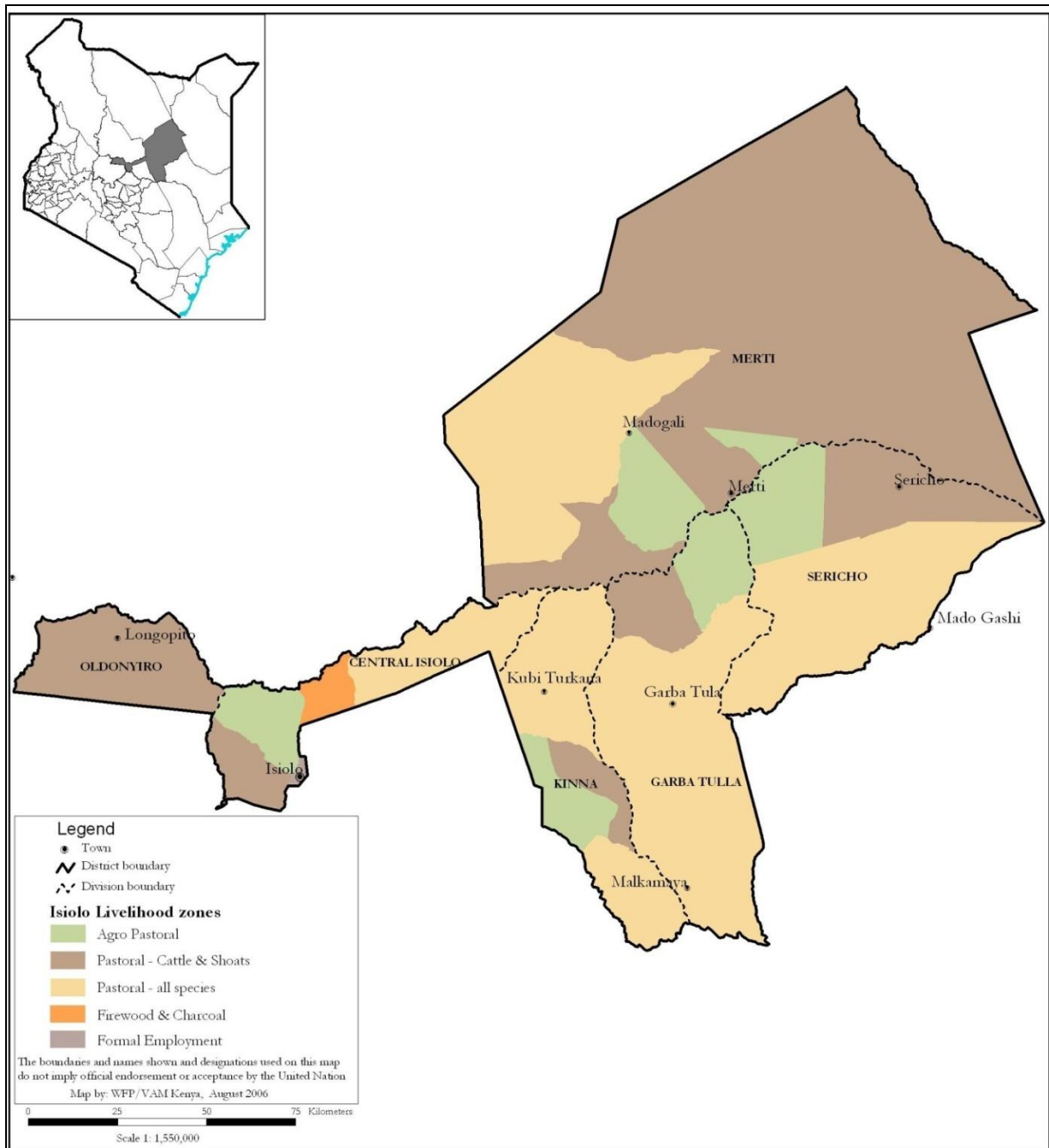


ISILO COUNTY 2016 LONG RAINS FOOD SECURITY ASSESSMENT REPORT



A joint report by the Kenya Food Security Steering Group (KFSSG)¹ and the Isiolo County Steering Group

July 2016

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TABLE 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	4
2.3	Rainfall Performance.....	4
3.0	IMPACT OF RAINFALL PERFORMANCE, SHOCKS AND HAZARDS	5
3.1	Crop Production	5
3.2	Livestock production.....	6
3.3	Water and Sanitation	9
3.4	Markets and Trade.....	10
3.5	Health and Nutrition.....	12
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.....	17
5.1	Conclusion.....	17
5.2	Summary of Recommendations	17
5.3	Sub-County Ranking	18
6.0	ANNEXES	18
6.1	On-going Interventions by Sector	18
6.2	Proposed Intervention	20

1.0 INTRODUCTION

1.1 County Background

Isiolo County is located in the northern part of the country. It is divided into two sub-counties, Isiolo North and Isiolo South. The county spans an area of 25,605 square kilometers with a population of 143,294 (KNBS, 2009). There are five livelihood zones (Figure 1). The analysis in this report will be done primarily for the Pastoral, Agro-pastoral and Firewood/Charcoal livelihood zones.

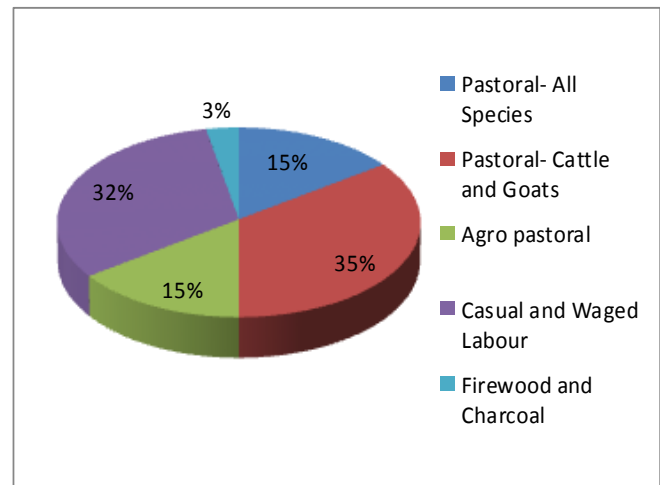


Figure 1: Population by livelihood zone

2.0 COUNTY FOOD SECURITY SITUATION

2.1 Current Food Security Situation

The Pastoral, Firewood/Charcoal and Agro pastoral (Merti sub-county) livelihood zones are classified in the Stressed food insecurity phase (IPC Phase 2) while the Agro pastoral livelihood zone is classified in the Minimal food insecurity phase (IPC Phase 1). A major driver of food insecurity is poor rainfall performance with over 50 percent of the county receiving between 50 and 75 percent of normal rainfall. Crop destruction also occurred in areas around Merti due to flooding of the Ewaso Nyiro caused by excess water from its catchment in Mt Kenya. Access to pasture and water was limited in the southern part of the County around Belgesh in the Pastoral livelihood zone due to tension over the presence of herdsman from Garissa County. Finally, pasture was also fast diminishing due to inward migration of livestock from Marsabit and Wajir Counties which resulted to over-concentration of livestock around the remaining grazing areas and water points.

Most households (75.3 percent) had an acceptable Food Consumption Score (FCS) and were consuming at least a staple and vegetables on a daily basis complemented by frequent consumption of oil and pulses according to May 2016 Food Security Outcome Monitoring (FSOM) report which is an improvement on the 55.5 percent recorded at the same time last year. The Coping Strategy Index (CSI) has also reduced to 19 in May 2016 from 33 at the same time last year, implying that fewer households were engaging in consumption-based coping strategies and on a less frequent basis. The Global Acute Malnutrition (GAM) prevalence was 12.3 percent (SMART survey, Feb 2016) compared with 13.2 percent at the same time in 2015. The Crude Mortality Rate (CMR) and under five mortality rate (U5MR) were 0.57/10,000/day and <0.001/10,000/day respectively (SMART survey, Feb 2014) and were within normal ranges.

2.2 Food Security Trends

Table 1: Food security trends in Isiolo County

Indicator	Long rains assessment, July 2016	Short rains assessment, Feb 2016
Food insecurity phase	Stressed (pastoral, firewood/charcoal and agro-pastoral in Merti) Minimal (agro-pastoral in Kinna)	Stressed (pastoral and firewood/charcoal) Minimal (agro-pastoral)
% of maize stocks held by households (agro-pastoral)	2.7%	4% (previous LRA, August 2015)
Livestock body condition	Fair for all species	Fair to good
Water consumption (litres per person per day)	10-15 (pastoral zone) 15-20 (agro-pastoral zone)	7-10 (pastoral zone) 15-20 (agro-pastoral zone)
Price of maize (per kg)	51	30
Distance to grazing	15km	8km
Terms of trade (pastoral zone)	58.7.4kg maize / one goat	52.4kg maize / one goat
Coping strategy index	19	33
Food consumption score	75.3 percent	55.5 percent

2.3 Rainfall Performance

The onset of the rains in the county was late by a dekad as it occurred in the first dekad of April compared with the normal third dekad of March. The County received below normal rains of 50-90 percent in most parts (Figure 2). However, a few isolated locations such as Kinna in the Agro-pastoral zone and Cherab ward in the Pastoral livelihood zone received normal to near-normal rains, although the temporal distribution was poor since most of it was received in only three days. In other areas, the rains were fairly well distributed in time during the season as all dekads received some rains, while the spatial distribution was even across all livelihood zones. Cessation was normal in the second dekad of May.

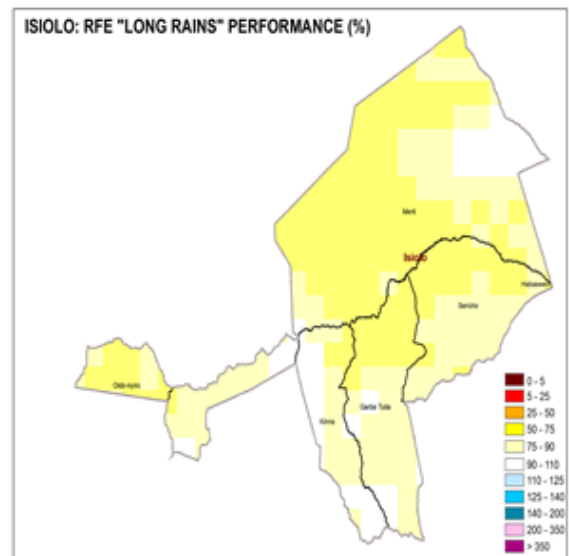


Figure 2: Percent of normal rainfall

3.0 IMPACT OF RAINFALL PERFORMANCE, SHOCKS AND HAZARDS

3.1 Crop Production

The County is short rains dependent. The long rains season accounts for about 40 percent of annual rainfall. The three main food crops are maize, beans and cowpeas (Table 2). Crop production is only practiced in the Agro pastoral livelihood zone.

Table 2: Contribution of crops to food and income in Isiolo County

Livelihood Zone	Crop	Percent Contribution	
		Food	Income
Agro Pastoral	Maize	45	15
	Beans	19	25
	Cow peas	3	1

Although the area put under maize was normal compared with the Long Term Average (LTA), the projected production was approximately 4.7 percent of the LTA (Table 2). The significantly lower than normal production was occasioned by stunting of the maize crop as a result of excess water in Kinna, which also led to crop destruction in Merti along the Ewaso Nyiro River. In Isiolo Central, production was lower as most households delayed planting due to the rains' late onset. Additionally, the rainfall in the area was characterized by poor temporal distribution with fewer rainy days.

Table 3: 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) Projected/Actual	Long Term Average production during the Long rains season (90 kg bags)
Maize	366	350	155	3300
Beans	144	265	300	1905
Cowpeas	57	75	30	105

The area planted under beans and cowpeas was 54.3 and 76 percent of the LTA respectively caused by the late onset, since households were reluctant to spend on these crops as they are slightly expensive and were unsure whether they would do well. Consequently, the actual production of both crops was 15.7 and 28.6 percent of their LTAs respectively (Table 3).

The area put under irrigation for maize was 36 percent of the LTA which was projected to result in 45 percent of the normal production (Table 3). The Ewaso Nyiro River has over time been changing its course making it difficult to construct irrigation canals to enable water to flow by gravity. An alternative option was to use pumps to relay water to the farms. Some farmers in these irrigated areas had neither the resources to purchase these pumps nor the fuel to run them, hence the lower than normal production of maize.

Table 4: Irrigated crop production

Crop	Area planted during 2016 Long rains season (Ha)	Short Term Average area planted during the Long rains season (Ha)	2016 Long rains season production (90 kg bags) Projected and Actual	Short Term Average production during the Long rains season (90 kg bags)
Maize	119	330	1878	4200
Cow peas	20	15	266	200
Onions	24	29	240	250

The acreage of cowpeas under irrigation rose by 33 percent and its consequent production also increased by a similar margin. The little water available in the irrigated farms was sufficient for cowpea production as it is a drought tolerant and water efficient crop. The acreage under irrigation for onions and its consequent production was normal (Table 4).

Maize stocks

The current maize stocks in the county were 34.3 percent of the LTA. Households held a meagre 2.7 percent of the LTA since harvesting was yet to be done, while traders and millers held almost normal stocks (Table 5).

Table 5: Available 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	100	3,696
Traders	1,335	1,377
Millers	481	508
Total	1,916	5,581

The stocks held by households were only available in Garbatulla sub-county. There were no stocks in Merti and Isiolo where households were relying on markets. The available stocks were likely to last for less than one month up to mid August, compared with two months normally. However, this will coincide with the harvesting which will replenish household stocks to a small extent and which are then projected to last for approximately two months until October. The County's relief agencies also held 11,100 of 90-kg bags of sorghum which was estimated to support about 40,000 beneficiaries for approximately four months. However, the commodity is not the most preferred for food consumption.

3.2 Livestock production

Livestock production is a major source of income in the County (Table 6). Cattle, sheep, camels, goats, poultry and donkeys are the main livestock species kept. The small stock such as sheep and goats are normally sold for basic household needs including food, while the large stock are the main milk producers and are usually sold to cater for major investments. Donkeys are mainly used as a means of transport while poultry are a vital source of quick income particularly in the Agro pastoral and Charcoal/Firewood livelihood zones.

Table 6: Contribution of livestock production to income

Livelihood Zone	Percent contribution to income
Agro pastoral	45
Firewood/Charcoal/Pastoral (Cattle, Goat)	44
Pastoral all species	80

Forage condition

Pasture was fair in the Agro pastoral livelihood zone (areas around Garba Tulla). The Ewaso Nyiro River that runs through the zone had caused some flooding in the plains caused by excess water from its catchment in Mt. Kenya that resulted in some pasture rejuvenation. In the Pastoral livelihood zone, pasture was poor around Oldonyiro and Chari wards but fair in Cherab ward. The available quantities were likely to last approximately two months until mid-September compared to three months normally in the Agro pastoral livelihood zone and approximately one month until mid-August compared with two months normally in both the Pastoral and Firewood/Charcoal livelihood zones. Although the rains received were sufficient to generate pasture rejuvenation to a small extent, some of the areas were degraded which could not support sufficient regeneration coupled with the fact that livestock migration had been reported in these areas thereby increasing the demand for pasture.

Browse condition was generally fair in the Agro pastoral and both the Pastoral livelihood zones but poor in the Firewood/Charcoal livelihood zone due to poor rainfall. The available browse was likely to last for at least three months until October which was normal.

Livestock keepers in the Pastoral livelihood zones along the border of Isiolo and Garissa could not access forage due to tension over the presence of armed herdsmen around Belgesh water pan. Conflicts over pasture and water were also been reported in Hawaye and Bassa in the same zone. There was minimal contribution of crop residues to livestock feed because harvesting of maize had not yet been done and the planted crop in Merti was washed away by floods.

Livestock Productivity**Body condition**

Livestock body condition was fair across all livelihood zones for all species. The projected body condition for the next three months for goats and camels is unlikely to change as browse is likely to last for that duration in all livelihood zones. However, the condition of cattle is likely to deteriorate since pasture is likely to last for only one month in the Firewood/Charcoal and Pastoral livelihood zones and two months in the Agro pastoral livelihood zone respectively.

Milk Production, Consumption and Prices

Milk production and consumption was normal across all livelihood zones (Table 7). Milk prices in the Agro pastoral zone were also normal in comparison with the LTA. However, they were higher than normal by 33.3 percent in both the Pastoral and Firewood/Charcoal livelihood zones due to lower availability of milk at household level occasioned by livestock migration. Livestock had migrated from Oldonyiro ward in the Pastoral livelihood zone to Laikipia County and from Isiolo Central in the Firewood/Charcoal livelihood zone to Garbatulla-Kinna areas of the Agro pastoral livelihood zone.

Table 7: Milk production, consumption and prices at livelihood zone level

Livelihood zone	Milk production (Litres) / Household		Milk consumption (Litres) / Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Pastoral	3	3	1	2	80	60
Agro-pastoral	2	2	1	1	60	60
Firewood/charcoal	1	1	0.5	0.5	80	60

Tropical livestock units (TLUs)

The average TLUs per household was four for poor households where livestock comprised approximately 3-5 cattle and 10-15 goats and sheep, coupled with a few chicken. Camels were mainly found among the middle and upper income earners in addition to the sheep and goats. TLUs were normal across all livelihood zones.

Birth rate

The birth rate for livestock averaged 17, 10 and 16 percent for sheep, cattle and goats respectively which was normal for this time of the year and was expected to remain so for the next three months.

Migration

Intra and inter County migrations have occurred earlier than normal. Herdsmen moved into Belgesh and Hawaye area in the Pastoral livelihood zone in Garbatulla in early June in search for pasture and water, which was normal. In-migration was also noted in Yamicha and Bassa in Merti sub-county by livestock from Wajir and Marsabit Counties respectively. Armed herdsmen from Garissa County and those in Hawaye, Bassa and Belgesh in the Pastoral livelihood zone of Isiolo had resulted into conflict over pasture and water. The conflicts are likely to intensify as pasture decreases in quantity in the next one month. Herders from Oldonyiro ward in the Pastoral livelihood zone also moved to Laikipia County in April when normally they would move in June. Additionally, herdsmen from Isiolo Central in the Firewood/Charcoal livelihood zone moved to Kinna in the Agro pastoral livelihood zone as pasture was still available there. The movement in this route was not normal.

Migration caused over grazing and degradation of the available pastures in the areas where it occurred. It also reduced access to milk at household level in the Pastoral and Firewood/Charcoal livelihood zones. The livestock that migrated are not expected back for the next three months because La Nina conditions are forecasted to occur and therefore neither pasture nor browse is likely to be adequately rejuvenated. In addition, open water sources will not have been sufficiently recharged.

Livestock Diseases and Mortalities

Reported disease out breaks include black quarter in cattle in Sericho in Garbatulla sub-county in May and sheep and goat pox in Kulamawe in Garbatulla sub-county and in Ngaremara and Oldonyiro in Isiolo Central sub-county between April and June. Other diseases included Contagious Caprine Pleuropneumonia (CCPP) in the whole County and Pestes des Petits Ruminantes (PPR) in Ngaremara ward. Vaccination was undertaken to contain the situation. There were reported but unconfirmed cases of Lumpy Skin Disease (LSD). There were no unusual livestock deaths and the mortality rates of all livestock species were within seasonal norms at two percent for cattle, goats and sheep.

Water for Livestock

The main sources of water for livestock consumption were the normal ones for this time of the year (Table 8). The Pastoral and Firewood/Charcoal livelihood zones posted the lengthiest return trekking distances and were above the normal distances. The herders over-grazed around watering points causing distances to pasture to lengthen, aggravated by the presence of livestock from neighbouring counties.

Table 8: Water for livestock consumption in Isiolo County

Livelihood zone	Sources		Return trekking distances (kilometers)		Expected duration to last (months)		Watering frequency (days)	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Pastoral	Borehole Sand dams Water pans Shallow wells	Borehole Sand dams Water pans Shallow wells	15	10	3	3	3	3
Agro-pastoral	River Borehole	River Borehole	10	10	3	3	2	2
Firewood/c charcoal	River Borehole	River Borehole	15	10	3	3	3	3

3.3 Water and Sanitation

The main sources of water for domestic use across all livelihood zones include boreholes, water pans, shallow wells, sand dams and Rivers Ewaso Nyiro, Bisanadi and Isiolo. Over 90 percent of the boreholes were operational with the ones that were not operational being the ones at Duse and livestock marketing division in the Pastoral livelihood zone and at Kinna in the Agro pastoral livelihood zone caused by the mechanical breakdown of generators. Open water sources were recharged at 50 to 70 percent of normal with the Ewaso Nyiro particularly benefitting from excess rains in its upper catchment of Mt Kenya and the Aberdare Ranges which received some substantial rains. Access to and availability of water at household level is normal. However, in some areas such as Bassa, Ngaremare, Duse and Korbasa, access is hampered by squabbles in the water users' committees over levies charged at the water sources, which has led to a lack of maintenance for sources such as boreholes.

Table 9: Water for domestic consumption in Isiolo County

Sub County/ Livelihood Zone	Sources of Water		Distance to Water for Domestic Use (Km)		Cost of Water (Ksh./20 litres)		Waiting Time at Source (Minutes)		Average HH Use (Litres/person/day)		Projected Duration of Current Water Sources
	Normal	Current	Current	Normal	Normal	Current	Normal	Current	Normal	Current	
Pastoral Garbatulla sub county	Boreholes Water pans	Boreholes Water pans	0.5-5	0.5-5	3-10	3-10	30	30	15	15	Borehole: Permanent source Water pans: 3 months
Agro pastoral Garbatulla sub county	Boreholes Protected springs	Boreholes protected spring	0.5-5	0.5-5	3-5	3-5	30	30	15	15	Borehole: Permanent source
Pastoral Merti sub county	River-Ewaso-Nyiro	River-Ewaso-Nyiro, Boreholes	5-10	5-10	3-5	3-5	30	30	10	10	Borehole: Permanent source
Agro pastoral Merti sub county	Boreholes	Boreholes	0.5-5	0.5-5	3-5	3-5	20	20	15	15	Borehole: Permanent source
Agro pastoral Isiolo Central sub county	Isiolo river, Boreholes, Shallow Wells	Isiolo river, shallow wells boreholes	0.5-5	0.5-5	5	5	20	20	15	15	Borehole: Permanent source
Pastoral Isiolo Central sub county (Oldonyiro)	Sand dams, Ewaso Nyiro, Shallow wells Water pans	Sand dams, Ewaso Nyiro, Shallow wells Water pans	0.5-10	5-10	5	5	20	30	7-10	10-15	Borehole Permanent source Water pans: 2 months

Lengthy distances to water sources were recorded in Oldonyiro ward particularly in Nooloroi, Nkarendare and Donyolengala at up to 5-10 km compared with 0.5-10 km normally. As a result, water consumption per person per day in these areas ranged between 7 and 10 litres, compared with the normal 10-15 litres. The waiting time in Oldonyiro was 30 minutes compared with 20 minutes normally because of low quantities in the shallow wells which were the main sources of water (Table 9).

3.4 Markets and Trade Market operations

Markets provide approximately 80 percent of food needs in the County with the main markets being Isiolo, Oldonyiro and Maua (Meru County). Other notable markets include Bisan Biliqo, Garbatulla, Merti, Kipsing, Habaswein (Wajir South), Modogashe and Nanyuki (Laikipia County). Isiolo market, although strategically located is not fully exploited due to middlemen. Currently, the markets are operating normally apart from Belgesh which had been closed down

due to conflicts over forage and water. Livestock trade volumes are normal because they are able to meet the demand.

Maize prices

Maize prices were similar to the same period in 2015 and maintained an above average trend by 18 percent when compared with the 2011-2015 LTA (Figure 3). The higher than normal prices could be attributed to the fact that supply was limited, as harvesting was yet to be done either in the County or in neighbouring Counties, which are a major source of maize. Prices were highest in the Pastoral livelihood zone and lowest in the Firewood/Charcoal livelihood zones. The price was likely to rise in the next three months as demand for the commodity increases during the lean season from August through to October, particularly in the Pastoral livelihood zone.

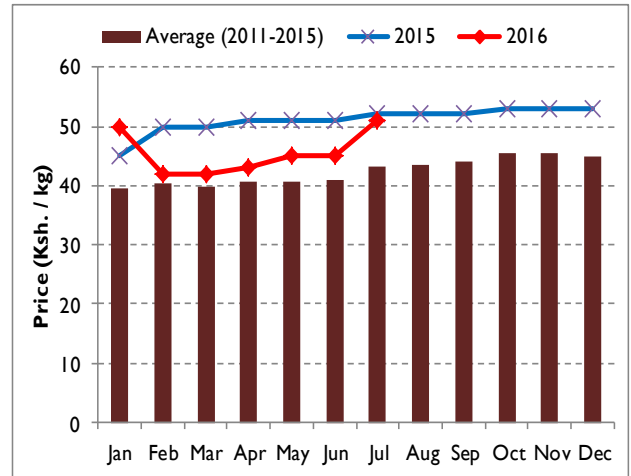


Figure 3: Maize price trends in Isiolo County

Goat price

The current goat prices are normal compared with the LTA but higher by 11 percent when compared with a similar time in 2015 (Figure 4). The lowest were recorded in the Firewood/Charcoal livelihood zones. Goat prices were expected to remain stable over the next three months as the available browse was projected to last at least that long.

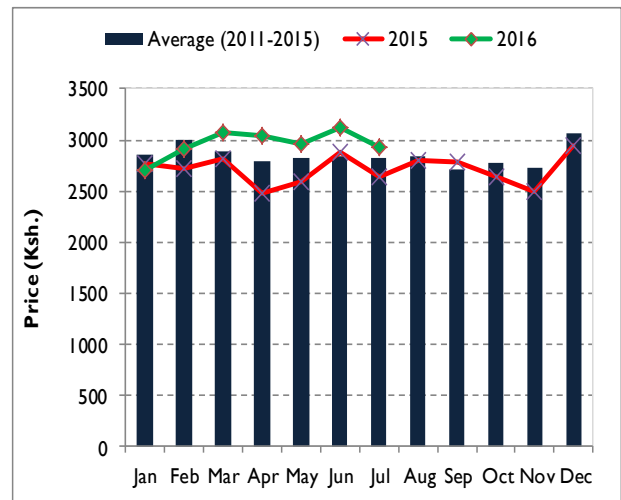


Figure 4: Goat price trends in Isiolo County

Terms of trade

The current TOT were lower than the LTA by 12 percent (Figure 5) implying that households could purchase less maize with the proceeds from the sale of a goat compared with normal. However, the situation was slightly better by 13.7 percent than in 2015. The terms of trade were likely to reduce in the next three months as maize prices increase against a back-drop of stable goat prices.

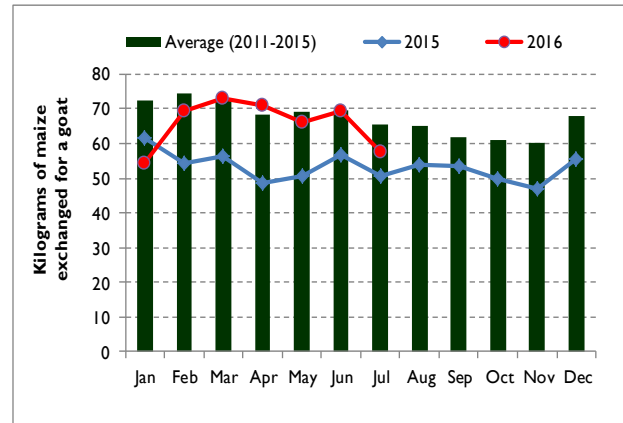


Figure 5: Trends in terms of trade in Isiolo

3.5 Health and Nutrition

Morbidity patterns

The five most common diseases for children aged below five years and the general population are Malaria, Other diseases of the respiratory system, Diarrhoea, Pneumonia and Skin diseases (Table 10).

Table 10: Morbidity trends for children aged below five years and the general population

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
Malaria	1659	3115	88	Malaria	4054	5540	36.7
Other diseases of the respiratory system	20210	13464	-33	Other diseases of the respiratory system	26038	18901	-27.4
Diarrhoea	4461	4427	1	Diarrhoea	2625	3174	20.9
Pneumonia	2314	2367	2	Pneumonia	2606	3351	28.6
Skin Disease	2161	2501	16	Skin Disease	5425	5902	8.8

Diarrhoea and Pneumonia cases in children aged below five years were normal from January to June 2016 compared with a similar time last year. However, Malaria cases for the same cohort and the general population were higher. Above normal rainfall during the short rains season in Meru County caused flooding in Isiolo Central, Garbatulla and Merti areas that increased mosquito breeding, hence the increase in the reported cases for Malaria, particularly in January and February 2016. Diarrhoea cases in the general population went up due to contamination of open water sources as a result of excess water, coupled with a marked absence of latrines for human waste disposal.

Epidemic prone diseases

There was cholera epidemic from January to June 2016 with 13 cases reported but no deaths recorded as measures were put in place to prevent fatalities (Table 11). The areas that reported cholera cases included Game, Lotik and Attan in Isiolo Central.

Table 11: Epidemic prone diseases in Isiolo County

Epidemic	January –June 2015		January –June 2016	
	No of cases	Reported Deaths	No of cases	Reported Deaths
Measles	0	0	0	0
Cholera	0	0	13	0
Dysentery	127	0	181	0
Diarrhea	7086	0	7601	0
Malaria	5713	0	8655	0
Typhoid	2055	0	1946	0

The CMR was 0.57/10,000/day while the U5MR was <0.001/10,000/day both of which were within normal ranges. (SMART survey, Feb 2014).

Immunization Coverage

Immunization and vitamin A supplementation coverage during the period January to June 2016 generally declined compared with the same period last year and also remained below the national target of 80 percent (Tables 12 and 13). The decline was attributed to households' migration earlier than normal, making them more difficult to reach for immunization coupled with lack of proper documentation by the concerned department.

Table 12: Immunization coverage in Isiolo County

Year	Percentage of fully immunized children in the district Source: DHIS MOH 710 Vaccines and Immunizations	Percentage of children immunized against the mentioned diseases in the district Source: Nutrition survey
January to June 2016	55.7%	<ol style="list-style-type: none"> 1. OPV 1 74.9% 2. OPV 3 72.9% 3. Measles at 9 months 69.2% 4. Measles at 18 months 55%
January to June 2015	69.8%	<ol style="list-style-type: none"> 1. OPV 1 102% 2. OPV 3 87.7% 3. Measles at 9 months 63.5% 4. Measles at 18 months 32%

Table 13: Vitamin A Supplementation Coverage

% Children < 12 months who received Vit A (DHIS 710)		% Children 1 to 5 years old who received Vit A (DHIS 710)		% Children 6-11 Once (Survey)		% Children 12-59 Once (Survey)		% Children 12-59 More than Once (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
117.1%	71.1%	75.5%	53.6%	58.6%	69.9%	30.6%	24.6%	58.4%	70.8%

Nutritional status and dietary diversity

Most adults were consuming three meals per day in the Agro pastoral livelihood zone and between one to two meals in the Pastoral livelihood zones. Children aged below five were fed three times a day in both the Agro-pastoral and Pastoral livelihood zones which was normal for this time of the year. Meals were mainly of rice, githeri (a mixture of maize and beans), maize flour, milk and sometimes spaghetti.

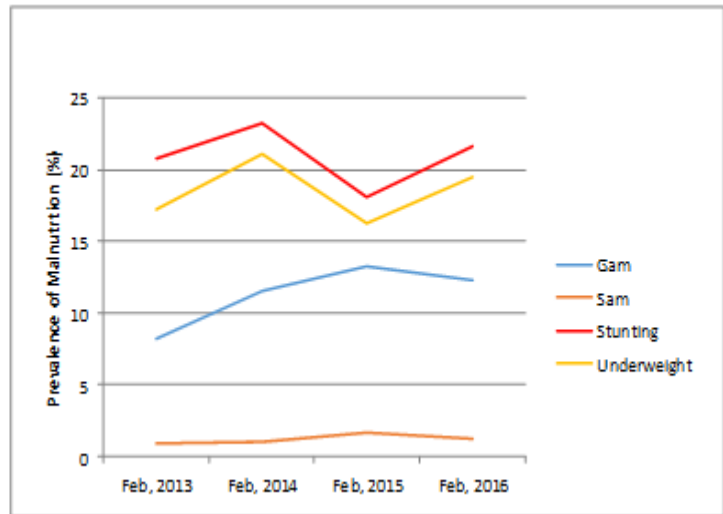


Figure 6: Nutrition status in Isiolo County

The GAM prevalence for the county stood at 12.3 percent (Integrated SMART survey, February 2016) compared with 13.2 percent recorded at a similar time in 2015 (Figure 6). The situation was categorized as serious according to WHO standards in both surveys but with no significant change in the nutritional status. The prevalence of Severe Acute Malnutrition (SAM) was 1.2 percent and below the emergency threshold of three percent (Integrated SMART survey, February 2016). The most likely cause of malnutrition was disease and a poor health environment.

Food Consumption Scores

The proportion of households with poor food consumption score had reduced compared with a similar time last year (FSOM, May 2016), implying improved household food consumption (Figure 7). The implication was that most households (75.3 percent) were consuming at least a staple and vegetables daily, complemented by a frequent consumption of pulses and oil.

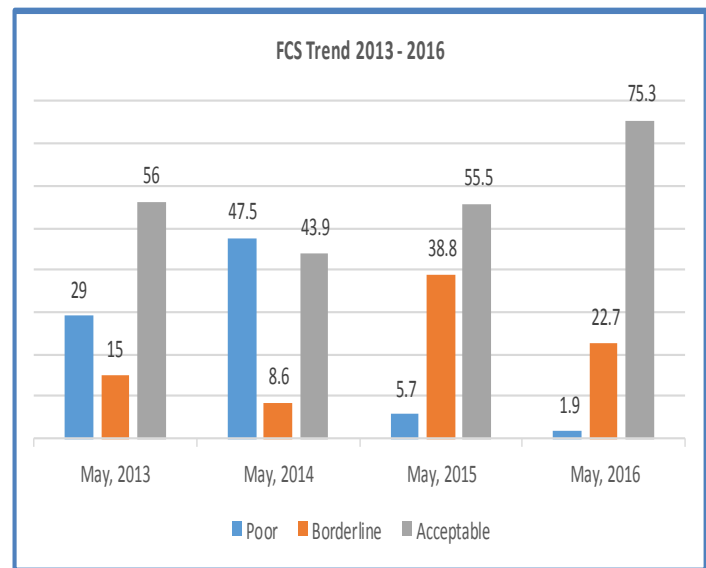


Figure 7: Food Consumption Score trends in Isiolo County

The trend was similar to the results in the SMART survey conducted in February 2016, as the FCS, based on the 7-day recall, estimated two percent of households having a poor food consumption score compared with 4.4 percent at a similar time last year.

Coping Mechanisms

The CSI for May 2016 was 19 compared with 33 at a similar time in 2015 (Figure 8), implying that households were currently employing fewer coping strategies and less frequently than in May 2015 (FSOM, May 2016). The most commonly employed coping mechanisms were insurance and consumption-based which included relying on less preferred and/or less expensive food (86.1 percent) and a reduction in the portion sizes of meals (61.7 percent). According to the integrated SMART survey conducted in February 2016, the situation was similar then as the mean CSI was 16.85, having reduced from 20.28 at a similar period in 2015.

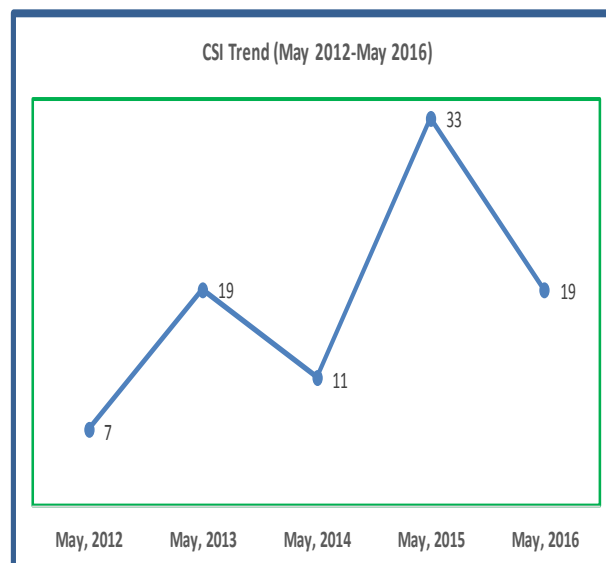


Figure 8: Trends in Coping Strategy Index

Sanitation and Hygiene

Latrine coverage was 54.7 percent for the period January to June 2016, compared with 53.7 percent during the same period last year (Public Health Office, Isiolo County). There was no significant change in the proportion of households who used a latrine for human waste disposal compared with a similar time last year (Table 14).

Table 14: Latrine coverage

Point of human waste disposal	SMART survey, 2015	SMART survey, 2016
Open defecation	35%	32.1%
Share latrine	29%	34.7%
Own latrine	35.80%	33.3%

A majority of households (87.9 percent) stored their water in closed containers while the rest stored it in open containers. Approximately 12.5 percent of households washed their hands during the four critical times while 52.8 percent used soap during hand-washing (SMART survey, February 2016). The poor hygiene practices could be the underlying reason for the water-borne diseases in the county.

4.0 FOOD SECURITY PROGNOSIS

4.1 Prognosis Assumptions

- The October to December rains have a 75 percent chance of being below normal due to the forecasted *La Niña* conditions.
- Terms of trade are likely to decline through to December.
- Land surface temperatures are likely to be higher than normal according to forecasts by FEWSNET.

- Rangeland conditions are likely to remain scarce through to November since they were not sufficiently rejuvenated from the recent rains and also due to projected higher than normal temperatures.
- The incidence of conflict over water and forage is likely to intensify through to November.
- Open water sources in the pastoral livelihood zones are likely to dry up as evaporation rates increase due to rising temperatures.
- The projected long rains harvests will replenish the dwindling food stocks in the agro-pastoral livelihood zone but only to a limited extent.

4.2 Food Security outcomes from August to October

Pastures in the Pastoral livelihood zone are likely to be depleted by August after which livestock prices will begin to fall due to deteriorating body condition. Lower livestock prices are likely to coincide with rising food prices, such as of maize, resulting in decreasing terms of trade through to December. The current migrations are likely to intensify, making livestock move further away from homesteads and thereby reducing the availability of milk and other livestock products for consumption at household level. Given that livestock production contributes over 80 percent to income in the Pastoral zone, households that rely on livestock related income sources such as herding and the sale of milk and other products will have fewer income opportunities. As these diminish and maize prices maintain their above normal and increasing trend, significant food consumption gaps will become evident in the Pastoral livelihood zone which primarily relies on markets for food. The nutritional status of children aged below five is also likely to deteriorate as food availability and access reduces at household level. With all these events occurring at the beginning of the lean season, households in this zone are likely to increase the frequency and severity of coping strategies through to October. While most households are likely to remain in the Stressed phase (IPC Phase 2) some poor households in this zone are unlikely to meet both their food and non-food needs and are likely to move to the crisis phase (IPC Phase 3).

For households in the Agro pastoral livelihood zone, it is unlikely that the projected harvest will replenish food stocks to an appreciable extent. However, some households still hold stocks and will further benefit from the minimal seasonal harvests which are likely to tide them through some part of the lean season, particularly in areas around Kinna. Imports are also expected from neighbouring counties after harvesting in August and markets are likely to continue functioning normally in the zone. Most households around Kinna are likely to remain in the minimal phase (IPC phase 1) while those around Merti are likely to remain in the stressed phase (IPC phase 2).

4.3 Food Security Outcomes for November to January

With the short rains season likely to be below normal, it is unlikely that the rains will result in sufficient forage rejuvenation. As rangeland conditions continue to deteriorate, livestock body condition will likely worsen and livestock prices reduce further. As food commodity prices maintain their upward trend, terms of trade will further worsen. Open water sources are likely to dry up as a result of higher than normal temperatures. Migrations are likely to intensify and the current small scale conflicts associated with reducing availability of water and forage will escalate and may interrupt many livestock-related activities such as herding and trade. Due to the poor forage conditions, it is unlikely that livestock will return home, therefore milk and other livestock products will continue to be unavailable for either consumption or sale. Food consumption gaps will continue to be evident during this period as milk, an integral part of the pastoral households' diets and income will be unavailable. The nutritional status of children will likely worsen and may reach critical levels according to WHO standards. As households are

forced to look for alternative ways to earn an income, it is likely that some will engage in more severe (crisis) coping strategies more frequently than normal. As such, households in the stressed phase (IPC Phase 2) and in the crisis phase (IPC Phase 3) are likely to remain there.

In the Agro pastoral livelihood zone, households are likely to have exhausted their household stocks from the long rains season's harvest and will likely be depending on markets. However, imports from neighbouring counties are likely to keep prices stable in this zone and markets are also likely to be well provisioned with staples from these counties. Therefore most households are likely to remain in the minimal phase (IPC Phase 1) and others remain in the stressed phase (IPC Phase 2) until January 2017.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The Agro pastoral livelihood zone (Merti), the Firewood/Charcoal and the Pastoral livelihood zones are classified in the Stressed food insecurity phase (IPC Phase 2) while the Agro pastoral livelihood zone (Kinna in Garbatulla) is classified in the Minimal food insecurity (IPC Phase 1). Key factors to monitor include resource-based conflicts, the nutritional status of children aged below five years, rangeland conditions and household food stocks. Others include; Terms of trade and distances to grazing areas for the Pastoral livelihood zone.

5.2 Summary of Recommendations

- Scale up nutrition interventions and strengthen community based nutrition surveillance to reduce the high malnutrition levels
- Supply and distribution of water treatment chemicals at household level to reduce water-borne diseases
- Capacity building of farmers on proper utilization of sorghum, a drought tolerant crop, and encourage its planting and consumption for improved food security
- Damming of Ewaso Nyiro River for irrigation, and provision of water pumps and support for the operational costs of irrigation (fuel subsidy)
- Introduction of water-efficient crops such as NERICA rice
- Disease surveillance, deworming and vaccination against PPR, sheep and goat pox, CCPP and Black Quarter as the livestock influx from neighbouring counties poses the risk of spreading diseases.
- Pasture re-seeding in degraded rangelands and promotion of fodder production to improve the availability of livestock feed
- Peace meetings with grazing management committees to curb conflicts over pasture
- Fast track legislation to manage the rangelands (such as the rangeland management bill in the county assembly) in order to regulate livestock influx.
- Repair of generator and piping system for broken boreholes to improve efficiency
- Capacity building of water committees on group dynamics to be able to run water resources properly.

5.3 Sub-County Ranking

Table 15: Sub-County ranking of food insecurity

Division	Food security rank (1-10)	Main food security threat (if any)
Oldonyiro	1	Out-ward migration, reducing milk availability at household level, depleting open water sources, poor forage conditions
Sericho	2	Livestock influx from neighbouring counties, diminishing open water sources, disrupted market functions due to insecurity in Belgesh, high food commodity prices
Merti	3	Livestock influx from Marsabit and Wajir, crop destruction by floods, high food commodity prices
Garba Tulla	4	Livestock influx from Garissa, conflict, disruption of markets
Central	5	Diminishing pasture, livestock migration to Kinna
Kinna	6	Livestock influx from Central and Garissa, availability of household stocks, comparably fair food commodity prices, availability of well-provisioned markets

6.0 ANNEXES

6.1 On-going Interventions by Sector

Table 16: On-going interventions by sector

Intervention	Objective	Specific Location	Cost (Ksh)	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
HEALTH AND NUTRITION						
Vitamin A Supplementation, Zinc Supplementation, Iron Folate Supplementation among Pregnant Women, Food fortification and deworming	To improve immunity and reduce the disease burden	All health facilities	Kshs. 1.4 M	88,772	Ongoing	UNICEF, FH, KRCS, ACF
Management of Acute Malnutrition (IMAM) and IYCN Interventions (EBF and Timely Introduction of complementary Foods)	To improve access to quality curative nutrition services and improve nutritional status of children under five	All health facilities	Kshs. 129,600	66512	Ongoing	UNICEF, FH, KRCS, ACF
Promotion of hand washing, distribution of water treatment chemicals, Community Led Total Sanitation	To reduce the prevalence of water-borne diseases through improved hygiene and sanitation	All health facilities, selected schools and community units.	150,000	80,000	Jan-Dec 2016	UNICEF, FH, KRCS, ACF
LIVESTOCK						
Construction of the hay shed.(3 in number)	To maintain a steady supply of livestock feed during the July-Sept dry spell	Kinna Chari Wabera	20M	2,400 1,200 3,000	January – December 2016	DRSLP(drought resilient and sustainable livelihood programme)

Intervention	Objective	Specific Location	Cost (Ksh)	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Ring vaccination against black quarter, CCPP, PPR and sheep and goat pox	To reduce the livestock disease burden and consequently reduce livestock mortalities	Sericho Chari Cherab Ngaremar Oldonyiro	1M	2,500	April-June 2016	County government Merti Integrated Development Program
Provision of cooling facilities to laboratories 15 cooling boxes 6 deep freezers 7 fridges	To ensure timely delivery of veterinary vaccines during vaccinations	Cherab Kinna Wabera	2M	3000	Jan-July 2016	<ul style="list-style-type: none"> • FAO • County government
Peace meetings with the grazing committees	To reduce the tension caused by conflicts over pasture and water	Sericho Garba Tulla Cherab Kinna	-	5,000	June 2016	County government Provincial administration Peace committees Grazing committees
AGRICULTURE						
Irrigation scheme Development Phase 2	Improved water supply for crop production	Malka Daka	50M	180	Jan-Dec2016	National irrigation Board (NIB)
Construction of water harvesting structures under the Food Assistance for Assets (FFA) projects	Improved water retention to improve water availability for crop production	Kulamawe , Rapsu, Kinna, Gafarsa, Garbatulla , Kombolla and Muchoro,	6M	1,600	2016-2018	Ministry of Agriculture (Department of Agriculture), National Drought Management Authority (NDMA), Action Aid, World Food Programme
Provision of certified relief seeds	To increase crop production and productivity per unit area	Biliqo, Awasitu, Bulesa, Merti, Central, Oldon-Nyiro, Kina, Rapsu, Mochuro, Kombola, Sericho	6M	15,000	Jan – Mar 2016	County government
WATER						

Intervention	Objective	Specific Location	Cost (Ksh)	No. of beneficiaries	Implementation Time Frame	Implementation stakeholders
Rehabilitation of water supply systems	To improve efficiency of water supply systems	Dadachalafe /Malkagala and Awarsitu	24M	2,000	November 2015 to June 2016	Northern Water Services Board, County Government
Drilling and equipping of boreholes	Improve access to safe drinking water for domestic use	Rumate, Iresaboru, Ngaremar a, Yakbarsadi Barabate, Dololo Wachu	145M	9,000	July 2015- June 2016	County Government, APHIA, Imarisha, Northern Water Services Board (NWSB), ADB, County Government

School Meals Programme

There are 170 schools under Home Grown School Meals Program with a total of 36,890 beneficiaries (Table 17).

Table 17: School Meals Programme coverage

S/County	No. of schools	Boys	Girls	Total
Merti	30	4,938	4,713	9,651
Isiolo	102	7,863	7,647	15,510
Garba Tulla	38	5,804	5,925	11,729
Total	170	18,605	18,285	36,890

6.2 Proposed Intervention

Table 18 shows the population in need to be assisted under General Distribution (GD) or Food assistance For Assets (FFA).

Table 18: Food intervention required (Proposed population in need of assistance)

Division	Population in the division	Pop in need (% Range min – max)	Specific areas to be targeted	Proposed mode of intervention
Oldonyiro	15,388	50-55	Oldonyiro, Lenguruma, Lengwenyi, Kawalash, Nooloroi, Mokori,	GD/FFA
Sericho	12,099	45-50	Hawaye, Sericho, Eldera,	GD/FFA
Central	24,294(Excludes Isiolo town)	15-20	Burat, Ngaremarara	GD/FFA
Garba Tulla	16,401	45-50	Tana, Malkadaka, Belgesh	GD/FFA
Merti	20,341	60-65	Bassa, Alango, Mlandanur, Lakole	GD/FFA
Kinna	14,618	40-45	Kulamawe, Barambate, Duse	GD/FFA

Non-food Interventions (by sector)

Table 19: Non-food interventions by sector

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources (Ksh)	Available Resources (Ksh)	Time Frame
HEALTH AND NUTRITION							
Whole county	Scale up nutrition services	Duse, Daaba, Eskot, Tuale, Pepo latumaini, Mataarba, Biliqo Marara,	50,000	MoH, UNICEF, FH, KRCS, ACF	1,350,000		July - Dec 2016
Whole county	Strengthen community-based nutrition surveillance	Twale, Kipsingi, Old onyiro, Daaba, Erime t, Sericho, Malkadaka, Duse, Lafe, Yamicha, Alango	20,000	MoH, UNICEF, FH, KRCS, ACF	450,000		July-Sept 2016
Whole county	Supply and distribution of water treatment chemicals at household level	Waso, Twale, Oldonyiro, Biliqi, Badana Raro, Malkagalla, Awarsitu, Saleti, Mataarba, Fororsa, Belgesh, Gubadida, Duse, Malkadaka, Korbesa	40,000	County government, UNICEF, FH, KRCS, ACF	2M	Nil	July - Sept 2016
AGRICULTURE							
Capacity-building of farmers and technical staff on sorghum utilization	To build the capacity of farmers on proper utilization of sorghum, a drought tolerant crop and encourage its planting and consumption for improved food security	Biliqo, Awasitu, Bulesa, Merti, Central, Oldonyiro, Kina, Rapsu, Garfasa, Mochuro, Kombola, Sericho	15,000	County Government Action Aid	6M	Nil	Aug-Oct 2016
Merti Garba Tulla	Provision of water pumps and support for operational costs for irrigation (fuel subsidy)	Biliqo, Awasitu, Bulesa, Merti, Garfasa, Mochuro, Kombola, Sericho	8,000	County Government	3.2M	Nil	August - December 2016
Merti Garba Tulla	Damming of Ewaso Nyiro River for irrigation	Biliqo, Awasitu, Bulesa, Merti, Garfasa, Mochuro, Kombola, Sericho	10,000	National and County Government, Partners	105M	Nil	2016/2017 FY
Isiolo, Merti and Garba Tulla	Introduction of water-efficient crops such as NERICA rice	Biliqo, Awasitu, Bulesa, Merti, Central, Oldonyiro, Kina, Rapsu, Garfasa, Mochuro, Kombola, Sericho	15,000	National and County Government, Partners	10M	5M	2016/2017 FY

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources (Ksh)	Available Resources (Ksh)	Time Frame
LIVESTOCK							
G/tulla, Merti and Central	Disease surveillance deworming and vaccination against PPR, sheep and goat pox, CCPP, Black Quarter	Entire county	100,000	FAO, ILRI and county government	2M	1.2M available for deworming	FAO, ILRI and county government
G/tulla, Merti and Central	Pasture re-seeding in degraded rangelands and promotion of fodder production to improve availability of livestock feed	Chari ward Kinna ward Burat ward Oldonyiro ward	3000	ILRI, Department of livestock production	1.5M		July-Oct 2016
Garba Tulla	To hold peace meetings with grazing committees in order to curb conflicts. To fast track legislations to manage the rangelands (such as the rangeland management bill in the county's county assembly) in order to regulate livestock influx	Garba Tulla	10000	County government, Provincial administration, Peace committees	2M		July to Dec 2016
WATER							
Merti Garba Tulla	Repair of generator and piping system	Bassa/Alango Kinna	4,000	County Govt, Water Service Trust Fund, Partners	6M	1M	August - October 2016
Merti, Isiolo, Garbatulla	Capacity building of water committees on group dynamics	Bassa, Ngaremara, Duse, Korbasa	12,000	County government, Aphia Imarisha	1M	0.5M	August - October
EDUCATION							
Merti Garba Tulla	Provision of fortified porridge	All ECDE centers	11,449	County government			July-Dec 2016