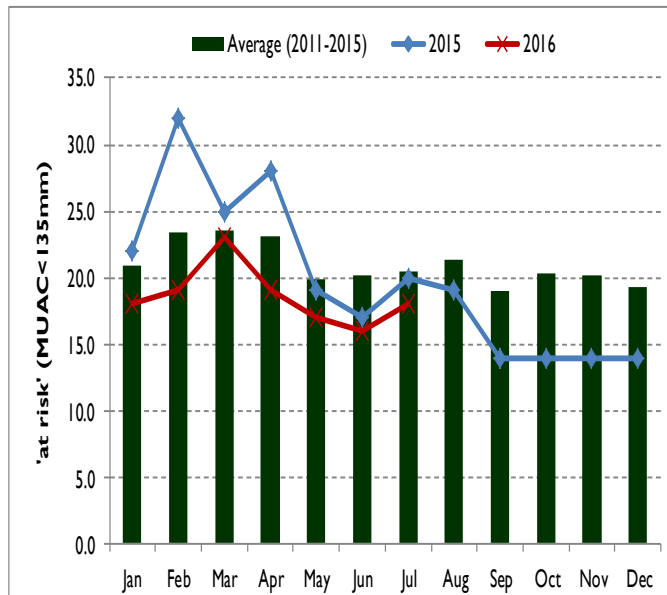


Figure 6: Trends in proportion of children at risk of malnutrition in Turkana County

The proportion of children at risk of malnutrition measured by mid – upper arm circumference (MUAC<135 mm) reduced by 12 percent compared with the LTA and a similar time in 2015. The improved nutritional status was attributed to availability of milk at household level. The proportion of children at risk has remained lower than normal from January to June 2016 (Figure 6). However, the SMART Survey done in June 2016 revealed that the nutrition situation in Turkana (Turkana South, Turkana Central and Turkana North) remain a concern, with global acute malnutrition (GAM) rates being above 20 percent. The nutrition situation in Turkana South is Extremely Critical (Phase 5).

Food Consumption Scores

The proportion of households with a poor food consumption score had reduced compared with a similar time last year (FSOM, May 2016), implying improved household dietary diversity and food frequency (Figure 7). The implication was that the majority (53.6 percent) were consuming at least a staple and vegetables daily, complemented by a frequent consumption of pulses and oil. The situation was similar to the results of the SMART survey conducted in June 2016, as the FCS, based on the 7-day recall period, estimated 3.4 percent of households to have a poor food consumption score.

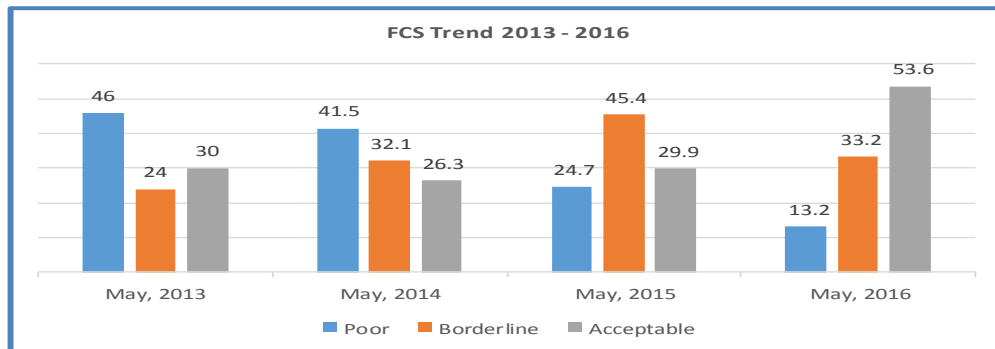


Figure 7: Food consumption score trends in Turkana County

Majority of the households consumed cereal-based diets which are less nutrient-dense (SMART survey, June 2016). In the pastoral livelihood zone, households were consuming 1 – 2 meals per day compared to 2 – 3 meals normally. In the agro-pastoral and fishing livelihood zone,

households were consuming 2 – 3 meals per day which was normal. However, consumption of iron rich foods was very poor among households with generally acceptable diet profiles across all survey zones.

Sanitation and Hygiene

About 35.6 percent of the households use unprotected shallow wells, dug well/lagga, river/spring as their main source of drinking water. Latrine coverage remains low at 27 percent below the national target of 61 percent. A majority of the households (84.9 percent) relieve themselves in the bushes with only 15.2 percent either sharing or owning a traditional pit latrine (SMART survey, June 2016). Low usage of latrines has been linked to the prevalence of water-borne diseases across all the livelihood zones. Households in Turkana South sub-county practice hand-washing the most (88.6%), especially before eating (Figure 8). However, hand-washing after cleaning the baby and during all four critical times is very poor across board. Close to half of the proportion of households in 2016 and 2015 use plain water to their wash hands. Household that use soap and water has improved from 28.6 percent in 2015 to 32.7 percent in same period of 2016 due to increase health awareness by Community Health Volunteers. On household drinking water storage, only 23.4 percent of the households used open container/jerrican while 76.6 percent used closed container/jerrican. Households use different water treatment methods, 64.2 percent used chemicals in June 2016 compared to 16.3 percent during a similar period in 2015 (SMART survey, June 2016).

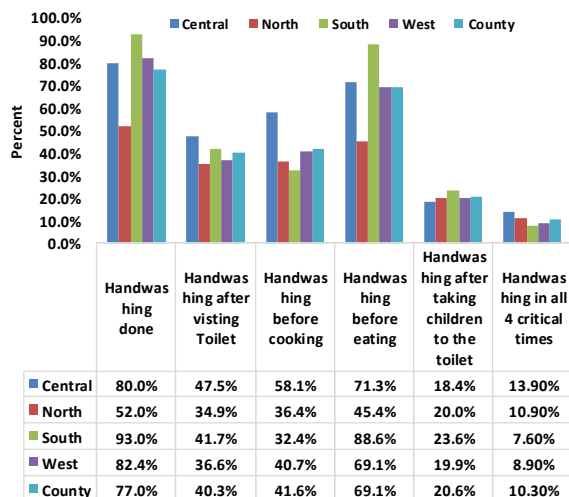


Figure 8: Hand-washing practices

3.6 Education

Enrolment increased in term two compared to a similar period last year. Increase in enrolment was attributed to campaigns conducted by UNICEF/ GOK in December 2015 to February 2016, and board management workshops conducted by WFP in all the sub-counties (Table 14). Last year, the county had 365 public primary schools, 30 of which were opened up this year. There was a drop in enrolment in early third term 2015 due to a teachers’ strike that lasted for three weeks during which period there was no learning in schools.

Table 14. Enrolment, Drop out and Transition

Enrolment	Drop out	Transition
Increased by 7% in Term II 2016 compared to same Term in 2015	Boys=7% in 2016 compared to 3% in same period in 2015 Girls=10% in 2016 compared to 4% in same period in 2015	Primary to Secondary Boys=2.5% Girls=2%

Drop out occurred in spite of investments in child-friendly schools, training of board management of schools by WFP, construction of WASH facilities in most schools by

UNICEF/GOK, as well as installation of solar power system under the rural electrification program. Drop-outs were attributed to parents' movement within the county, poor sanitation and hygiene, drug and substance abuse, pregnancy, high illiteracy levels of parents, early marriage and long distances to schools. Ration reduction by WFP in third term also contributed to drop-out. The increase in transition was attributed to expansion of learning space through construction of eight additional secondary schools spread across all the sub-counties, and bursary support from the county government as well as corporates such as Equity, Kenya Commercial Bank, Presidential bursary, *Mama Mzungu* Foundation and Co-operative bank scholarships.

3.7 Coping Mechanisms

In May 2016, the coping strategy index (CSI) was 18 compared to 23 during the same period in 2015 implying that households were not engaging frequently in consumption-based strategies (Figure 9). About 53.3 percent of the household employed stress coping strategies as the most utilized strategies. The strategies used included purchasing food on credit, spending their savings and borrowing money. On the other hand, about 34.3 percent of the households used emergencies coping strategies which included begging. (FSOM, May 2016),

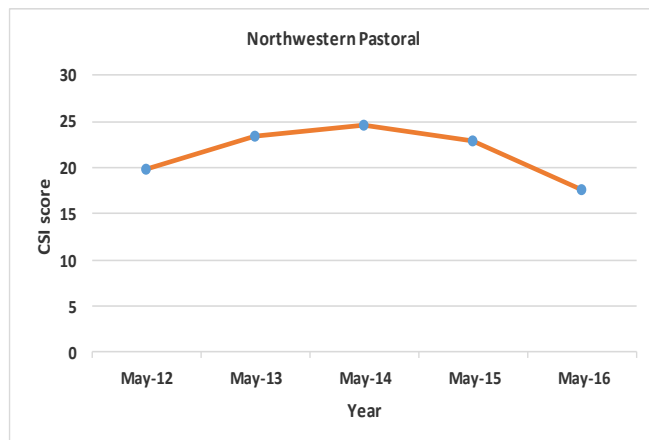


Figure 9: Coping strategy index trend

4.0 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumptions

The prognosis will likely depend on the following assumptions:

- The October – December rains are likely to be below average due to a 55-60 percent chance of a La Nina event.
- High and rising temperatures are likely to continue through to October hence diminishing water and forage for livestock faster than normal.
- Conflicts due to diminished rangeland resources are likely to be experienced especially near Koturuk hills and Lopuke hills as well as cases of active conflict in Nakitongo, Nasekona and Nawountos villages in the border of Kenya and Uganda, which remain conflict hotspots.
- Maize prices across all major markets will gradually decline through July – August but later rise gradually due to increased demand as household stocks decline. Maize inflows from neighbouring towns especially Kitale will likely stabilize the prices, averting any sharp spikes in prices.
- Livestock migration will gradually increase through August and thereby likely to spread diseases. Livestock movements in search of pastures and water will likely ignite recurrent conflicts.

4.2 Food Security outcomes from August to October

Food security situation is likely to further decline despite a few households having some stocks after harvesting especially in the agro-pastoral areas. Rangeland resources are likely to deteriorate towards the lean season. Depletion of rangeland resources will likely affect livestock productivity as livestock are moved to dry grazing areas. Rangeland resources depletion may likely lead to conflicts along the border with West Pokot County, where pastoralists from Turkana and Pokot are grazing their livestock together. Household income is likely to be compromised by movement of their livestock away to dry grazing areas which will reduce labour earning opportunities; in turn reduced income will constrain food access limiting consumption of livestock products.

To maintain food consumption, households are likely to engage more frequently in various coping strategies such as borrowing and buying food on credit (consumption-based strategies) and charcoal burning and selling of firewood (livelihood-based strategies). Households will largely remain in Stressed (IPC Phase 2). Nutritional outcomes are likely to worsen compounded by the decline in livestock productivity, which will affect household food consumption, food access and low dietary intake. Malnutrition levels will likely worsen.

4.3 Food Security Outcomes for November to January

With the onset of short rains in October forecasted to be below-average, pasture and browse recovery during this period is expected to follow a similar trend. Water availability, access and consumption will also be sustained for a shorter period and thereafter compromised. Similarly, household incomes are likely to be compromised with declined livestock related incomes, as livestock remain in dry season grazing areas away from homesteads. Little improvement in household food security will be expected which will later compromise the nutritional status of children by maintaining malnutrition levels at very critical levels. Some poor households especially in the pastoral areas in the north are likely to move to Crisis (IPC Phase 3).

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The food security of the county is classified as Stressed (IPC Phase 2) in all the livelihood zones. Nutritional status of children is likely to remain at very critical levels, if immediate response is not undertaken. Several key factors need close monitoring to forestall further deterioration of the food security status which include: malnutrition levels in children and depletion of rangeland resources likely to spark conflicts especially along the border with West Pokot and Ethiopia side and Nakitongo, Nasekona and Nawountos villages in the border of Kenya and Uganda. Others include livestock migration thereby leading to spread of livestock diseases, post harvesting losses in agro-pastoral areas and prices of food commodities.

5.2 Summary of Recommendations

- Scale up high impact nutrition interventions at all service delivery points and community-led total sanitation. Interrogate household care practices. There is need to monitor if nutrition products issued to mothers are actually consumed by the children.

- Range/pasture reseeded, feed distribution and fodder production, cross-border disease surveillance, vaccination and mass treatment/deworming and capacity building for community diseases reporters.
- Repairs and rehabilitation of non-functional water points in areas of high concentration of livestock, fuel subsidies to all motorized engines across the county's 33 water supplies systems, water trucking to water stressed areas such as Kalapata, Lomelo, Katilu, Kaikir, Kapua, Naduat, Songot and Lobei.
- Water structures for irrigation and agrovet for farm inputs, post-harvesting capacity building and rehabilitation of canals at Kanaodon scheme as well as construction of new irrigation schemes.
- Construction of WASH facilities for teachers and pupils and construction of kitchen and provision of energy saving jikos.
- Conflict resolution mechanism to address the cross border and internal conflicts (*Ng'ikamatak Vs. Ngiwoiyakwara*), supply water for both livestock and humans in the three villages, set up emergency health services to conduct diseases surveillance, provide food assistance and improve road infrastructure.

3.8 Sub-County Ranking

Table 15. Sub County food security ranking (worst to best)

Sub County	Food security rank (1-10)	Main food security threat (if any) tied with the analysis and driver of Food Security
Turkana North/Kibish	1	Persistent insecurity. Below average rainfall performance compared to short rains. High food prices due to limited access as result of poor road network and higher distances of food from supply the sources. Threat of trans-boundary livestock disease (PPR). Cases of locust infestation that is likely to affect livestock health and forage. Introduction of fish ban in the fishing areas. Low fish catch as result of cold season thereby affecting breeding and fish tend to recede deep in the lake thus this affects fish catch and trading.
Turkana West	2	Influx of livestock from the neighboring community due to insecurity. Previous short rains performed better than the current long rains Food assistance voucher program introduced in the Kakuma refugee camp has led to higher food prices Pockets of agro pastoral areas had failed crops (Kalobeyei and Natiira)
Turkana Central	3	Introduction of fish bans in lake zone areas disrupted trading due to seasonal variation in breeding of fish and fish catch High food prices due to the distance from the source, poor road network, hoarding livestock
Turkana East	4	High food prices
Loima	5	Long rains performed better than short rains. Peace with the neighboring Pokot community thus they interact without fear.
Turkana South	6	Prevailing peace within the sub county Household food stocks expected to rise once harvesting is done especially in the irrigated areas. Many people are formerly employed hence support their families.

6.0 ANNEXES

6.1 On-going Interventions by Sector

Table 16. Ongoing interventions

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Health and Nutrition							
Vitamin A Supplementation	Improve the micronutrient status of the community-hence food security	All locations	All locations	182 M	148,338	July-Dec 2016	MoH, SCI, UNICEF, GAIN, Aphia Plus, GIZ, AMREF
Management of Acute Malnutrition (IMAM)-U5	Improve/adjust the nutrient status of the affected community.	All locations	All locations		31,448	July-Dec 2016	MoH, SCI, UNICEF, GAIN, Aphia Plus, GIZ, AMREF
IYCN Interventions (EBF and Timely Introduction of complementary Foods)	To reduce the disease burden.	All locations	All locations		148,338	July-Dec 2016	MoH, SCI, UNICEF, GAIN, Aphia Plus, GIZ, AMREF
Iron-Folate and Zinc Supplementation among Pregnant Women	Improve the micronutrient status of the community-hence food security	All locations	All locations		22,348	July-Dec 2016	MoH, SCI, UNICEF, GAIN, Aphia Plus, GIZ, AMREF
Deworming		All locations	All locations		133,200	July-Dec 2016	MoH, SCI, UNICEF, GAIN, Aphia Plus, GIZ, AMREF
Livestock							
Range land management and fodder production capacity building	Improved food security	All locations	Turkana Central, Loima and Turkana North	1.5M	207	March- June 2016	MoPEF

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Construction of sale yard in Nakalalei	Improved market access for livestock	All locations	Turkana South	5.0M	1500	March-June 2016	MoPEF
Pasture reseeding in Loperot	Improved food security as livestock access feeds	All locations	Turkana South	15M	1000	March –June 2016	MoPEF
Disease surveillance, vaccination and mass treatment/deworming	Reduce livestock diseases	T.East, Central, South and West	T.East, Central, South and West	10M	2500	March –June 2016	MoPEF, EU/FAO/LWF
Extension services	Increase in livestock production	All locations	Turkana North	2.0M	200HHs	March-June 2016	Pastoral economy
Agriculture							
Provision of farm inputs (tools and seeds)	Increase in crop productivity (acreage and produce)	All sub counties		4.5M	1200	Jan-June 2016/17	Turkana County Government (MWIA)
Provision of Tractor services	Increase acreage	All sub counties		2.4M	1200	Jan-March	Turkana County Government (MWIA)
Development of irrigation	Increase food availability	County wide	County wide	1.5M	300	Jan-June 2016/17	Turkana County Government (MWIA)
Water							
Drilling of 90 No. Boreholes and equipping	Improve availability of water	3 borehole/ward	250,000	305M	250,000	2015-2016	Turkana County Government
Construction of 30 No. water pans	Improve availability of water	All wards	200,000	270M	200,000	2015-2016	Turkana County Government

Intervention	Objective	Specific Location	Activity target	Cost	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Rehabilitation of water Supplies (Urban)	Improve availability of water	Lodwar, Kakuma, Lokitaung, Lokichar, Lorugum, Lokori, Kalo kol, Kibish	130,000	80M	130,000	2016-2017	Turkana County Government
Education							
School meals programme	Increase in enrolment, Retention, Transition Improved performance	All locations	114,381	100M	114381	2016-2017	MOE WFP

Schools meals program

A total of 114,381 (53,940 girls, boys 60,441) (Table 17) pupils are benefitting from school meals program. The program has helped boost retention of pupils in schools across the county.

Table 17. School meals programme

Sub-County	No. of Schools	Primary		
		Boys	Girls	Total
Loima	57	6667	6159	12,826
Turkana Central	74	14467	13254	27,721
Turkana West	59	9995	8188	18,183
Turkana North	44	5084	4617	9,701
Turkana South	83	14734	13116	27,850
Turkana East	37	8699	8028	16,727
Kibish	11	795	578	1,373
Total	365	60,441	53,940	114,381

6.2 Proposed Intervention

Food Intervention Required

Table 18. Proposed population in need of assistance

Sub County	Population in the division	Pop in need (% range min – max)	Proposed mode of intervention
Turkana North/Kibish	90,971	25-30	CFA/FFA
Turkana West	123,089	25-30	CFA/FFA
Turkana Central	111,238	25-30	CFA/FFA
Turkana East	33,349	20-25	CFA/FFA
Loima	116,514	20-25	CFA/FFA
Turkana South	64,103	15-20	CFA/FFA

Non-food Interventions (by sector)

Table 15. Non-food interventions

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Health and Nutrition							
All sub counties	Scale up High Impact Nutrition Interventions at all service delivery points	All locations	148,338	MoH, IRC, SCI, WVK, UNICEF, WFP	181,232,384	124,084,572	July–Dec 2016
All sub counties	Community–led total sanitation	All locations	435 villages	Turkana County Gvt and UNICEF	24M		July–Dec 2016
Livestock							
Turkana Central, South and North	Range/Pasture reseeding	Turkana Central, South and North	3500HHs	MoPEF	27.0M	0	August–Dec 2016
Turkana North	Feed distribution	County wide	4500HHs	MoPEF	1.0M	1.0M	August–Sept 2016
County wide	Cross border disease surveillance, vaccination and mass treatment/de worming	County wide	7000	MoPEF	30M	0	2016/2017
County wide	Capacity building for community diseases reporters	County wide	60	MoPEF	1.5M	0.2M	2016/2017
Loima	Fodder production	Loima		MoPEF	2.0M	0	August–Dec 2016
Water and Sanitation							
All Sub counties	Repairs and rehabilitation of non-functional water points in areas of	All areas	300,000	Turkana County Government	40M	20M	2016/2017

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
	high concentration of livestock						
All Sub counties	Fuel subsidies to all motorized engines across the county 33 water supplies	Kibish, Kaikor, Kaaleng, Milima-tatu, Kanakurudio, Kachoda, Lokitang, loarengak, Kataboi, Kalokol, Kadokorinyang Kangatosa, Eliye spring, Namadak, Nakwei, Nadapal, Turkwell, Lorughum, Kakuma, Kalobeiyeyi, Oropoi, Lokichoggio Lopiding' Napo pongoit, Katilu, Lokichar, Lokori, Katilia)	250,000	Turkana County Government/NDMA	2M	0.3M	2016/2017
All Sub - Counties	Water trucking to water stressed areas	Kalapata, Lomelo, Katilu, Kaikir, Kerio, Kapua, Naduat, Songot, Lobei	100,000	Turkana County Government/NDMA	0.3M	0.1M	2016/2017
Agriculture							
Katilu	Water structures for irrigation and agrovet for farm inputs	Katilu, Kalemngorok	4000	Turkana County Government (MWIA)	55M	0	2016/2017
County wide	Post harvesting capacity building	County wide	5000	Turkana County Government (MWIA)	1M	0	2016/2017
Turkana East,	Rehabilitation of canals at	Turkana East, Turkana South	1200	Turkana County	50M	0	2016/2017

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Turkana South	Kanaodon scheme and construction of new irrigation schemes			Government (MWIA)			
Education							
All sub counties	Construction of kitchen and provision of energy saving jikos	All sub counties	5 schools in every sub-county	WFP, County Govt, Unicef	250M	0	2016/2017
All sub counties	Construction of WASH facilities for teachers and pupils	All sub counties	5 schools in every sub-county	WFP, County Govt, Unicef	300M	0	2016/2017