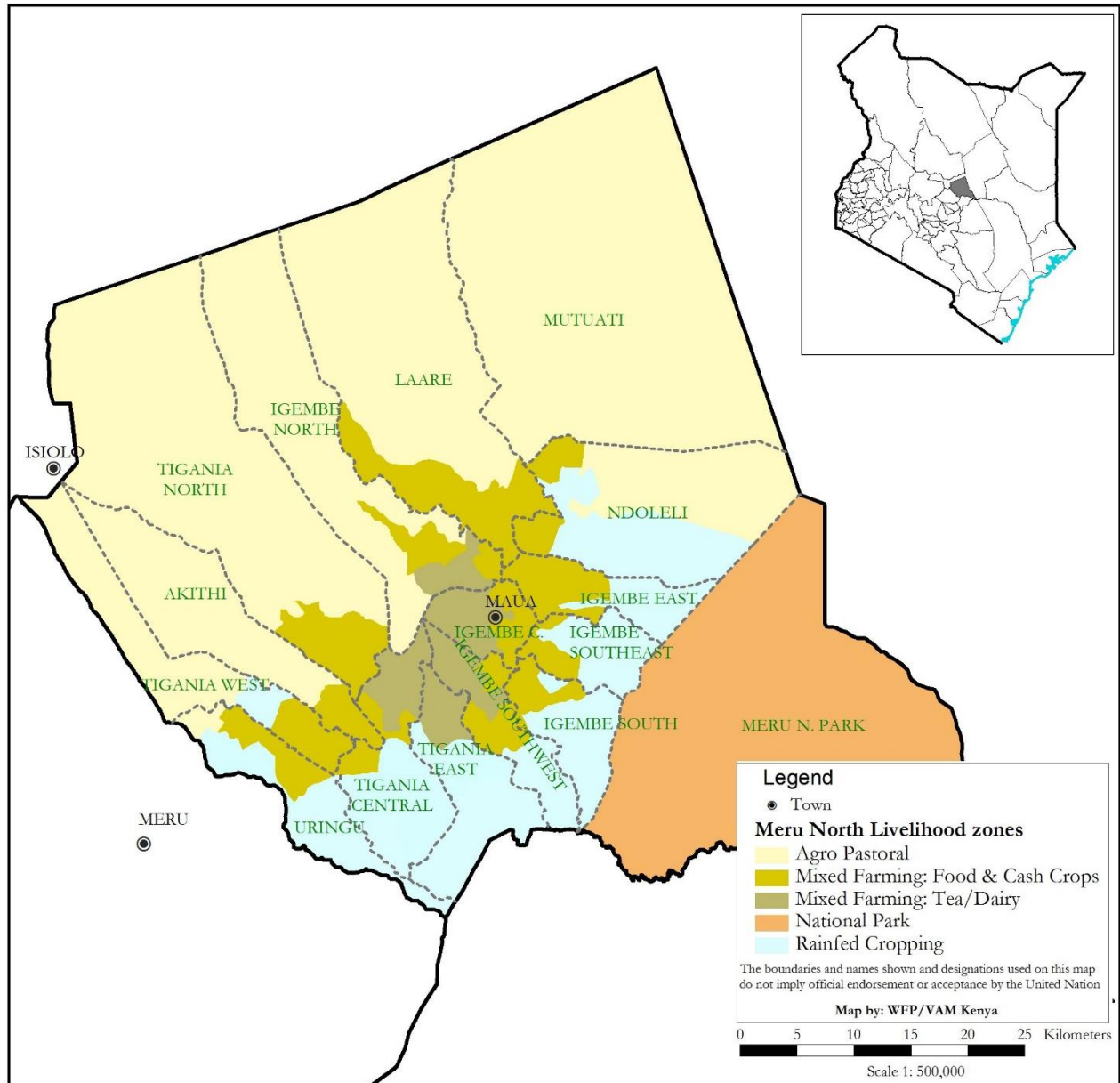


**MERU COUNTY (MERU NORTH)
2017 LONG RAINS FOOD SECURITY ASSESSMENT REPORT**



**A Joint Report by Kenya Food Security Steering Group (KFSSG)¹ and
Meru County Steering Group (CSG)**

July 2017

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EXECUTIVE SUMMARY

Food security phase classification for agro pastoral and transition rain fed livelihood zones in Meru County is *stressed (IPC Phase 2)* while mixed farming and remaining parts of rain fed livelihood zones are classified in *minimal (IPC Phase 1)*. About 7.8, 18.3 and 73.9 percent of the households had poor, borderline and acceptable food consumption scores respectively compared to 93.6, 6 and 0.4 percent acceptable, borderline and poor consumption respectively scores in June 2016. Majority of households are consuming 2-3 food groups with a frequency of 1-2 meals per day where maize, beans, *Posho* and occasionally kales being the frequently consumed. Upper respiratory tract infections, diarrhea and malaria respectively remained the most prevalent diseases for children under the age of five years while Vitamin A supplementation coverage declined from 42.2 percent for children aged 6-11 months in 2016 to 26.6 percent at a time when percentage of children at risk of malnutrition is stable at 24.5 percent.

Food availability in the region in declined where by households held only 34 percent of their long term average stocks (LTA) whereas the markets are holding only 25 percent their LTAs. Livestock body conditions ranged from fair to poor in agro pastoral and rain fed livelihood zones while it was good to fair in mixed farming livelihood zones, with continued diminishing pasture and water, livestock of the body condition are declining, and milk diminished in the households across all the livelihood.

All major markets were operational in the County. However, traded volumes of both livestock and crops sector declined due to poor livestock body conditions, restricted trades due to conflicts in the neighbouring counties and depressed crop production and non availability from the source markets. One kilogram cost ksh.54 and a time goat prices declined up to Ksh. 5062, therefore terms of trade were not favourable to the households across all the livelihood zones

Water consumption per person per day ranged between (8 -10) litres compared to normal of 10-15 litres in agro pastoral livelihood zone while consumption was within the normal ranges of 20-30 litres in both rain fed and mixed farming livelihood zones. Distances to water points increased significantly as a result of drying up of most surface water sources, consequently prices of water at source increased to 3-5 shillings for 20 litres container which hindered meals preparation in a few schools.

The key drivers of food and nutrition insecurity in the County were; poor rainfall performance (50-75 percent of the LTA) while worst hit areas such as Kituyi east received only 20-25 percent of their normal. Insecurity and resource based conflicts due to in- migration of livestock from neighboring counties of Garissa and Tana River into farm land were reported in Ikime ward within Kituyi south sub- county

1.0 INTRODUCTION

1.1 County background

Meru County is located in eastern Kenya and borders Isiolo County to the North and North East, Tharaka Nithi and Kitui Counties to the South and Tana River County to the Southeast. The County comprises of Igembe North, Igembe Central, Igembe South, Tigania East, Tigania West, Buuri, Imenti Central, Imenti South, and Imenti North Sub Counties and covers an estimated area of 4057 Km² of which 833km² is the Meru National Park. For the purpose of this exercise, our area of interest is Meru North with a projected population of **775,982 (KNBS 2016 projections)**. There are three main livelihoods zones: Mixed Farming (Food crops, Tea, Coffee and dairy) comprising approximately 50 percent of the population, Agro-pastoral livelihood zone with approximately 27 percent of the population and Rain fed cropping zones with 23 percent of population as shown in Figure 1 alongside.

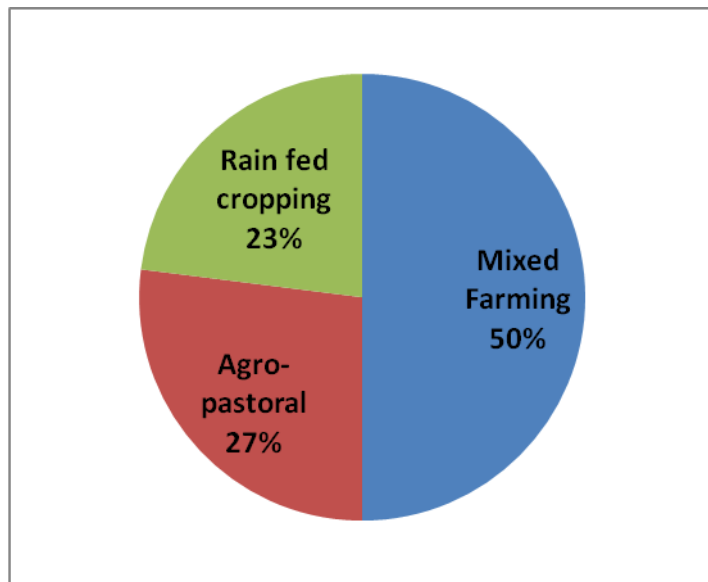


Figure 1: Population proportion by livelihood zone

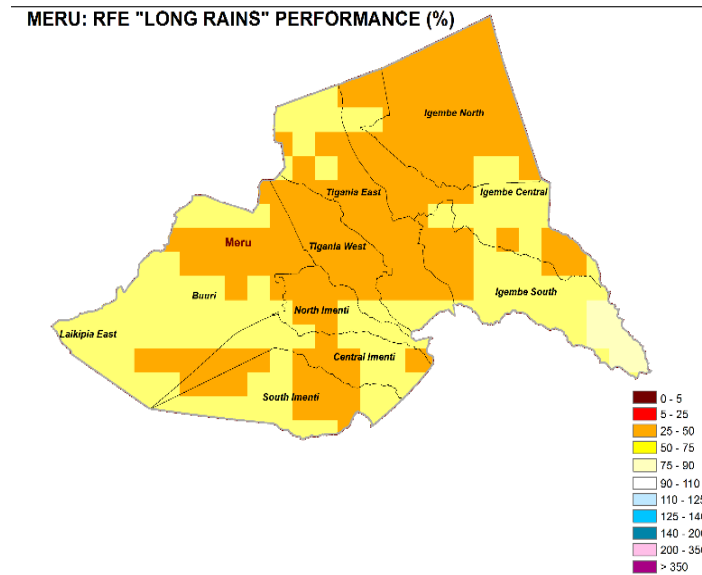
comprising approximately 50 percent of the population, Agro-pastoral livelihood zone with approximately 27 percent of the population and Rain fed cropping zones with 23 percent of population as shown in Figure 1 alongside.

1.2 Objectives and approach

The main objective the long rains assessment was to develop an objective, evidence-based and transparent food security situation analysis following the long rains season of 2017 and taking into consideration the cumulative effects of previous three seasons, and to provide actionable recommendations for possible response options based on the situation analysis. The assessment was conducted from 10 - 14 July 2017 using a multi - sectoral approach, which involved checklist administration by county sector heads followed by initial briefings by the County Steering Group (CSG) and Kenya Food Security Steering group representatives. The field data was collated, reviewed and triangulated to produce a preliminary food security assessment report, which was presented before the CSG for validation and approval.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance



The onset of the long rains was late in the first dekad of April compared to the second dekad of March normally. The central and most of the northern sections of the region received 25-50 percent of normal rains with the rest of the region receiving 50-75 percent of normal. Spatial distribution was uneven while temporal distribution was poor. Cessation was timely in the third dekad of May. Rainfall is important in food security. Its performance affects both livestock and crop performance. A good performance leads to better crop and livestock production and vice versa.

Figure 2: Rainfall performance

2.2 Staple food prices

The rising staple food prices affected the food security situation in the County. Since January prices of cereals especially maize have been on an upward trend which resulted not to afford the food commodities thus reduced meal portions, consumed less costly, less preferred foods to bridge the food gaps.

2.3 Insecurity/Conflict

Resource based conflicts along the borders of Meru and Isiolo Counties, specifically in Kinna, Malaene and Campela in Athiru Ward in Igembe Central Sub County resulted into loss of human lives, and inaccessibility to markets. Such areas have high concentration of livestock that in migrated from Isiolo, Laikipia, Samburu and Marsabit counties in search of pasture and water sporadic cattle rustling were also reported in the county.

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

Food availability in the county is from crop production and livestock keeping in all the livelihood zones, there was a decline in production for the major crops and reduced livestock productivity. Milk production declined from 0.5 to litres across all the livelihood zones. Food stocks held by key players reduced by 34 percent of the LTA and NCPB stores were not provisioned with stocks. Therefore there was reduced food availability at households across the livelihood zones and major markets.

3.1.1 Crops Production

The region depends on the short rains for crop production than the long rains season. Major crops grown are maize, beans and sorghum. Maize contributes 40 and 56 percent to cash income and food in the Marginal Mixed Farming zone, while beans contribute 30 and 27 percent to the same. In the mixed farming /food crops maize contributes 10 and 45 percent to cash and food income respectively while beans contribute three and 20 percent to cash and food income respectively. Maize contributes eight and 50 percent to cash income and food is respectively in the mixed farming /tea dairy while that of beans is two and 20 percent respectively.

Rain fed Cropping

Table 1: Rain fed Crop production

Crop	Area planted during 2017 Long rains season (Ha)	Long Term Average area planted during the Long rains season (Ha)	2017 Long rains season production (90 kg bags) Projected/Actual	Long Term Average production during the Long rains season (90 kg bags)
Maize	17,698	21,167	83,568	283,045
Beans	38,997	39,169	109,267	228,720
Sorghum	3,440	3,750	10,500	30,000

Acreage under maize production reduced by 16 percent compared to the Long Term Average (LTA) and this was attributed to lesser contribution of the long rains towards annual crop production and the projected production is expected to be 30 percent of the LTA based on poor performance of the rains. Similarly, there was decline in production of beans and sorghum by 52 and 65 percent of the LTA.

Irrigated Agriculture

In the irrigated zones, area under bananas and tomatoes was within the short term average (STA) but production was 46 and 75 percent of the STA, attributed to low river flows and also poor rainfall, which could not sustain the crops. Area under kales increased by about seven percent leading to a 30 percent increase in production above the STA. Water was adequate for kale production as water requirements are low as compared to the other crop

Table 2: Irrigated crop production

Crop	Area planted during 2017 Long rains season (Ha)	Short Term Average area planted during the Long rains season (Ha)	2017 Long rains season production (90 kg bags) Projected/Actual	Short Term Average production during the Long rains season (90 kg bags)
Bananas	649	643	1,076	2,323
Tomatoes	110	112	1,357	1,815
Kales	59	55	337	260

Maize Stocks held in the county

Maize stocks held by households in the region are 34 percent of the LTA produced from both rain fed agriculture and irrigation. Other households that did not produce maize in the farms are obtaining maize from the markets which is not normal since normally there are maize stocks in households across all the three livelihood zones. At the same time, traders were only holding 25 percent of their LTA, due to deficits experienced at the national grain baskets and below normal production within the county. Therefore inadequate stocks at households and limited traders' stocks affected food availability at the households and the little available stocks could would only less than one month as compared to three months during normal seasons.

Table 3: Food Stocks held in Meru -North

Commodity	Period	Households	Traders	Millers	NCPB	Total
Maize (in 90 kg bags)	Current	32863	45373	0	0	78,236
	LTA	97637	182273	0	0	27,9910
Rice (in 50 kg bags)	Current	607	4841	0	0	5448
	LTA	899	3915	0	0	4,810
Millet (in 90 kg bags)	Current	1555	2521	0	0	4,076
	LTA	2021	2635	0	0	4,656

3.1.2 Livestock Production

Livestock production contributes 26, 22 and 15 percent of the households' cash income in agro-pastoral, mixed farming and rain fed livelihood zones respectively through sale of livestock and livestock products like milk, meat and hides.

Pasture and browse Condition

Pasture condition was poor in the agro pastoral livelihood zones, fair in rain fed cropping livelihood zone compared to normal period. On the other hand pasture and browse situation was good in mixed farming livelihood zone and is expected to last into the next season. Scarcity and insecurity are the two main factors affecting pasture accessibility, specifically in areas with high concentrations of livestock as result of in- migrations from neighbouring Counties. Generally, Pasture and browse condition is on a worsening trend especially in the agro pastoral livelihood zones

Table 4: Pasture and Browse Situation

Livelihood	Pasture				Browse			
	Condition		Hong long to last (months)		Condition		Hong long to last (months)	
	Current	Normal	Current	Normal	Current	Normal	Current	Normal
Agro pastoral	Poor	Fair	1	2	Poor	Good	1	2
Rain fed farming	Fair	Good	2	3	Fair	Good	2	4
Mixed farming	Good	Good	4	4	Good	Good	4	4

Livestock Body Condition

Cattle and sheep are the most affected by the current pasture situations. Body condition for cattle and sheep was poor in agro-pastoral livelihood zones while fair in rain fed farming livelihood zone; normally at such a time body conditions for all species are good. The current body conditions are attributed to scarcity of pasture and browse and increasing distances to water points. Consequently, the current deteriorated livestock body conditions led to decline in livestock prices and households' purchasing power and as such households were less able to access adequate food commodities from the markets.

Table 5: Livestock Body Conditions

Livelihood zone	Cattle		Sheep		Goat	
	Current	Normal	Current	Normal	Current	Normal
Agro pastoral	Poor	Good	Poor	Good	Fair	Good
Rain fed farming	Fair	Good	Fair	Good	Good	Good
Mixed farming	Good	Good	Good	Good	Good	Good

Tropical Livestock Units

The Tropical Livestock Units (TLU) in the agro pastoral livelihood zone was 2 compared to normal of three for the poor income households while it was eight compared to the normal 10 for the middle-income households. In the rain fed livelihood zones, the TLUs for the poor households was 3 compared to the normal 4 and four compared to the normal five for the middle-income households. In the mixed farming livelihood zone poor income households had a TLU of one compared to a normal of two while there was no change in ownership of livestock for medium income households in the same livelihood zone. (Overall decline in the livestock ownership across all the livelihood zones were attributed to the prolonged droughts as a result of consecutive failed seasons. Reduction in TLUs negatively affects food security as it is a loss of disposable assets for the small stocks and also lead to poor nutrition especially for the under fives and the elderly. There were no livestock mortalities for the period under review, which is normal at this time of the year.

Table 6: Tropical livestock units

Livelihood zone	Poor income households		Medium income households	
	Current	Normal	Current	Normal
Agro pastoral	2	3	8	10
Rain fed farming	3	4	4	5
Mixed farming	1	2	4	4

Milk availability, consumption and cost

Currently one litre of milk costs is Ksh. 60 in all the livelihood zones compared to a range of 40 to 50 shillings during normal times. Therefore declines in households' milk availability, consumption and resultant increase in prices as illustrated in below all that were attributed to scarcity of pasture and browse in the livelihood zones which impacts on livestock productivity and thus affects food availability at the households. Livestock production is below normal and has affected milk availability at household level. Consequently, the nutrition of children under the age of five years has been affected.

Table 7: Milk availability and Consumption

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres) per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Agro pastoral	<0.5	3	<0.5	2	60	50
Rain fed	2	6	0.5	2	60	50
Mixed farming	4	8	1	2	60	40

Water for Livestock

The current water sources for livestock are boreholes and piped schemes in the agro pastoral zones compared to normal times when water pans /dam are used. In the rain fed zones livelihood zones, water sources are boreholes, roof catchment and piped schemes which are normal at this time of the year. In the mixed farming livelihood zones, roof catchment, piped schemes and rivers are currently operational which is normal though the water levels in the rivers have dropped. Return trekking distances from grazing to watering points in agro pastoral zones is 15 km compared to five kilometers normally. The distances are expected to increase as livestock move further away from these water sources in search of pasture and browse.

Migration

Livestock migration has been reported in the agro pastoral zones from Isiolo, Samburu and Laikipia. The migration routes are Isiolo /Laikipia/Samburu towards Meru National Park, Tigania Central, Imenti forest (Giaki) and Tharaka Nithi county search for pasture and water are the major causes of the migrations. About 80 percent of livestock were reported to have migrated out of their normal grazing areas. As the season becomes leaner, more livestock from Samburu and Laikipia Counties are expected to migrate towards Meru National park. Therefore migration reduced milk availability at household level, affected livestock body condition which consequently eroded the household's purchasing power.

Livestock Diseases and Mortalities

Livestock disease outbreaks were reported in the County, anthrax and rabies were reported in Antuambui Ward in Igembe North Sub County. Vaccination against anthrax, foot and mouth disease (FMD), lumpy skin disease (LSD), contagious Caprine pleural pneumonia (CCPP) and rabies, were among interventions taken to control these outbreaks. Livestock diseases led to reduced productivity as well reduced prices which adversely affected household food security situation.

3.2 Access

3.2.1 Markets and trade

The main markets in Meru North are Kangeta, Mikinduri, Kianjai, Muthara and Mulika for both livestock and cereals. Despite market operations being normal, the traded volumes were low for both livestock and cereals. Livestock traded was from within the County and included cattle, sheep and goats, while the cereals traded were from both the minimal harvests from the rain fed and mixed farming zones as well as from outside the County, particularly Maize from Kitale and Busia which deviated from the normal when at such a time the markets are well provisioned with food commodities.

Maize prices

Maize prices have been on an upward trend since March, which can be attributed to scarcity in the households as a result of the poor previous harvest, also leading to low supplies in the market. As a result, the price has been rising. However, the prices stabilized in June due to effect of harvests in the mixed farming areas and currently, the price of one Kilogram of maize is Ksh54, which is 80 percent above the LTA and 170 percent above that of same period in 2016 (figure 3) Therefore significant increase in prices above LTA hinders food access at the households.

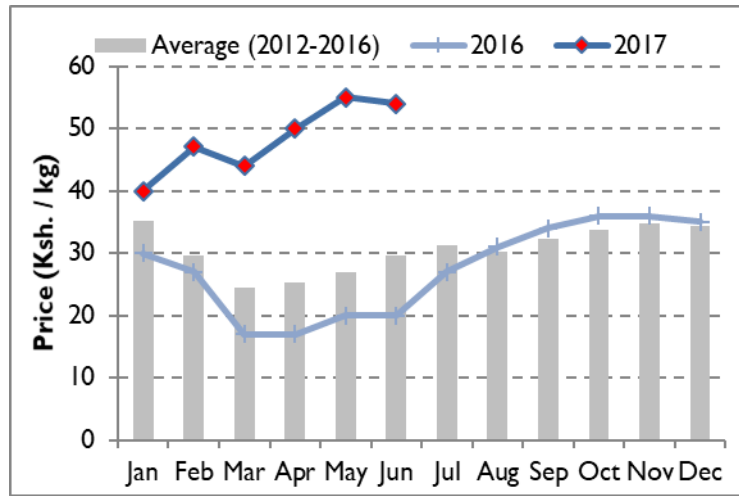


Figure 3: Trend in maize prices

Goat prices

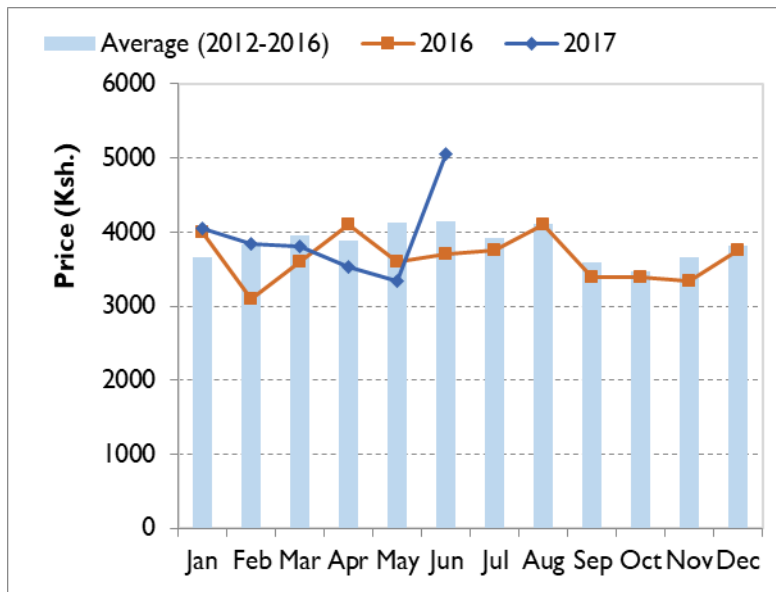


Figure 4: Trends in goat prices

In the month of June, the average price for a mature goat ranged between Ksh. 4,800-5,100 while the County average price was Ksh.5, 062. The prices were 22 percent above the LTA and 37 percent above that of same period in 2016 (figure 4). This was caused by a shortage in goat supply due to restriction put on sale of goats from Isiolo County in an effort to curb livestock theft. However, from January goat prices have been on downward trend attributed to poor browse as well as oversupply in the market as the effects of the drought hit and households aimed to sell them to obtain income.

3.2.2 Terms of trade

The terms of trade are following the seasonal normal though at depressed levels since February 2017, which is a result of the low goat prices and high cereal prices. Currently the sale of a mature goat can purchase 94 kilogrammes of maize, which is 33 percent below the LTA and 49 percent below that of same period in 2016. However, in the month of June, the ToT increased as a result of increase in goat caused by temporary livestock trade restrictions between Meru and Isiolo County.

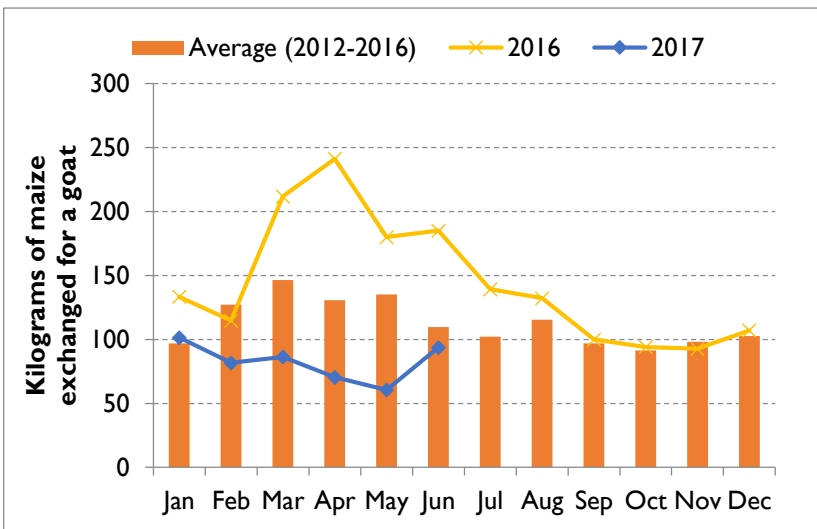


Figure 5: Trends in terms of trade

3.2.3 Income sources

Sale of livestock such as sheep and goats and to lesser extent cattle and other livestock products like meat and milk contributed to cash incomes especially in the pastoral and agro pastoral livelihood zones. In the rain fed cropping livelihood zones, sale of crops including maize and beans contributed to household cash incomes. However, households also engaged in charcoal burning, petty trade and casual waged labour to fill in the gaps as a result of low crop production and poor livestock productivity and traded volumes and reduced households' purchasing power.

3.2.4 Water access and availability

Major Water Sources

The current sources of water for domestic use are rivers, piped water systems, springs and boreholes. Normally, other sources such as pans are also used at this time of the year but are currently dry. Recharge to the pans/dams was inadequate due to structural reasons but fair for rivers and springs. Water rationing is ongoing within the piped schemes. Currently all the water pans are dry and the rivers have 15-20 percent of their normal flow. The non-operational water sources are as a result of breaking down for the case of boreholes and drying up for water pans/dams, therefore access to water was hindered.

Distances to Water Sources

The current distance to water points are 8-10 kilometres against the normal 3-8 kilometers in the agro pastoral zones livelihood zones while it was within the normal range of 1-2 kilometers in the mixed farming and rain fed cropping livelihood zones respectively all of which is attributed to drying up of most surface water sources (table 8). Over concentration at water points especially within agro pastoral livelihood zones was recorded in areas such as Ndumuuru, Malaene, Mariara, kandebene bore holes where both livestock and domestic queued for water, this was majorly caused by influx of livestock from other counties.

Table 8: Distances to water, waiting times and costs

Livelihood	Return Distance to Water for Domestic Use (Km)		Cost of Water at Source (Ksh. Per 20litres)		Waiting Time at Water Source (Minutes)		Average Water Consumption (Litres/person/day)	
	current	Normal	current	Normal	current	Normal	current	Normal
Agro pastoral	8-10	3-5	5-10	2-5	10-20	5-10	8-10	15
Mixed farming	1-2	1	2-5	2-5	0	0	20	20
Rain fed	1.5-2	1-1.5	2-5	2-5	0	0	20	25

Waiting time at the source

The current waiting time varies between 10-20 minutes compared to the normal of 5-10 in the agro pastoral livelihood zone with the exception of Igembe North where it is 40 minutes compared to the normal 25 (table 8). However, in areas where livestock and people are sharing water sources, the waiting time is more, like in Ndumuru borehole where watering livestock takes preference, people could wait for up to one hour to get water for domestic. On the other hand waiting time in the rain fed and mixed farming zones are minimal as most household's access water from rivers which was normal at such time of the year.

Water consumption and cost

Currently water consumption per person per day ranges between (8 -10) litres compared to normal of 10-15 litres in agro pastoral livelihood zone while consumption was within the normal ranges of 20-30 litres in both rain fed and mixed farming livelihood zones.. The current cost of water is 5-10 Ksh per 20 litre jerrican compared to the normal 2-5 Ksh in the agro pastoral zones. The cost has remained within the normal range of Ksh 2-5 in both rain fed and mixed farming zones. Households obtain water for free from the rivers and springs. Water vendors are selling the commodity between Ksh 20 and 50. In Kachiuru in Igembe North Sub County, the cost is Ksh.50 per 20 litre jerrican and Ksh 30 in Mea in the agro pastoral livelihood zone. Decline in consumption in the agro pastoral zones was as a result of increased distances to water sources and it had a direct implication on food security as less water is available for drinking and food preparation which affects food utilization.

3.2.5 Food Consumption

.Majority of the households (73.9 percent) households had acceptable food consumption score while 18.3 percent had borderline food consumption scores and the rest having poor food consumption scores compared to June 2016 when 93.6 percent of households had acceptable food consumption scores, six percent borderline and the rest poor food consumption scores, an indication that the food security situation in the region has worsened. Majority of households are consuming 2-3 food groups with a frequency of 1-2 meals per day of which the most common foods consumed are maize and beans, posho and black tea and occasionally kales.

3.2.6 Coping Strategy

Coping strategy index was 24 in May 2017 compared to 4.7 in May 2016 due to the apparent food shortage in the households and especially in the agro pastoral livelihood zones where households are engaging in various coping strategies like relying on less preferred expensive foods and limiting the portion size and reduction in the number of meals.

3.3 Utilization

Water availability and access is a challenge in the agro pastoral livelihood zones. The distances to water for domestic use have increased in these areas. Increased distances have adversely affected water consumption in litres per person per day. The upsurge of diarrheal diseases is also affecting food utilization. As a coping strategy, households are consuming less preferred foods which are more often less nutritious. Milk availability is a challenge in the agro pastoral zones, and this has a direct impact on the nutrition of children at the household level.

3.3.1 Health and nutritional status

Morbidity and Mortality Patterns

Upper respiratory tract infections, diarrhea and malaria respectively remained the most prevalent diseases for children under the age of five years. However there has been a notable decline in the number of cases across these diseases due to community awareness through health education by community health workers and health workers in the facilities.

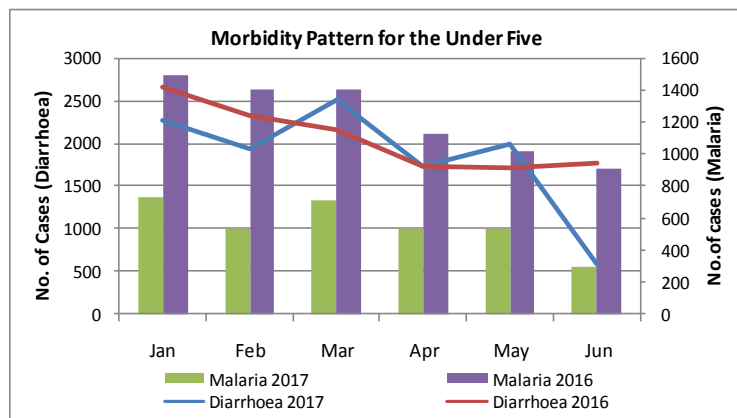


Figure 6: Morbidity Pattern for the under five

There were measles and dysentery outbreaks reported between January and June 2017 with a marked reduction of measles by 31 percent from 14 cases, dysentery by 11 percent and malaria cases by 32 percent. However there is an increase of diarrhea by 21 percent and typhoid by 5 percent as compared to the same period in 2016. The data may however not be a true reflection of the situation due to inconsistency in health service delivery caused by the recurrent health workers strikes witnessed this year. Supervision at the health facility has reduced malaria cases due to proper documentation and use of instruments in diagnosis and treatment. The same diseases are the most prevalent for the general population.

Immunization and Vitamin A supplementation

The percentage coverage of the fully immunized child declined from 56.3 percent in 2016 to 54 percent in 2017 with the lowest in Igembe north at 52.5 percent which is an improvement from 41 percent in 2016 and the highest in Tigania west at 56.4 percent compared to 42.2 percent for the same period in 2016. The immunization coverage is far below the national targets (80 percent), which could be attributed to distance from household to the health facilities which is slowly being tackled with many health facilities being opened across the county. Overall, child care behavior and attitude is the major cause for the low coverage. However, the prevailing draught situation is a contributing factor as mothers turn to casual labour, and trek for long distances in search of water. As observed the lowest immunization coverage and vitamin A supplementation is in pastoral areas, then agro-pastoral and better coverage in the mixed farming and rain fed regions

Vitamin A supplementation coverage declined from 42.2 percent for children aged 6-11 months in 2016 to 26.6 percent, while supplementation for age bracket 1-5 years also increased from 42.2 percent to 25.9 percent. The rapid reduction seen in age 1-5 years is however affected by early childhood development education (ECDE) supplementation program failure which resulted with pulling out of the program partner non-governmental organizations including APHIA PLUS Kamili, implemented in schools which targets children aged 3-5 years. There is however a very low coverage for supplementation among children 1-3 years.

There has been a slight improvement on latrine coverage from average of 78 percent in 2016 with some areas reporting coverage of up to 98 percent in 2017. An increase is expected due to an ongoing Open Defecation Free (ODF) campaign which has targeted all households to have latrines up to 100 percent. The pastoral areas have very low latrine coverage followed by the agro-pastoral due to the fact that people are not constantly present in one area. This also describes the distribution of sources of diarrheal diseases which echo higher prevalence in the agro pastoral lowland zones. The campaign was informed by increased diarrhea cases and dysentery outbreaks in the lowlands of the county attributed to openly defecate human waste which is swept downstream during the rainy seasons.

Dietary Diversity

The number of meals consumed per day has reduced from 2-3 meals normally to 1-2 and mostly in the agro pastoral livelihood zones. The dietary diversity has equally reduced to 2-3 food groups, with the most consumed foods being *ugali*, *githeri*, rice kales and cowpeas. Maize and cereals are sourced both from the farms in livelihood zones that received harvests and also from markets for agro pastoral zones. The nutrition status for children under five years of age has been on a worsening trend until April, when the trend stabilized. Currently, according to national drought management authority (NDMA) early warning system bulletins, the percentage of

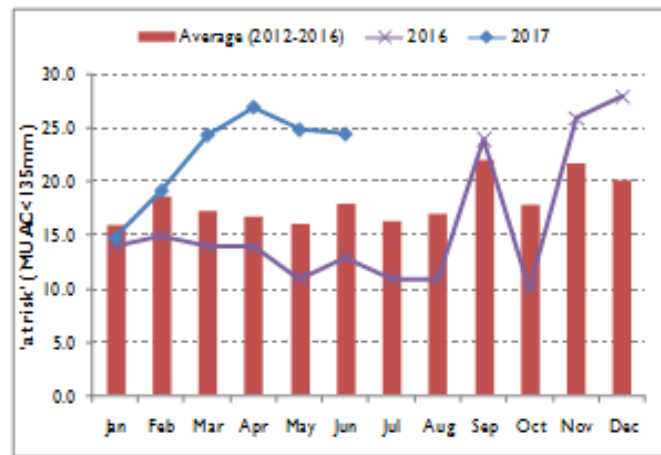


Figure 6: Percentage of children at risk

children at risk of malnutrition is high at 24.5 percent, which is 36 percent above the LTA and 88 percent above that of same period in 2016. The high levels of children at risk is an indication of the food security situation at the household level. The reduced milk availability means that the amount available for consumption has also reduced affecting the nutritional status especially for the under-fives.

3.3.2 Sanitation and Hygiene

Open defecation is common in the agro pastoral and pastoral zones which predisposes the households to waterborne diseases. Coupled with upstream contamination and livestock waste, these could be the possible sources of water contamination in the region and could be connected with the upsurge of the diarrheal cases in the region.

Water treatment from the open water sources is minimal though a large percentage relies on the safe and protected water sources. The common method of water treatment includes boiling and use of water treatment chemicals. However, in the few areas in the agro pastoral where water treatment chemicals are used, they are accepted Water treatment has led to better water quality for the households that use them (less than 10 percent of the households) as well as a reduction in water borne diseases.

3.4 Trends of key food security indicators

Table 9: Trend of key food security indicators

Indicator	Short rains assessment, February 2017		Long rains assessment, July 2017		
Maize stocks held by households (%)	67 percent of LTA		34 percent of LTA		
Livestock body condition	Agro pastoral	Fair-Good	Cattle poor	Sheep poor	goats fair
	Rain fed farming	Good	fair	fair	good
Water consumption (litres per person per day)	Agropastoral	10-15	8-10		
	Rain fed	25-30	20-30 lpppd		
	Mixed Farming	25-30	25-30		
Price of maize		38	54		
	Rain fed		2		
	Mixed Farming		1		
Terms of trade (pastoral zone)		98kgs	94kgs		
Coping Strategy Index	Agropastoral	20.8	32.8		
	Rain fed	7.8	4		
	Mixed Farming		4.8		

3.5 Education

Generally, there has been rapid expansion of education in terms of enrolment and infrastructure as a result of Free Primary Education (FPE) and Secondary Education subsidy The County has 15

education divisions and zones. There are 813 Early Childhood Development Centers (ECDs) with a total enrolment of 61,870 of which 28,925 are boys and 32,945 are *girls*. The sector comprises of 647 primary schools with a total enrolment of 335,879 pupils and 192 secondary schools with a total enrolment of 54,682 students. Fifteen percent (15%) of these schools are in the agro pastoral livelihood zones. The schools in the transitional zone (between the highlands and lowlands) experience low transition compounded by frequent absenteeism of pupils.

Access (Enrollment)

Notably, there was a decline in enrolment throughout the terms for both girls and boys. Notably, there was significant decrease in enrollment in Igembe North sub –county by 37 and 32 percent in both term I and term II for boys and girls respectively in ECD and primary schools. In primary school more girls than boys enrolled in both the terms. Lastly even thou absenteeism and dropping out was reported across the entire sub-county, it was more pronounced in the lower areas (Agro-pastoral livelihood zone) where incidences of insecurity were reported. High school levies/ fees and lack of food (SMP) in schools were the major causes of absenteeism.

Table 10: Enrollment in Schools

SUB COUNTY	LEVEL	2017 TERM 1			2017 TERM 2		
		BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
Igembe North	Primary	32,104	33,422	65,526	19,736	21,756	41,492
	ECD	5,663	6,063	11,726	3,951	4,008	7,959
Igembe South	Primary	-	-	-	-	-	-
	ECD	-	-	-	-	-	-
Tigania East	Primary	7,930	8,401	16,331	7,800	8,314	16,114
	ECD	-	-	-	-	-	-
Tigania West	Primary	16,574	14,715	31,289	16,589	16,818	33,407
	ECD	-	-	-	-	-	-
Buuri	Primary	9,948	9,420	19,368	9,749	9,327	19,076
	ECD	2,153	1,928	4,081	1,956	1,796	3,752

School meals programme

A school meal program was in three Subs -counties namely, Tigania West, Buuri and Igembe North. Additionally 19 schools were funded by the National Government for school meals where a total of 23,797 (11,537 boys and 12,260 girls) pupils were covered, further to that some schools in agro pastoral livelihood zones also received food rations from the ministry of Interior and coordination of National Government which are inadequate.

4.0 FOOD SECURITY PROGNOSIS

4.1 Assumptions

- The October -December short rains performance is likely to be above normal (FEWNET)
- Forage condition expected to deteriorate until the onset of short rains in October.

- Resource based conflicts over water and pasture expected especially in along the park, and livestock concentrated areas until the onset of the short rains
- Livestock prices expected to decline all through to September
- Cereal prices expected to remain above the long term average
- The terms of trade are expected to deteriorate throughout the August- September lean season

4.2 Food security outcomes for July - September

The remaining poor pasture and browse is expected to be depleted in the next three months leading to a reduction in milk at household level. With increased trekking distances in search of more pasture and water, livestock body condition is expected to deteriorate, leading to poor prices in the market. Milk availability at household level will decline due to worsening livestock body condition. The nutritional status of children will be affected due to the reduction in milk availability and consumption. Household stocks are expected to be depleted by August and majority of households will be dependent on the market to access food commodities. Cereal prices are expected to rise due low supply and due to increased demand. Low livestock prices and high food prices will reduce purchasing power and food access at household level. The food security situation will further deteriorate and a majority of households are likely to remain in “Stressed”(IPC phase 2).

4.3 Food security outcomes for October- December

The forecasted above average October-December short rains are expected to recharge the open water sources improving water availability. Crop production activities are likely to be above average increasing agricultural wage labor opportunities and income at household level facilitating market purchases improving food access and consumption at household level. Forage regeneration driven by the rains will improve milk production and consumption reducing malnutrition in children under five years. Food security will improve and a majority of households will be able to obtain their food and nonfood needs without engaging in unsustainable strategies and move to Minimal (IPC Phase 1).

5.0 CONCLUSION AND INTERVENTIONS

5.1 Conclusion

5.1.1 Phase classification

The food security situation in Meru North is currently on a declining trend especially in the agro pastoral livelihood zone, which are the most affected by the prevailing drought situation. The

indicative food security phase classification is *Stressed (IPC Phase 2)* for the agro pastoral livelihood zone as well as the transition rain fed zones that border these agro pastoral zones. The implication for this is that even with any humanitarian assistance; household groups have minimally adequate food consumption but are unable to afford some essential non food expenditure without engaging in irreversible coping strategies. Therefore, the action is required for disaster risk reduction and to protect livelihoods. The rest of the rain fed as well as the mixed farming livelihood zones are in the *Minimal (IPC Phase 1)* food insecurity phase.

5.1.2 Summary of findings

The onset of the 2017 long rains was late though the cessation was timely. Distribution both in time and space was poor and uneven respectively. As a result, crop and livestock production has been below normal. Household stocks are minimal in the rain fed and mixed farming zones. Stocks held by traders are inadequate and far below the LTA. The terms of trade are below the LTA and the purchasing power of the households has been eroded. Pasture and browse is available in the agro pastoral zones but on a declining trend in the rain fed zones. Water availability for both livestock and domestic use is especially becoming scarce in the agro pastoral zones as all the water pans have dried up. The boreholes are overstretched with high concentration of livestock. Boreholes and piped schemes remain the preferred sources. Nutritional status for children below five years has been affected by reduced milk availability at household level in the agro pastoral zones as livestock have migrated. Reduced meal frequency has affected food utilization in the households.

Sub- county food Insecurity ranking

Table 11: Sub County food insecurity ranking

Rank	Sub County	Indicators
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1.	Igembe North	<ul style="list-style-type: none"> • Insecurity/ Conflicts • Poor pasture and browse • No household stocks • Long distances to water 	<ul style="list-style-type: none"> • In migration and livestock diseases • Poor road network • Increasing food prices • Increased distances to water points
2.	Igembe Central	<ul style="list-style-type: none"> • Insecurity/ Conflicts • Poor pasture and browse, • No household stocks • 	<ul style="list-style-type: none"> • Long distances to water. • Increasing food prices • In migration and livestock diseases
3.	Tigania West	<ul style="list-style-type: none"> • Increasing food prices • Low household stocks • Poor rainfall performance 	<ul style="list-style-type: none"> • Poor road network • Poor Rainfall performance
4.	Tigania Central	<ul style="list-style-type: none"> • Increasing food prices • Low household stock, • Poor rainfall performance 	<ul style="list-style-type: none"> • Poor road network • Poor rainfall performance
5.	Tigania East	<ul style="list-style-type: none"> • Increasing food prices • Low household stocks, 	
6.	Buuri	<ul style="list-style-type: none"> • Low household stocks • Poor rainfall performance 	<ul style="list-style-type: none"> • Increased distances to water points
7	Igembe South	<ul style="list-style-type: none"> • Low household stocks • Poor rainfall performance 	

5.2 Ongoing Interventions

5.2.1 Food interventions

The food interventions in the County were issuance of Kshs 200,000 to 19 schools in Igembe North sub -county through the Ministry of interior and coordination of government. Secondly, 820 orphans and 930 households respectively were given cash of ksh.2000 each through social protection initiatives. Other food commodities that were available in the stores for immediately distribution were; 1291bags of maize each weighing 50 kilograms,198 bags of beans each weighing 50kgs, 297 bags of rice each weighing 50 kgs, 10 bales of fortified food and 30 cartons

of vegetable oils. In Igembe north sub county, 10 -15 percent of the population especially in Amwathi, Naathu, Antubetwe, Autuambai locations were estimated to be in need of food aid and a similar percentage in Akithi, Kianjai, Anthwana and Mbeu locations in Tigania west sub county were also found to be in need of food aid.

5.2.2 Non-food interventions

Table12: Ongoing non-food interventions

Sub County	Ward	Intervention	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost (Kshs)	Time Frame
Agriculture							
Igembe North	All	Relief food	Public schools and vulnerable members of the public.	GoK	Has helped combat hunger, but more is needed.	Procured centrally by GoK	Continuous
Igembe North	All	Provision of relief seeds and fruit tree seedlings	6,124	County and national govt	Increased acreage under food crops and fruit trees	Procured centrally	6 months
All	Athiru, Gaiti, Kanuni and Akachiu	Conservation agriculture Post Harvest Management Trainings	1,500	FAO/ GOK	Increased productivity and Safe food stuff	15 M	One season respectively
Livestock							
IG/north IG/centra IG/south T/west T/east Buuri	All wards	Promotion of AI services to all farmers	>17000 20 groups	County Government	Prevention of Diseases		Continuous

Health and nutrition							
All	Vitamin A Supplementation	All health facilities and ECDE centers	231,551	GOK	Effective in reduction of vitamin A deficiency		Continuous
All	Zinc Supplementation	all health facilities	8040	GOK	reduction of mortality and morbidity		Continuous
All	Management of Acute Malnutrition (IMAM)	all health facilities	1551	GOK, AMREF, UNICEF	Reduction of mortality and morbidity/ long term effects		Continuous
All	IYCN Interventions (EBF and Timely Intro of complementary Foods)	all health facilities	231, 551	GOK	Reduction of mortality and morbidity/ long term effects		Continuous

5.3 Recommended Interventions

5.3.1 Food interventions

Table 13. Recommended food interventions

Sub County	Pop in need (percent range min – max)	Proposed mode of intervention	Remarks
Igembe North	10-15	GFD	Amwanthi, Antuambui, A.Kiongo
Igembe Central	10-15	GFD	Akirang' Ondu, Njia, Kangeta
Tigania West	5-10	GFD	Anthwana, Akithi, Kianjai
Tigania Central	5-10	GFD	Kibuchwa, Thangatha
Tigania East	5-10	GFD	Muthaara, Karama,
Buuri	5-10	GFD	Ruiru rwa Rera, Kiirua Nare
Igembe South	5	GFD	Athiru Gaiti, Akachiu, Kanuni

5.3.2 Non-food interventions**Table 14. Recommended non- food interventions**

Sub County	Ward	Intervention	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Agriculture							
Igembe North	All	Provision of relief food	23,215	GOK	-Funds -Food Transport	-Personnel	6 Months
Igembe North	All	Provision of relief seeds	10,000	County Government	-Seeds - Distribution logistics	Personnel	3 months
Livestock							
All	Lowlands wards	Relief Fodder	10,000	GOK	20M	Nil	July-Sept
All	All	Vaccination	60,000	County Government	9M	Vehicles Personnel	July-August

All	All	Water trucking	100,000	GOK	5M	None	July-Oct
All	Lowland wards	Livestock offtake	10,000	GOK	200M	None	August-September
Water and sanitation							
Igembe central	Baibaariu	Provision of fuel subsidies , repair and servicing of engine for Baithubuku bore hole	3,000 persons	NDMA/GOK	30,000	Technical personnel Existing bore hole	3 Months
Igembe south	Kirima Mpio	Repair and servicing of broken down engine for Kiraone bore hole	2,500	NDMA/GOK, County Government	220,000	Technical personnel Existing bore hole	1 Months
Igembe south	Athi	Equipping, construction of a storage tank, pump house, water kiosk and pipeline installation of Ugoti Primary school borehole	3,000	NDMA/GOK	3.5M	Drilled, pump tested and capped borehole	3 Months
Igembe north	KABACHI	Purchase of a standby genset for Ndumuuru bore hole Construction of 100M ³ storage	Over 20,000 livestock 1,500 people	NDMA/GOK	1.2M	Technical personnel Existing bore hole	August-October
Health and Nutrition							
Meru north region	All	SMART Survey	231, 551	GOK, NDMA, UNICEF	2.5M	Staff	August-October

Meru north region	All s	Rapid MUAC Screening At Household Level	231, 551	GOK, NDMA, UNICEF	560,000	Staff	August-October
Meru north region	All	Open more IMAM sites	All malnourished and at risk persons	GOK, NDMA, UNICEF	100,000	Staff	August-October
Meru north region	All	Outreaches	Hard to reach areas in all the sub counties	GOK, NDMA, UNICEF	315,000	Staff	August-October

