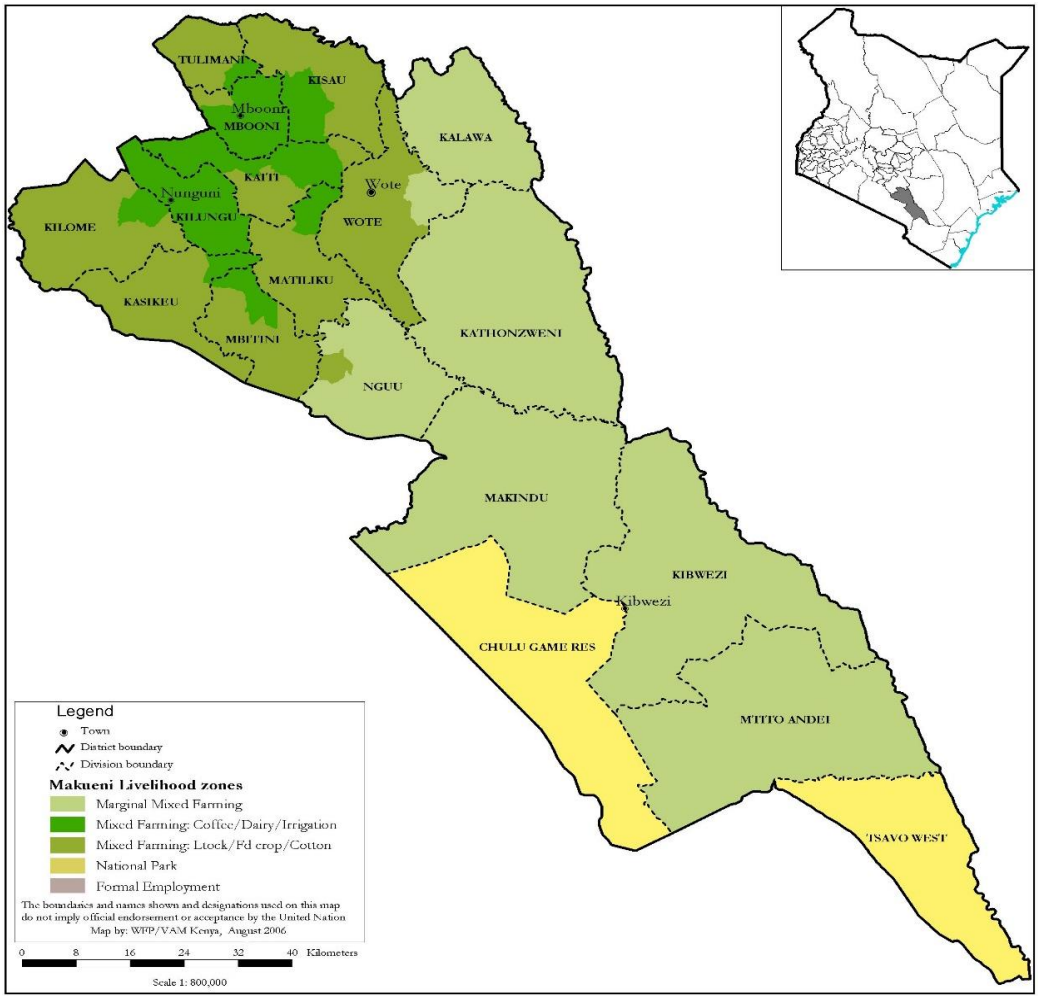
MAKUENI COUNTY

2016 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



A Joint Report by the Kenya Food Security Steering Group[1] (KFSSG) and County Steering Group, Makueni County

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[1] Victoria Gioto (National Drought Management Authority) and Anthony Mativo (World Vision Kenya)

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EXECUTIVE SUMMARY

The county is classified under Stressed Phase (IPC Phase 2). Approximately 20 percent of the households had a borderline or poor food consumption score. The poor performance of the short rains season has seen a decline in food stocks at household level to 25 percent of normal hence contributing to high food prices: ranging at Ksh. 38 – 45 for maize compared to a normal of Ksh. 35 – 40. Decreasing livestock prices also contributed to reducing the economic ability to purchase food. The number of children under-five years who were underweight increased to 5.16 percent on average between July to December 2016 compared to 4.39 percent during a similar period in 2015. Other hazards experienced were quelea birds' infestation at Kibwezi East and Kibwezi West, livestock diseases as noted by cases of FMD in Kathonzweni and limited access to water. A majority of households dedicated more than half of their total expenditure to food.

The expected production was 11 and 52 percent of the long-term average (LTA) for maize and cowpeas respectively. Two-thirds of the households had no food stocks and were therefore depending on markets. Milk production and consumption per household was two and one litres respectively compared to the LTA production of three and two litres respectively. The current waged– labour rate ranged between Ksh. 200-300. For most households in the marginal mixed farming livelihood zone, the meal frequency had reduced from three to one for adults and from three to two meals for the children. Most households have resulted to taking less preferred foods and have also reduced portion sizes.

The average Tropical Livestock Units (TLUs) were at 2– 3 which was below normal. There was in-migration of livestock from Kajiado to Nguu in the marginal mixed livelihood zone in search of pasture.

1.0 INTRODUCTION

1.1 County background

Makueni County is located in the south-western part of the country. It has a total population of 959,022 people (KNBS 2016 projected population) and covers an area of 7,965.8 square kilometers. It is sub-divided into six sub-counties namely; Makueni, Kilome, Mbooni, Kaiti, Kibwezi East and Kibwezi West and has three livelihood zones (Figure 1).

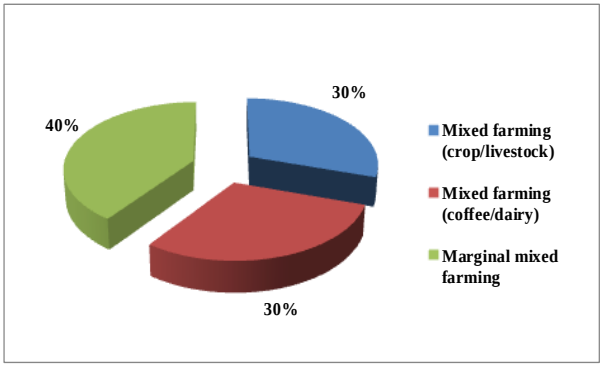

Figure 1: Population by livelihood zone

1.2 Objectives and approach

The main objective the short rains assessment was to develop an objective, evidence-based and transparent food security situation analysis following the short rains season of 2016 taking into account the cumulative effect of previous seasons, and to provide recommendations for possible response options based on the situation analysis. The assessment was conducted from 23rd to 27th January 2017 using a multi-sectoral approach. The process began by gathering secondary data using checklists from Agriculture, Livestock, Water, Education and Health and Nutrition sectors. A two-day field mission then followed where two market interviews, two focused group community interviews and two key informant interviews were done in each livelihood zone. Triangulation of data was enhanced by visiting health and education institutions to gather applicable data. Observation techniques were also used during transects drives to obtain qualitative data. The field data was collated, reviewed and triangulated whose product was a county food security assessment report. The data was further analyzed using the Integrated food security Phase Classification.

2.0 DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1 Rainfall Performance

The onset of rains was in the first dekad of November, which was late by two dekads. The county received near-normal rainfall of 75-90 percent in most parts (Figure 2). However, localised areas of Mbooni, Kaiti and Kibwezi, all in the marginal mixed farming livelihood zone received below normal rains of 50-75 percent. The temporal distribution of the rainfall was poor across the county. However, the spatial distribution of the rainfall was even across all livelihood zones. Cessation of the rains occurred early in the first dekad of December compared to the normal third dekad.

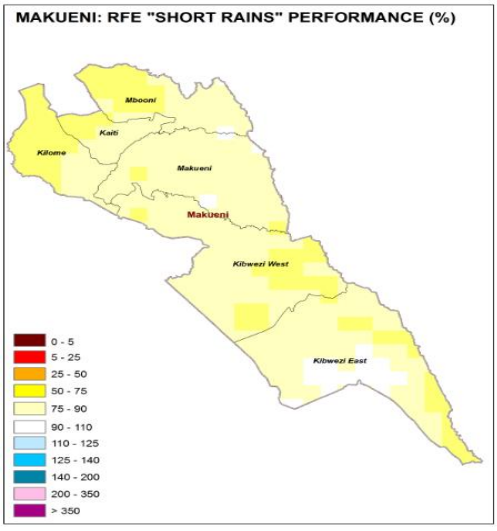

Figure 2: Percent of normal rainfall

3.0 IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1 Availability

Food availability in the county includes domestic agricultural output, net food imports, stocks and livestock production. The 2016 short rains harvest was affected by climatic shocks including below normal rainfall performance and higher-than-normal temperatures which impacted negatively on crop and livestock production thus exposing households to market dependence. Limited rangeland regeneration led to minimal milk production at household level.

3.1.1 Crops production

The short rains contribute about 70 percent of the county's crop production in Makueni County. The main crops grown in the county are maize, green grams, cow peas and beans (Table 1). Horticultural crops such as tomatoes, kales, water melons, pawpaw and mangoes are grown for cash income and household consumption.

Table 1: Contribution of crops to food and income in Makueni County

Livelihood zone	Crop	Percent contribution to	
		Cash	Food
Marginal mixed farming	Maize	27	70
	Cow peas	34	8
Mixed farming (coffee/diary)	Maize	10	77
	Beans	8	10
Mixed farming (food crop/ livestock),	Maize	58	59
	Beans	2	20

The area planted for maize and cowpeas was 25 and 40.2 percent respectively above the long-term average (Table 2). Since the season was the season is the most relied upon for crop production, the acreage under crop was increased. However, the expected production was 11 and 52 percent of the long-term average (LTA) attributed to below normal rainfall performance.

Table 2: Rain-fed (3 major crops)

Crop	Area planted during 2016 Short rains season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2016 Short rains season production (90 kg bags) Projected	Long Term Average production during the Short rains season (90 kg bags)
1. Maize	95654	76601	85,000	766010
2. Cowpeas	50630	36110	154,306	294,550
3. Green grams	41730	34000	106,453	278,900

The area under green grams was 40 percent above the LTA attributed to the great demand of the crop since it contributes significantly to household incomes. However, the production was expected to be 38 percent of the LTA (Table 2) due to the poor performance of the season. Quelea birds in Kibwezi East and Kibwezi West sub-counties also ate the crop up due to their proximity to Tsavo and Kyulu game reserves.

Irrigation is practiced along Athi River and other seasonal rivers across the county such as Kikuu, Kaiti, Thwake and Muooni rivers. The area under tomatoes, kales and green maize increased by 68, 29 and 58 percent of the LTA respectively (Table 3). The increased acreage resulted in an increase in the production of the three crops at 34, 23 and 56 percent above the LTA respectively attributed to the use of rain-water harvesting techniques to harness productivity as a result of advocacy by stakeholders (World Vision Kenya, Kenya Red Cross and National Drought Management Authority).

Table 3: Irrigated crops

Crop	Area planted during 2016 Short rains season (Ha)	Long-Term Average area planted during the Short rains season (Ha)	2016 Short rains season production (90 kg bags) Projected	Long-Term Average production during the Short rains season (90 kg bags)
1. Tomatoes	521	310	2415	1802
2. Kales	223	173	2011	1632
3. Green maize	380	240	780	500

Stocks held at house-holds level decreased by 75 percent of the LTA (Table 4) which was attributed to the poor rainfall performance of the previous season. Stocks held by traders were 56 percent of the LTA. Traders were importing maize from other counties such as Busia and Kitale which, being border markets were facing competition from the neighboring country leading to fluctuations in the prices. Most millers do not stock maize instead they mill what the farmers take to them. The NCPB depots in the county held no maize stocks. In a normal season, the stocks held by the households at this time lasts for three months although presently they could only last for less than a month increasing most households' dependence on markets.

Table 4: Maize stocks

Maize stocks held by	Quantities of maize held (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	20,445	80,500
Traders	114,929	204,000
Millers	0	0
NCPB	0	30,500
Total	135,374	315,000

3.1.2 Livestock Production

Livestock production is one of the major sources of income in the county (Table 5). The major livestock in the county are cattle, sheep, goats and indigenous chicken. Others include bees and donkeys.

Table 5: Contribution of livestock production to income in Makueni County

Livelihood zone	Percent contribution to income
Marginal mixed farming	50
Mixed farming coffee/Dairy	40
Mixed farming crop/livestock	39

Forage condition

In the marginal mixed farming livelihood zone, pasture was poor in localised areas of Kalawa, Kiaoni, and Kandengyi and on a worsening trend. In these exceptional areas, the available quantities of pasture were likely to last for less than one month until mid-February compared to three months normally until mid-April. Browse condition was generally good across all livelihood zones but also on a worsening trend. The available browse was likely to last for at least two to three months (Table 6) until April which is normal. Crop residues are expected to contribute to livestock feed at about 20 percent.

Table 6: Pasture and browse condition by livelihood zone

Livelihood zone	**Pasture condition**			**Browse condition**		
	Current	**Normal**	**Projected duration to last (months)**	**Current**	**Normal**	**Projected duration to last (months)**
Marginal mixed farming	Fair to poor	Good to Fair	1-2 months	Good to Fair	Good	2–3 months
Mixed farming coffee/dairy	Fair	Good to Fair	1-2 months	Good	Good	2–3 months
Mixed farming food crop/ livestock	Fair	Good to Fair	1-2 months	Good	Good	2–3 months

Livestock productivity

Body condition

Goats and sheep were in good body condition across all livelihood zones attributable to the good browse conditions. Cattle, on the other hand, were in fair body condition although on a deteriorating trend as pasture was projected to last for only one month across all livelihood zones.

Milk production, consumption and prices

Milk availability at the household level was mainly 1 – 2 litres per household per day compared to the normal amount of 2 – 3 litres (Table 7). Milk consumption was normal at one litre per household with an exception of the marginal mixed farming at one litre in comparison to a normal of two litres. Milk prices across all livelihood zones have increased in comparison with the LTA.

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

Livelihood zone	Milk production (Litres) / Household		Milk consumption (Litres) / Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Marginal mixed farming	2–3	3	1	2	60–70	50
Mixed farming coffee/dairy	1–2	2	1	1	60–70	50
Mixed farming crop/livestock	1	2	1	1	60–70	50

Tropical livestock units (TLUs), birth rates and migration

The TLUs were all below normal (Table 8) since the decline of herd and flock sizes during the 2009/2010 drought across all livelihood zones. Reduced TLUs implied fewer livestock available for sale and lower livestock productivity hence reduced income. Birth rates were normal. There was in-migration of livestock from Kajiado County to Nguu in search of pasture.

Table 8: Tropical Livestock Units in Makueni County

Livelihood zone	Current	Normally
Marginal mixed farming	3–4	5–6
Mixed farming: crop/livestock	2–3	4–5
Mixed farming: coffee/dairy	1–2	3

Livestock diseases and mortalities

There were reported disease outbreaks of Foot and Mouth Disease (FMD) in cattle in Kathonzweni and New castle and fowl typhoid for poultry across all the livelihood zones. Vaccinations were undertaken to control the situation. Contagious Caprine Pleuro–pneumonia (CCPP) was also reported. There were no unusual livestock deaths, and the mortality rates of all livestock species were within seasonal norms at one percent for cattle, goats and sheep.

Water for Livestock

The major sources of water for livestock were rivers, sand dams and earth dams which are the normal sources (Table 9). The trekking distances have increased which was attributed to worsening condition of pasture and browse coupled with increased distances to water sources.

Table 9: Water for livestock in Makueni County

Livelihood zone	Return trekking distances		Expected duration to last		Watering frequency	
	Current	Normal	Current	Normal	Current	Normal
Marginal mixed farming	5–10	4–7	0.5–1	1–2	After every one day	Daily
Mixed farming (coffee/dairy)	3–5	3–5	1–1.5	2–3	Daily	Daily
Mixed farming food (crop/ livestock)	6–9	5–6	0.5–1	1–2	Daily	Daily

3.2 Access

Markets were functioning normally; with findings showing that food insecurity was driven by low purchasing power at household level. Findings also show that Kibwezi east and Kibwezi west as the most deprived area in all aspects of access to food.

3.2.1 Markets

The main markets for livestock are Kathonzweni, Kilungu, Kiaoni, Matiliku, Kambu, Machinery, and Makindu. The main markets for food commodities are, Kathonzweni, Makindu, Kitise, Kalawa, Kiaoni, Machinery, Kibwezi and Mavindini in the marginal mixed livelihood zone and Nunguni and Kikima in the mixed farming coffee/dairy livelihood zone. In the mixed farming crop/livestock livelihood zone, the main ones were in Kilala, Mukuyuni, Emali, and Mbumbuni. All markets were operating normally, with food supplies being sourced from Busia and Kitale while about 10 percent of green grams and 5 percent of cow peas were sourced from farmers within the marginal mixed farming livelihood zone. Traded volumes remained the same although traders reported an increase in the ones for goats and cattle. The worsening condition of forage forced households to sell their assets in order to benefit from them before the prices fall as livestock body condition deteriorates. Other reasons for the increased volumes include the need for school fees and food purchases at household level.

Maize prices

Maize retailed at an average of Ksh 40 – 45 in all major markets across the three livelihood zones as at mid-January 2017 (Figure 3) which was higher than normal. The price was also higher than those recorded in the previous two years. The highest price was recorded at Ksh 50 per kilogram in Kiaoni (marginal mixed farming livelihood zone) and Mathangathi in the mixed farming (coffee/dairy) livelihood zone. The increase in maize prices was attributed to high prices from the maize suppliers from Kitale and Busia since the supplies were low in the county.

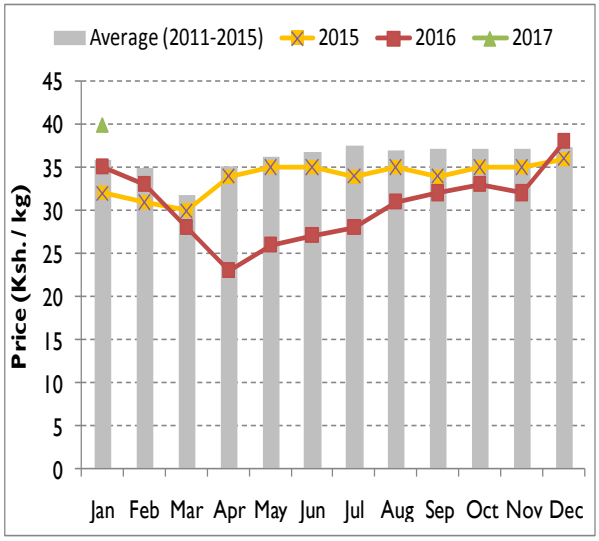

Figure 1 Maize price trends in Makueni County

Goat prices

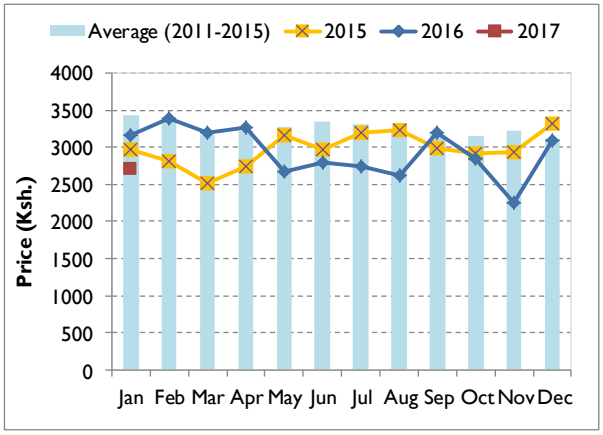

Figure 4: Goat price trends in Makueni County

Goat prices were lower than the 2011–2015 LTA in January and also lower than both the previous two years (Figure 4). The low prices were attributed to worsening condition of pasture and browse, the need to cater for household food needs and school fees. Low prices were reported in Kiaoni market at a range of Ksh 1800 – 2000 while Kathonzweni market recorded the highest goat prices at Ksh 2200 – 2500.

3.2.2 Terms of trade

The terms of trade (TOT) were 17 percent above the LTA (Figure 5), indicating increased purchasing power for farmers as at December. However, the trend in 2016 has been unusual as the TOT started increasing from January to April then a stable trend through December. The TOT as at January has declined sharply due to high prices of maize against reduced goat prices.

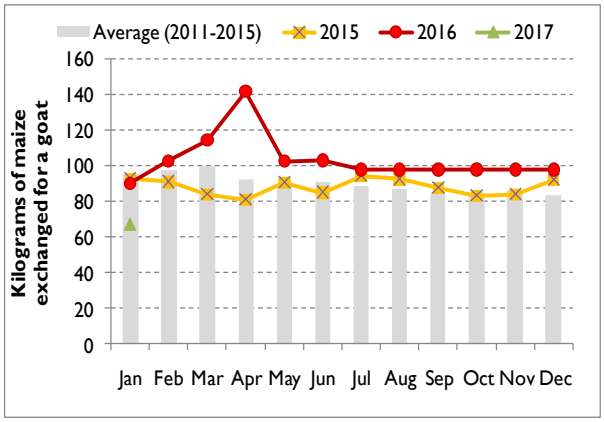

Figure 5: Terms of Trade in Makueni County

3.2.3 Income sources

Approximately 50 and 30 percent of households relied on casual labour and petty trading respectively as the main source of income. The sale of crops produce was seldom recorded in comparison to the previous season which was attributed to below normal rainfall performance impacting negatively on crop production. Other sources of income were formal employment, the sale of livestock, remittances and the sale of charcoal. The average daily wage rate was at a range of Ksh 200 – 300.

3.2.4 Water availability and access

The major water sources in the county were traditional river wells, shallow wells, dams, pans, and natural rivers. Others included springs, boreholes, sand dams, piped schemes and rock catchments. There are four main water supply schemes in the county namely Wote water and sewerage company, Kibwezi/Makindu water and sewerage company, Mbooni cluster and NolTuresh Company. Most open water sources had approximately 40–50 percent recharge levels in the mixed farming (crop/livestock) and marginal mixed farming livelihood zones. The recharge was 60–80 percent in the mixed farming (coffee/dairy) livelihood zone. About 50 percent of earth dams have silted. Areas with low water concentration points were Syumile, Kandengya, Kamboo, Muliilii, Kisingo, Masongaleni, Ulilinzi and Nguu/Masumba attributed to frequent breakdown of water infrastructure, diminishing yield of Umani springs and high evaporation rates impacting negatively on surface water. Some of the water sources that have dried up include Thange spring serving 300 households, Kibwezi river serving 1000 households, Makindu River serving 600 households**,** Kiboko spring and Simba springs each serving 160 households. Some dams and pans in the marginal mixed farming and mixed farming (crop/livestock) livelihood zones will dry up within 1–2 months.

Table 10: Water for domestic consumption in Turkana County

Livelihood zone	Distance to Water for Domestic Use (Km)		Cost of Water (Kshs./20litres)		Waiting Time at Water Source (Minutes)		Average HH Use (Litres/person/day)		Projected duration of water in (months)
	Normal[2]	Current	Normal	Current	Normal	Current	Normal	Current	
Marginal mixed farming	3	5–10	2–5	2–5	60–90	60–90	15–20	10–15	3
Mixed farming (crop/livestock)	2–3	5–10	2–5	2–5	30–60	30–60	15–20	15–20	3
Mixed farming (coffee/dairy)	1	2–5	2–5	2–5	30–60	30–60	15–20	15–20	3

Distance to water sources and waiting time

The current return distances to water sources were above normal across all livelihood zones (Table 10). Further to this, in Kalawa, Mavindini, Kitise, Kikumbulyu, Masongaleni, Ulilinzi and Kithyululu (River Athi corridor) mainly in the marginal mixed farming livelihood zone, the return distances to water sources were 15–20km attributed to drying up of the water sources. The waiting time at water sources was normal (Table 9), although there were exceptional areas of Kalawa, Mavindini, Kitise, Kikumbulyu, Masongaleni, Ulilinzi and Kithyululu (River Athi

[2] Normal refers to same period in absence of a shock (what usually happens around that period).

corridor) mainly in marginal mixed farming livelihood zone with longer waiting time of 90–120 minutes attributed to reduced yields from boreholes due to poor recharge.

Cost of water and consumption

The cost of water was normal (Table 10). However, a higher cost of Ksh. 30–40 per 20–litre jerrican was recorded in the urban areas of Nunguni market attributed to water vendors being the main supply of water and rationing. The cost of water in urban areas of Ilima, Kola, Mukuyuni, Kikima, Nthangathini, Miangeni, Mukuku, Kwakiliu, Mavindini, Kanthuni was at Ksh.15–20 per 20–litre jerican. Consumption was normal (Table 10), with the exception of the marginal mixed farming livelihood zones (Kibwezi East, Kibwezi West and part of Makueni sub-counties) with below-normal water consumption at 10–15 litres per person per day.

3.2.5: Food Consumption

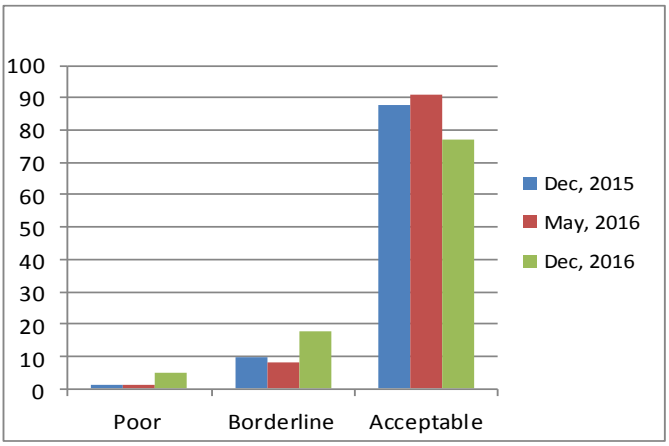

Figure 6: Food consumption score trends in Makueni County

The majority of households in the county had an acceptable food consumption score (77 percent) implying that they were consuming foods from all food groups in sufficient frequency (SMART survey, January 2016). The situation has deteriorated slightly from 88 percent recorded in December 2015 (Figure 6).

3.2.6 Coping strategy

The mean Coping Strategy Index (CSI) was 29 in December 2016 compared to 20 during a similar period in 2015 (SMART survey, January 2016). The implication was that more households were employing severe coping strategies more frequently. The most employed coping strategies included reduced meal frequency and portion sizes and consumption of less preferred foods.

3.3 Utilization

In response to food price increase, households were relying on less preferred food reducing the consumption of different food types, resulting to adverse implications for dietary diversity including reduced quantity of food consumed by adults to ensure that children had enough was heightened. Utilization of water was stable despite limited access to water sources.

3.3.1 Nutritional status

The percent of children at risk of malnutrition (MUAC< 135mm) was below the 2011–2015 LTA (Figure 7). However, the proportion was higher was higher from July to December 2016 than it was during the same period in 2015 (NDMA bulletin, January 2016). In addition, the proportion of underweight children increased to 5.16 percent on average to 4.39 percent during the same period. The deterioration in the nutritional status was attributed to declined food intake in most of the households.

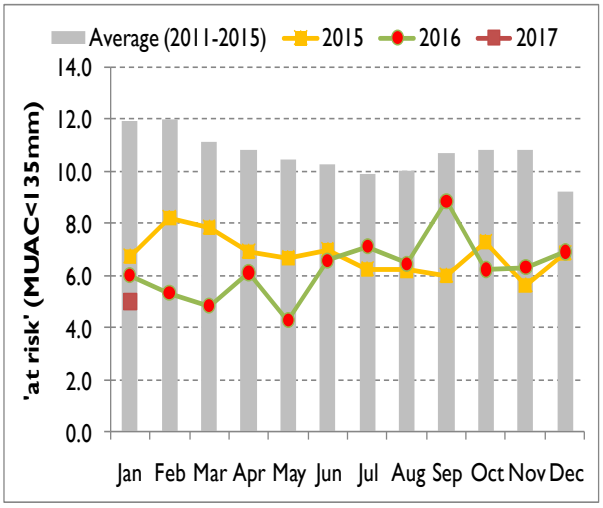

Figure 7: Percentage of children at risk

Morbidity

The most prevalent diseases in the general population and among the under-fives include: upper respiratory tract infections, diseases of the skin and other diseases of the respiratory system. Other diseases reported in under-fives included diarrhoea and pneumonia (Figures 8 and 9) and arthritis, joint pains and hypertension in the general population.

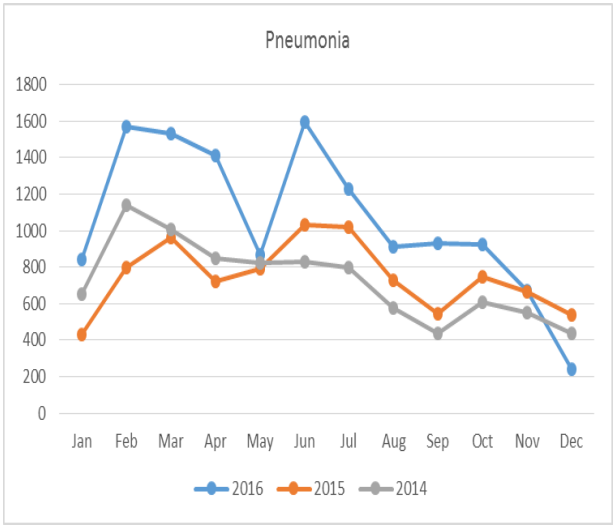

Figure 8: Pneumonia morbidity trend

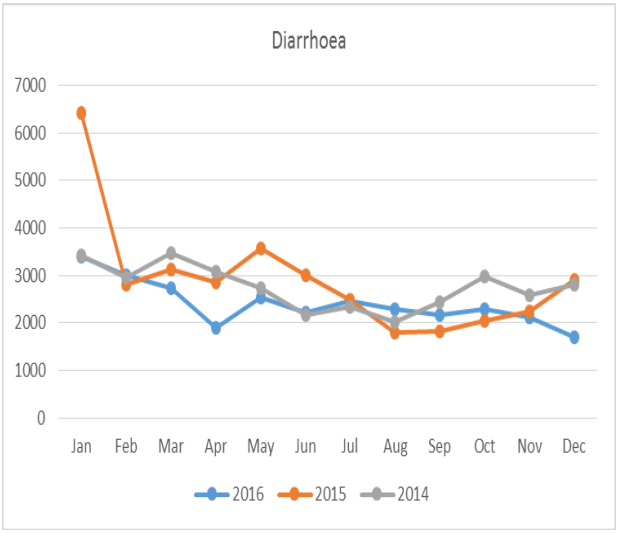

Figure 9: Diarrhoea morbidity trend

All the mentioned diseases indicated an improving trend attributed to enhancement of preventive and promotive health services through Community Health Strategy. There were no reported disease outbreaks during the period between July-December 2016. There was a declining trend in epidemic diseases such as diarrhea and typhoid during the same period, compared to a similar period in 2015. No deaths were reported from epidemic diseases during this period. The average

distance to the nearest health facility in the county was six kilometers almost attaining the World Health Organization target of 5 kilometers.

Immunization and Vitamin A Supplementation

Immunization coverage for the county was 83percent between July–December 2016 similar to the same period in 2015. The coverage of Vitamin A supplementation in the county between July-December 2016 for children aged below one year and those aged above one year was 87 and 45 percent respectively. During the same period in 2015, the coverage for the mentioned cohorts was 90.2 and 44.9 percent respectively. The trend was stable owed to the efforts during vaccination campaigns such as *Malezi Bora* and supplementation in ECD centres.

3.3.2 Sanitation and Hygiene

The latrine coverage for the county increased from 89 percent between July – December 2015 compared to 91percent in 2016 which was still lower than the national target of 100%. According to the household interviews conducted, 40 percent of the households were washing their hands during the five critical times.

3.4 Trends of key food security indicators

Most indicators showed deterioration when compared to the situation during the long rains assessment in July 2016 (Table 11).

Table 11: Food security trends in Makueni County

Indicator	Long rains assessment, July 2016	Short rains assessment, Feb 2017
Food insecurity phase	Marginal mixed farming: Stressed Mixed farming (crop/livestock, coffee/dairy) (IPC Phase 1) None /minimal (IPC Phase 1).	Marginal mixed farming, Mixed farming (crop/livestock and coffee/dairy) at Stressed (IPC Phase 2)
Number of maize stocks held at household level	127,084 (90 kg bags)	20,445 (90 kg bags)
Livestock body condition	Marginal mixed farming (fair to poor) Mixed farming coffee/dairy, crop/livestock (Good)	Fair to poor across all livelihood zones for cattle and good for goats
Water consumption (litres per person per day)	15-20	15-20
Price of maize (Ksh. per kg)	28	38
Distance to grazing	3–5km	5–10km
Terms of trade (pastoral zone)	103	83
Coping strategy index	13	29
Food consumption score (percent)	Acceptable (91.1) Borderline (7.9) Poor (1)	Acceptable (77) Borderline (18) Poor (5)
Children at risk malnutrition (MUAC <135 millimeters)	6.6 percent	6.9 percent

3.5 Education

Enrolment and Attendance

The enrolment has increased in both ECDE centers and primary schools. Most children of school–going age were attending school. Gender parity has been achieved and attributed to the county government's intervention and free primary education policy. Attendance rates for both ECDE and class 8 pupils were comparatively stable at 97 percent.

School meals programme

About 23 percent of schools in the county were on home–grown school meals programme with most of the schools being in the marginal mixed farming livelihood zone. The school meals program covered only two months of the school term. There was reported improved class participation in the schools the programme was running. Approximately 350,180 pupils in 880 schools do not have any school meals programme.

4.0 FOOD SECURITY PROGNOSIS

4.1 Assumptions

- The March to May rains have a 50 percent chance of being below normal due to the forecasted *La Niña* conditions.
- Rangeland conditions are likely to remain scarce through to March since they were not sufficiently rejuvenated from the recent rains and also due to projected higher–than–normal temperatures.
- Terms of trade are likely to decline through to March.
- Conflict over water and forage is likely to intensify through to March.

4.2 Food security outcomes from February to April

Over the next three months, pastures are likely to be depleted by early February, coupled with increasing trekking distances to water sources resulting in further decreases in livestock prices as body conditions deteriorate. There is therefore a high likelihood of decreasing terms of trade through to March as livestock prices reduce against rising food prices. Levels of malnutrition are likely to increase. Poor attendance in schools is likely to be recorded. From March through to April, there is a likelihood of timely onset of rainfall impacting positively in the range land conditions hence impacting positively on livestock productivity consequently resulting in availability of green leafy vegetables. Households across all livelihood zones are likely to remain in the Stressed Phase (IPC Phase 2).

4.3 Food Security outcomes from May to July

With a projected below–normal long rains performance, range land conditions will not to be rejuvenated fully hence livestock production will be below average. Food at the household level will be minimal owing to the likelihood of below–normal crop production in the county impacting negatively on household food stocks. Malnutrition is likely to increase as a result of challenges in food access at household level. There is therefore a high likelihood of households remaining in the Stressed Phase (IPC Phase 2).

5.0 CONCLUSION

5.1.1 Phase classification

All the livelihood zones are classified in the Stressed Phase (IPC Phase 2). More than 20 percent of households had borderline and poor food consumption scores. The mean coping strategy index (CSI) was 29 in comparison to 20 at a similar time in 2015 implying a worsening situation as households were employing more coping strategies. The average TLUs were at 2-3 which were low. Key factors to monitor include resource-based conflicts, the nutritional status of children aged below five years and market prices. Other factors include access to water, livestock diseases, rangeland conditions and household food stocks.

5.1.2 Summary of the recommendations

- Capacity-building on conservation agriculture for drought–tolerant crops
- Market linkage for both irrigated vegetables and drought–tolerant crops
- Value addition for green grams, mangoes and cowpeas.
- Sensitization on diet intake for the drought–tolerant crops
- Relief seeds for drought-tolerant crops
- Enhancement of school meals programme
- Promotion of hay and fodder conservation and livestock upgrading.
- Promotion of rain–water harvesting and rehabilitation of broken down boreholes.

5.1.3 Sub-county ranking

Table 12: Sub-county ranking in Makueni County

SUB-COUNTY	RANKING	JUSTIFICATION	HOTSPOTS
Kibwezi West	1	-Recharge level 50 to 60 -GAM 6.4 - Water Shortage -Poor crop performance with exemption of green grams -Low wage labour (Ksh. 200-300)	Nguu Masumba, Makindu, Kikumbulyu North, Nguumo
Kibwezi East	2	-Recharge 70 -GAM 6.1 - Water shortage -Poor crop performance with exemption of green grams -Low wage labour (Ksh. 200-300)	Mtito Andei, Masongaleni, Nzambani Ivingoni, Thange
Makueni	3	-Livestock diseases CCPP -Water shortage - Poor crop performance with exemption of green grams -Availability of mangoes -Low wage labour (Ksh. 200-300)	Kitise Kithuki, Mavindini and Kathonzweni
Mbooni	4	-livestock diseases FMD -Availability of mangoes -Low wage labour (Ksh. 200-300)	Kalawa, Kako Waia, Tulimani
Kilome	5	- Water shortage	Kiu Kalanzoni

SUB-COUNTY	RANKING	JUSTIFICATION	HOTSPOTS
		-Availability of mangoes -Low wage labour (200-300)	
Kaiti	6	- Water shortage -Availability of mangoes -Low wage labour (200-300)	Kee, Ukia and Ilima

5.1.4 Number of persons in need of humanitarian assistance

Table 13: Number of persons in need of humanitarian assistance

SUB -COUNTY	WARDS	Percentage
Kibwezi West	Mulala/Emali	20–25
	Nguu/Masimba	25–30
	Makindu	25–30
	Nguumo	25–30
	Kikumbulyu South	25–30
	Kikumbulyu North	25–30
Kibwezi East	Thange	20–25
	Masongaleni	25–30
	Nzambani/Ivingoni	25–30
	Mtito Andei	25–30
Makueni	Mbitini	15–20
	Nzaui/Kalamba/Kilili	15–20
	Muvau/Kikumini	15–20
	Kathonzweni	20–25
	Mavindini	20–25
	Kitise/Kithuki	20–25
	Wote	15–20
Kilome	Kim Kiu/ Kalanzoni	15–20
	Muja	10–15
	Kosice	10–15
Mbooni	Tulimani	15–20
	Mbooni	10–15
	Kithungo/Kitundu	10–15
	Kisau/Kiteta	10–15
	Kako/Waia	15–20
	Kalawa	15–20
Kaiti (Kee, Ukia and Ilima)	Kee	10–15
	Kilungu	5–10
	Ilima	10–15
	Ukia	10–15

5.2 On-going Interventions

5.2.1 Food interventions

Sub county	Intervention	Location	No. of beneficiaries	Implementers	Cost	Time frame
Kathonzweni Makindu Kibwezi Nzaui Mbooni East	HGSMP	Selected schools (210)	36,257	GOK/WFP		Jan–March

5.2.2 Non-food interventions

Division	**Intervention**	**Location**	**No. of beneficiaries**	**Implementers**	**Impacts in terms of food security**	**Cost**	**Time Frame**
Livestock							
	Vaccination against, rabies, NCD, RVF, LSD	Kibwezi West	20,000	County Govt	Secured livestock assets;	GMC- Ksh 3,000,000,000	Jan–June 2017
	Poultry breed and husbandry skills improvement; NCD control	Kibwezi East; West; Mbooni	80,000 birds	County Gvt, FAO,	Increased poultry productivity; raised incomes	Ksh8,500,000	Feb–June 2017
	Cattle upgrading-Artificial Insemination Programme	County wide	3,000	Private Inseminators, cooperatives; CGM	Increased births rate, milk yield, hh income	3,000,000	Jan – March 2017.
	Strengthening milk collection, cooling & value addition process facilities, value chains development and promotion	Mbooni, Makueni, Kilome, KibweziWest, Kaiti	1,500	CGM, Dairy Coop. Societies	Increased and efficient milk intake, distribution, sales, incomes, consumption	9,500,000	Jan–June 2017
Nutrition							
All	Vitamin A Supplementation	Health facilities/ECDE Centers	64,460	DoH UNICEF EDUCATION	Reduced Infection	145,000	Jul–Dec 2016
All	Zinc Supplementation	Health facilities	24856	DoH UNICEF	Improved Health/Nutrition status	109,720	Jul–Dec 2016
All	Management of Severe and moderate	Health facilities	3629	DoH UNICEF MOH	Improved Nutrition status	14,850,000	Jul–Dec 2016

	Acute Malnutrition						
All	IYCN (infant and young child nutrition) Interventions	Health facilities	43200	DoH UNICEF AMREF	Improved Health/Nutrition status	1,750,250	Jul–Dec 2016
All	Iron Folate Supplementation among Pregnant Women	Health facilities	17670	DoH UNICEF	Improved Health/Nutrition status	4,650,000	Jul–Dec 2016
All	Deworming	Health facilities and ECDE centres/schools	26500	DoH MOE MOH	Improved Health/Nutrition status	1,250,000	Jul–Dec 2016
Water							
Kibwezi West, Kibwezi East& Makueni	Construction of 9No. earth dams	Mulala, Nguu, Makindu, Kikumbulyu & Muvau	25,000	CG	Clean Water	43.5M	Oct 16–June17
Kibwezi West	Drilling of 6No. Boreholes	Syumile, Towanda, Muvau, Nguu, Makindu	20,000	CG	Clean Water	25M	Oct 16–June17
Makueni, Kilome	Rehabilitation of 8No. B/hole projects	Mavindini, Kathonzweni, Maliki, Kosice, Nambe	10,000	CG	Clean Water	9M	Oct 16–June17
Kibwezi East, West, Makueni	Pipeline extension for 6No. projects	Kikumbulyu, Mavindini, Kathonzweni, Mulala ,Nguu	13,000	CG	Micro irrigation	11.5M	Oct 16–June17
Kibwezi West	Construction of rock catchment	Kikumbulyu	5,000	CG	Micro irrigation	5M	Oct 16–June17
Kibwezi East, Kibwezi West, Makueni	Fuel subsidy to 25 strategic boreholes	Kitise, Kathonzweni, Makindu, Nguu/Masumba, Kikumbulyu, Thange, Nzambani, Mtito Andei	20,000	NDMA,	Clean Water	750,000	Nov–Dec 2016
Livestock							

Makueni county	Mechanized grass harvesting and hay baling	Kibwezi East, West , Makueni&Mukaa sub-counties	1000	COUNTY GOVT.	Improved feed security	GMC- Ksh 3,200,000	Jan–Mar 2017
	Vaccination against, rabies, NCD, RVF	Kibwezi West	20,000	County Govt	Secured livestock assets;	GMC- Ksh 3,000,000,000	Jan–Mar 2017
	Poultry breed and husbandry skills improvement; NCD control	Kibwezi East; and West; Mbooni	80,000 birds	County Gvt, FAO,	Increased poultry productivity; raised incomes	Ksh8,500,000	Jan–Mar 2017
	Cattle upgrading-artificial insemination programme	County wide	3,000	Private Inseminators, cooperatives; CGM	Increased births rate, milk yield, household income	3,000,000	Jan–Mar 2017
	Value chains development and promotion	Mbooni, Makueni, Kilome, Kibwezi West, Kaiti	1,500	CGM, Dairy Coop. Societies	Increased and efficient milk intake	9,500,000	Jan-–Mar 2017
Makueni county	Mechanized grass harvesting and hay baling	Kibwezi East, West , Makueni&Mukaa subcounties	1000	County govt.	Improved feed security	GMC- Ksh 3,200,000	Jan–Mar 2017
	Vaccination against, rabies, NCD, RVF	Kibwezi West	20,000	County Govt	Secured livestock assets;	GMC- Ksh 3,000,000,000	Jan–Mar 2017
	Poultry breed and husbandry skills improvement; NCD control	Kibwezi East; West; Mbooni	80,000 birds	County Gvt, FAO,	Increased poultry productivity; raised incomes	Ksh8,500,000	Jan–Mar 2017
	Cattle upgrading-artificial insemination programme	County wide	3,000	Private Inseminators, cooperatives; CGM	Increased births rate, milk yield, hh income	3,000,000	Jan–Mar 2017

	Value chains development and promotion	Mbooni, Makueni, Kilome, Kibwezi West, Kaiti	1,500	CGM, Dairy Coop. Societies	Increased and efficient milk intake, distribution, sales, incomes, consumption	9,500,000	Jan– Mar 2017
Anglican Development Services							
	Integrated soil fertility management (ISFM)	Kathonzweni, Emali, Kasayani, Muvau, Mbuvo, Kiangini, Mithumoni, Kalawani	10,000	ADS			
	Rain-water harvesting	Katithi, Kalwani, Kithungo, Kalanzoni, Utangwa, Mbitini, Masumba	5,000	ADS			
	Soil and water conservation	Katithi, Kalawani, Kithuki, Kathulumbi	4,000	ADS			
	Water and sanitation	Kathulumbi, Kalawani, Kithuki, Kithungo	1,000	ADS			
	Establishment of dairy collection centers for dairy cooperatives	Kikima, Mukuyuni, Kathonzweni, Kilala	2000	ADS			
	Pasture conservation and establishment	Makindu, Masumba, Masongaleni, Kwa Kavisi	2000	ADS			
World Vision - Kenya							
Makueni	Cash transfers to asset creation	Makueni	26379	World vision	Bridging relief and resilience.	1,267,200	May 2016–

	beneficiaries						April 2017
Mtito Andei	Community Engagement Sponsorship Plan Project	Mtito Andei	22773	World vision	Transforming families	100000.00	October 2016– September 2017
Mtito Andei	Livelihood and Resilience project		4200	World vision	Improved Livelihood and Resilience for youth, households and communities for enhanced CWB	59069.00	October 2016– September 2020
Kalawa	WASH Project	Kalawa	14804	World vision	Improved health status for children and their families.	108281.00	October 2016– September 2020
Kalawa	Community Engagement Sposorship Plan Project	Kalawa	16380	World vision	Transforming families and communities where children are cared for and engaged in development by 2026	100258.00	October 2016– September 2017
Kalawa	Livelihood and Resilience project	Kalawa	4040	World vision	Improved livelihood and resilience	63069.00	October 2016– September 2020
Kalawa	Stone Family Foundation WASH grant	Kalawa	10000	World vision	Significantly improving the sustainability of WASH projects	132257.00	October 2015– September 2017
Kalawa	Proctor and Gamble WASH grant	Kalawa	16380	World vision	Increased access to safe drinking water as well as hygiene practices	23666.00	October 2016– September 2017

5.3 Recommended Interventions

5.3.1 Food interventions

Sub county	intervention	location	No.of beneficiaries	implementers	cost	Time frame
All sub-counties	Food and water	Every school and ECDE	350,180	GOK/WFP	200M	Jan–Mar 2017

5.3.2 Non-food interventions

Division	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Agriculture							
Countywide	Farmer sensitization on post-harvest handling.	Sub-county	35,000	DOAL&F	Transport, stationery, moisture meters, jute bags	Community resources	Jan–Mar 2017
Countywide	Surveillance on aflatoxins /post-harvest management	All wards	6000	County government, GAA, red cross, FAO-UN, World Vision Kenya	Ksh.150,000	Partners(FAO/DOALF	Jan–Mar 2017
Countywide	Farmer sensitization on collective marketing to improve on prices	Sub-county	20000	DOALF, Lutheran World Relief, LWR,	150,000	Human resource, communication infrastructure	Jan–Mar 2017
Makueni	Intensify livestock feeds conservation (ensiling and hay baling)	County wide	All farmers (144,000 HH)	GMC, Farmers, World Vision, FAO,	Demonstration materials, facilitation	Labour Technical staff	Jan. – March 2017
County	Continuous livestock disease surveillance and Vaccination campaigns	County wide	144,000 HH	GMC, Farmers	Facilitation, vaccines and related materials	Staff Vehicles	Feb–July 2017

Division	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
	Bee-keeping promotion	Zone II and III		GMC, FAO Stakeholders	Value-chain development inputs		Feb– June 2017
	Improve livestock husbandry skills	All zones	144,000 HH	GMC, FAO, WVK, Red Cross, and other partners	Capacity building inputs	3.2M	Feb– June 2017
	Subsidy transport support to livestock farmers to market the animals	All zones				2m	
Nutrition							
All	Procure essential drugs	All	1,017,448	-DoH	80M	60M	Jan– Mar 2017
Makueni Mbooni Kibwezi W Kibwezi E	Sensitize ECDE teachers on Vit. A Supplementation and growth monitoring	Kathonzweni Kalawa Kibwezi w Kibwezi E	68,429	-DoH -MOE -APHIA PLUS KAMILI	920,000	117,000	Jan– Jun 2017
Kibwezi W	Strengthen mother to mother support groups	Kibwezi W		-DoH -GAA	5M	5M	Jan– Dec 2017
All	Procure and distribute ready to use supplemental feeds	All	14,244	-DoH -MOH	10,115,000	2,057,044	Jan– Mar 2017
Makueni Mbooni Kibwezi W Kibwezi E	Sensitize 200 CHVs on nutrition and WASH	All	4,000 HH	-DoH -Partners	620,000	21,000	Jan– Jun 2017
Kibwezi West, Kibwezi East , Makueni and Mbooni	Monitor bacteriological and chemical status of household water	All	2,000 HH	DoH	200,000	20,000	Jan– Mar 2017

Division	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
East	sources						
Kibwezi West, Kibwezi East , Makueni and Mbooni East	Sensitize CHVs on hygiene and sanitation	All	10,000 HH	DoH Partners	2M	500,000	Jan–Mar 2017
Kibwezi West, Kibwezi East , Makueni and Mbooni East	procurement and distribution of water treatments chemicals and insecticides	All	6,000HH	DoH	600,000	100,000	Jan–Mar 2017
Water							
Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	Rehabilitation of 300 No. strategic B/holes.	Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	60,000	CG, GOK, partners.	120M	2M	3months
Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	Fuel subsidy to 200 No. strategic B/holes	Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	60,000	CG, GOK, partners.	12M	Nil	3 months
Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	Stock piling of fast moving spares for frequently breaking boreholes	Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	30,000	CG, GOK, partners.	2M	Nil	3 months
Mixed farming (crop/livestock) l/zone Marginal mixed farming	Water trucking to 300 institutions and community	Mixed farming (crop/livestock) l/zone Marginal mixed farming l/zone	20,000	CG, GOK, partners.	3.6M	Nil	3 months

Division	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
l/zone							
Livestock							
	Accelerated destocking (For the old, poor body condition animals)	Kibwezi West, Kibwezi East , Makueni(Kathonzweni)and Mbooni East(Kalawa) Sub-counties	3000 cattle	15,000	45,000,000	0	
	Accelerated conservation of pastures, fodder and farm bye products including the failed crop	All sub counties	Baling materials - 20,000 bales	80	1,600,000	500,000	
	Transport subsidy to market	7 markets, twice a month for 3 months (Kilala, Kathonzweni, Kalawa, Makindu, Matiliku, Kambu, Kasekeu)	42	50,000	2,100,000	0	
	Accelerated pastures and fodder production under irrigation	500 acres	5 blocks	2,000,000	10,000,000	0	
	Provision of livestock feeds to core herd-breeding ,lactating animals, young animals	Provision of hay for 20,000 (Kibwezi West, Kibwezi East, Makueni, Kaiti, Kilome and Mbooni) Sub counties)	20,000	500	10,000,000	2,000,000	
		Feed supplements-range cubes (range cubes, UMMBS) for 5,000 animals for Kshs 2,500 in Kibwezi West, Kibwezi East, Makueni and Mbooni	5,000	2,500	12,500,000	3,000,000	
		Feed supplements-	20,000	300	6,000,000	0	

Division	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
		UMMBS					
		Feed supplements-molasses	5000	800	4,000,000	0	
		Distribution of feed supplements	100,000	6	600,000	200,000	
	Treatment and utilization of poor quality feed materials	All dairies and farmer groups; molasses, urea, minerals	120	5000	600,000	0	
	Livestock feed resource monitoring and surveillance	Bi-monthly field visits monitor the availability quantities and qualities of browse and pasture resources at the farm level	50,000	6	300,000	50,000	
	Enhanced livestock disease surveillance	Kibwezi East, Kibwezi West, Mbooni Makueni, Kathonzweni, Kaiti Kilome	30 wards	50,000	1,500,000	300,000	
	Livestock disease control (Vaccination) targeting vulnerable stock	FMD-100,000	100,000	140	14,000,000	2,000,000	
		CCPP- 200,000	200,000	25	5,000,000	100,000	
		NCD-500,000	500,000	7	3,500,000	50,000	