

EXECUTIVE SUMMARY

The key drivers of food security in the County include poor rainfall performance in three consecutive seasons, crop diseases and pests especially the Fall Armyworm (FAW). Households in the mixed farming and marginal mixed farming livelihood zones are currently relying on markets for food. The food security phase classification for the county is Stressed (IPC Phase 2).

The onset of the short rains was early. However, the rains had poor temporal distribution and ceased earlier than normal which led to crops suffering from moisture stress at critical stage of development thus reducing yields. Livestock body condition was fair to poor for all species across the livelihood zones attributed to scarcity of pasture and browse and increased distances in search of forage and water. As a result, milk production dropped by 37 percent from 7.1 litres in December to 4.5 litres in January 2018.

Markets are currently operational and are well provisioned. Maize prices are higher than normal due to poor harvest and low supply of the staple in the local markets. Maize prices increased by 8.7 percent to retail at Ksh. 57 in January from Ksh. 53 in December. High maize prices were occasioned by high demand as most households depended on markets for food supplies following exhaustion of stocks at the household level and poor performance of the season. Compared to the 2015-2017 long term average of Ksh. 41, the current price is lower by 40 percent. Cattle prices were lower than the long term average due to poor body condition of the animals and effects of inflation which reduced meat consumption and demand. However, cattle prices were high in December 2017 due to the holiday festivities. On the other hand, availability of browse resulted in better prices for goats because of the improvement in their body condition and high demand for goat meat during the November to December holiday season.

The reduction in water availability had resulted in an increase in the distance travelled to access water points in both livelihood zones. Currently, water levels in most of the permanent rivers are very low with some sources already dried up. In many areas in Kieni, water rationing has started and households are being provided with water for only one day in a week. Distance to water sources has increased to between 6 and 12 km particularly in the marginal mixed farming livelihood zone where almost all the open water sources have dried up.

Dietary diversity and food consumption is poor in both sub counties with most households reducing the number of meals consumed per day from 3 to 2. There was no contamination of water sources and the water treatment chemicals were available but not enough for every household. The current domestic water treatment practice includes boiling and use of aqua tabs.

Although a SMART survey has not been conducted in Kieni in the recent past, in January 2018, the proportion of children at risk of malnutrition was 1.2% (NDMA sentinel sites report by MUAC). This is normal and an improvement from 1.3% in December 2017

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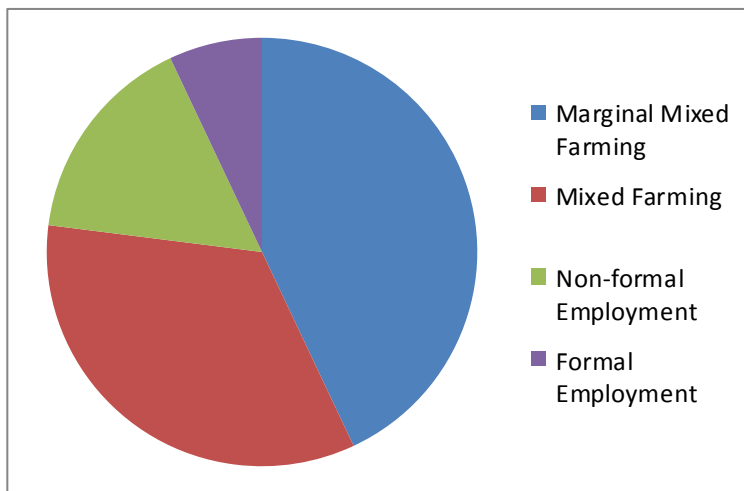
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1. INTRODUCTION

1.1. County Background

Kieni East and West sub counties lie within Nyeri County covering 52 percent of the total land cover. The area borders Laikipia County to the North, Mount Kenya Forest to the East, Aberdare ranges to the West and Nyeri Central and Mathira sub counties to the South. The two sub counties cover an area of 1,990.3 square kilometres; where 1,026 kilometres square is suitable for crop and livestock production with a total population of 175,812 people according to the 2009 Kenya National Bureau of Statistics (KNBS) Census. Altitude ranges between 1,950 and 2,270 millimetres above sea level with temperature between 16C and 24C. Population distribution by livelihood is as follows; Marginal



mixed farming 43 percent, Mixed Farming 34 percent, Non-formal employment 16 percent and formal employment 7 percent as illustrated in the Figure 1.

1.2. Objectives and Approach

The main aim of the short rains assessment is to develop an objective, evidence based and transparent food and nutrition security situation analysis following the short rains seasons of 2017 taking into account the cumulative effect of previous seasons and to provide recommendations for possible response options based in the situation analysis. The specific objectives included; to determine at livelihood and sub county level the performance of 2017 short rains season, to check on the impact on crops and livestock production, markets and other relevant food security aspects of availability, access and utilization as well as households' socio economic interactions and to assess geographic spread of other hazards and determine the impact of the shocks on livelihoods and food security at the effected populations.

An initial county status briefing which was conducted on Monday 12th of February 2018 where there was a presentation of sectoral checklists from agriculture, livestock, water, education, health and nutrition sectors. The members also reviewed the existing and historical data from numerous sources including price data, expenditure patterns, NDMA bulletins, RFE and NDVI, nutrition reports and data, assessment reports, county and sectoral reporting formats among many others. A team was later constituted that composed of the Kenya Food Security Steering Group (KFSSG) County Steering Group (CSG) members that carried out field visits for one day in the spirit of triangulating information. The field visits included carrying out transect drives, community interviews, focus group discussions and market surveys.

The team collected sector-wide food security data using community and household interviews, focus group discussions and key informant interviews. The review and analysis of primary and secondary data was done at Sub-County and livelihood zones. Further analysis was conducted using the integrated food security Phase Classification (IPC) and ranking of wards was also done based on severity. A mission’s findings draft report on the current County food security situation was compiled in readiness for dissemination during the final de-briefing in the County steering Group (CSG) meeting on Thursday 16th February 2018. Deliberations during the final CSG informed the development of the county food security report for short rains of 2017.

2. DRIVERS OF FOOD AND NUTRITION SECURITY IN THE COUNTY

2.1. Rainfall Performance

The onset of the 2017 October-November-December (OND) season rains was early in the second week of October compared to third week of October normally. Cumulatively, most areas received near normal rainfall with larger parts of the mixed farming and marginal mixed farming livelihood zones receiving 90 – 110 percent of normal rainfall as shown in Figure 2. However, temporal distribution was poor with most parts of the county receiving fairly good rainfall in October and November but dry conditions prevailed in December. The rains ceased earlier than usual in the third dekad of November, rather than third dekad of December which impacted negatively on both forage and crop production.

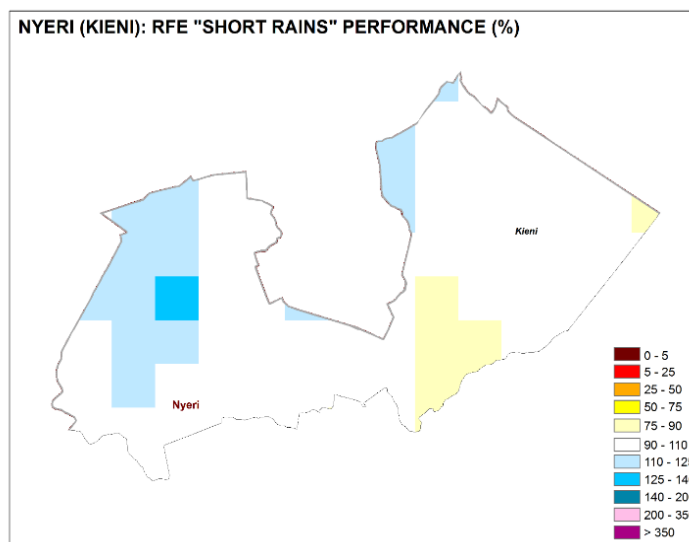


Figure 2: Rainfall Performance (% of normal)

2.2. Other Shocks and Hazards

The problem of pests and diseases attack on crops was a major challenge facing farmers. The incidence of pests and diseases often leads to the reduction in the quality of the crops produced and results in huge losses which discourage farmers from engaging in farming. Outbreaks and upsurges eventually threatens the livelihoods of vulnerable farmers and the food and nutrition security of many at a time. In the reporting period, the fall army worm attacked crops in the county reducing production and quality of the produce. In some parts of Kieni losses on maize production occasioned by army worm invasion was as high as 75 percent.

3. IMPACTS OF DRIVERS ON FOOD AND NUTRITION SECURITY

3.1. Availability

3.1.1. Crops Production

The main crops planted during the short rains were maize, beans, potatoes and wheat. Maize is regarded as the major staple food by the community and contributes to 80 percent to food as coarse grain and flour. It is the major commodity traded across both livelihood zones. In the mixed farming livelihood zone, it contributes five percent of income sold as green maize. Beans are the second most important food used with maize and also for trade across the livelihood zones. Potatoes are grown all round under rain fed conditions for both food and income accounting for 60 percent contribution to income and 40 percent to food. The short rains season is regarded as the best season for wheat, which is cultivated both for domestic consumption and income generation though currently suffering moisture stress at blooming and booting stages.

The overall projected area verses the actual did have a slightly significant discrepancy in all food crops. Variation in maize hectares achieved verses LTA is attributed to poor rainfall performance and attack by pests and unfavorable weather conditions such as frost bite. Subsidized government fertilizers were adequately available throughout the planting period. Production of maize was projected at 1.5 bags per hectare in the mixed farming zone and less than one bag in the marginal mixed farming livelihood zone while for beans the expected production dropped by 80 percent due to early cessation of rains at critical stages of flowering. Projected potato production went marginally below the LTA. Areas achieved in mixed farming were higher than in the marginal mixed farming since the mixed farming zones received fairly good amounts of rains coupled with micro environment within from mountain basement. In the mixed farming which borders the mountains expected production was slightly higher. The mixed farming zone is likely to realize the lowest harvests since these points also acts as the convergence zones and severely affected by frost bites.

Table 1: Rain Fed Crop Production

Crop	Area planted during 2017 Short rains season (Ha)	Long term average area planted during the Short rains season (Ha)	2017 short rains season production (90 kg bags)	Long Term Average production during the Short rains season (90 kg bags)
Maize	4,323	4,784	13,692	19,136
Beans	3,900	3,400	11,700	13,600
Potatoes	4,612	4,800	276,720	384,000

Irrigated Crop Production

Horticultural crops are supplementary in irrigation and for the last several seasons the water sources have been flowing below base levels. Most plots were subjected to moisture stress hence the difference in achieved yields with cabbage heads ranging between one and two kilos. Most farmers are turning to more stress tolerant crops like kales and spinach. Majorly irrigated horticulture is carried out in the upper mixed farming areas that border the mountains.

Table 2: Irrigated Crop Production

Crop	Area planted during the 2017 Short rains season (ha)	Long term average (3 years) area planted during Short rains season	2017 Short rains season production (90 kg bags/MT)	Long Term Average (3 years) production during 2017 short rains season (90 kg bags/MT)
Cabbages	375	605	7,590	2,4650
Kales and Spinach	127	110	5,080	4,400

3.1.2 Cereals Stock

Table 3: Cereals stock in the County

Maize stocks held by	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
Households	Nil	600
Traders	3,400	7,100
Millers	593	7,050
NCPB	Nil	Nil

The stocks held by traders and millers were 48, and 8 percent of LTA respectively. There was no maize stock held by households as a result of the poor performance of previous long rains season. Most traders and millers were getting maize from other counties. Maize was also reported to come from Busia and Ethiopia. NCPB in the county has a capacity of more than 100,000 bags but the facility does not have stocks currently and is instead is used for storage of fertilizer and relief food.

3.1.2. Livestock Production

The major livestock species reared include; cattle, sheep, goats and local poultry. Cattle are mainly kept for milk production while sheep and goats are reared for meat production. Over 70 percent of the cattle kept are cross breeds. Indigenous poultry plays an important role as an income generating activity especially for poor households. Livestock contributes about 30 percent and 70 percent to cash income in mixed farming and marginal mixed farming livelihood zones respectively. With diminishing land parcels, rearing of the small stock particularly dairy goats is gaining momentum, while the sheep remain popular than the meat goat. Currently, most livestock keeping households have about 1-3 heads of cattle and 3-10 sheep/goats. The local bird has also been embraced as an income generating activity with most households now having 10-20 local birds of the improved local chicken. Currently, the TLUs roughly translate to 1.0 - 3.5 per household.

Pasture and Browse

Browse situation is good to fair in all livelihood zones. However, the situation is expected to deteriorate towards March. Browse is expected to last for 1 months as compared to 0.5 - 1 month during normal times. There were reported cases of human wildlife conflict where the inhabitants have to sometimes stay the entire night in order to guard the farms against elephants. Some farms had been completely destroyed by the animals. Over 90 percent of Napier grass has been

destroyed by frost across both livelihoods particularly in Gatuanyaga, Thegu and Munyu in Kieni East and the whole of Mugunda ward in Kieni West. The maize crop that otherwise serves as animal feeds performed equally poor. Generally, the feed reserve situation is below normal in terms of quantity and quality.

Table 4: Pasture and Browse Condition

Livelihood zone	Pasture condition			Browse condition		
	Current	Situation at this time of year	Projected Duration to last	Current	Situation at this time of year	Projected duration to last
Mixed Farming	Fair	Good	1 month	Fair	Normal	1 month
Marginal mixed	Poor	Fair	2 weeks	Fair	Below Normal	1 month

Livestock Body Condition

The cattle body condition is ranging from fair to poor due to the unavailability and poor quality of pastures across both livelihood zones while the sheep and goats are currently good to fair in both livelihood zones. Important to note is that there was no much improvement in body condition as animals were still recovering from the effects of drought experienced for the better part of 2017. As the trekking distance to watering points increases the livestock body condition is expected to deteriorate thus impacting negatively on production, food security and overall household incomes.

Birth Rates

Currently birth rates are normal at one lambing or kidding per year. Longer calving interval have been observed over the years due to poor animal husbandry practices and insufficient nutrient intake brought about by scarcity of both pasture and browse.

Milk Availability

Currently, the milk production in most households in the marginal mixed farming livelihood zone is 1.5 litres as compared to a normal of one litre. While in the mixed farming livelihood zone, milk production averages 2.5 litres which is normal at this time of the year. The trend of milk production is gradually declining as the available pastures continue to diminish.

Milk Consumption

Currently, milk consumption stands at 0.5 litres in the marginal mixed farming livelihood zones. In the Mixed Farming livelihood zone, average consumption was one litre per day which was normal at this time of the year. There has been a drop in milk prices, largely dictated by processors. Currently, the processors are buying a litre from farmers at Ksh. 27 in the mixed farming livelihood zone and Ksh. 28 per litre in the mixed farming areas compared to a normal of Ksh.28 and 29 respectively during normal season.

Table 5: Milk production consumption and price

Livelihood Zone	Livestock Species	Milk Production (Liters)/HH/Day		Milk consumption (Litres)/HH/Day		Prices (Ksh)/Litre	
		Current	LTA	Current	LTA	Current	LTA
Mixed Farming	Cattle	2.5	2.5	1.5	1.0	28-29	28-29
Marginal mixed farming	Cattle	1	1.0	0.5	0.5	28-29	28-29

Tropical Livestock Units (Tropical Livestock Units)

The TLUs in the mixed farming areas average 2.5 while in the marginal mixed farming areas it averages 3.5. There was a slight drop in TLUs (0.5) as some of the animals died while some households destocked during the dry spell. Poultry remained an important enterprise particularly to households in the marginal mixed farming livelihood zone where it forms a part of their income. Most households are currently keeping between 8-15 local birds.

Water for Livestock

The current water sources for livestock are rivers, streams, water pans and dams. Water volumes in these sources are poor as most of them were not fully recharged. There was low ground water recharge. The current return trekking distance range 0.5 - 2.0 km in the mixed farming zones as compared to a normal 1.0 -2.5 km. While in the marginal mixed farming areas, return trekking distance was between 0.5-2.0 km as compared to a normal of 1.0 - 4 km. The trekking distance is expected to remain stable with some slight increase in the month of February, but should the long rains set in on time the situation is likely to improve. Currently, the watering frequency is once a day for cattle which is normal at this time of the year. This watering frequency is negatively impacting on milk production and is expected to drop further as most watering points run dry.

Livestock Movement and Migration

Over 400 heads of cattle were reported to have migrated in to the County from Laikipia and are currently grazing around Naromoru area In Kieni East Sub County. Roadside grazing is also on the rise indicating most areas are experiencing pasture shortage.

3.2. Access**3.2.1. Market operations**

The main markets in Kieni are Kiawara, Mweiga, Naromoru and Chaka. The market supply sources for beans and Maize are from Busia, Meru, Nyandarua and Nakuru counties. The volumes traded were lower than long term average since most traders expected farm sales out of the projected good rains and also the county had maize deficit in better part of the year resulting to reduced stocks by traders. Generally, this has been the trend due to consecutive drought episodes experienced in the county. Five key household commodities are Posho, oil, rice, sugar and salt. Households currently rely on markets for the provision of basic food commodities.

3.2.2. Market Prices

Maize price

The average price of maize in January 2018 was 31 and 36 percents above January 2017 and the 2012-2016 LTA. Maize prices were relatively similar in both livelihood zones. The maize prices rose from October to December 2017 attributed to unavailability of stocks hence most households were relying on markets. Maize prices are expected to rise even higher in the next three months if the conditions prevail. Stocks expected to increase when farmers harvest their maize in August.

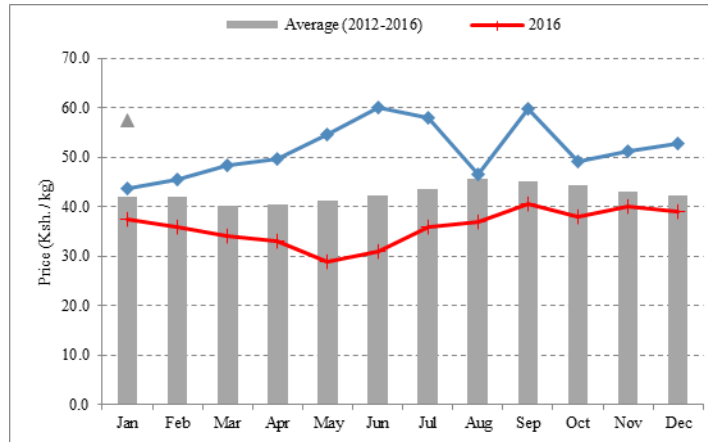


Figure 3: Maize Prices

Sheep price

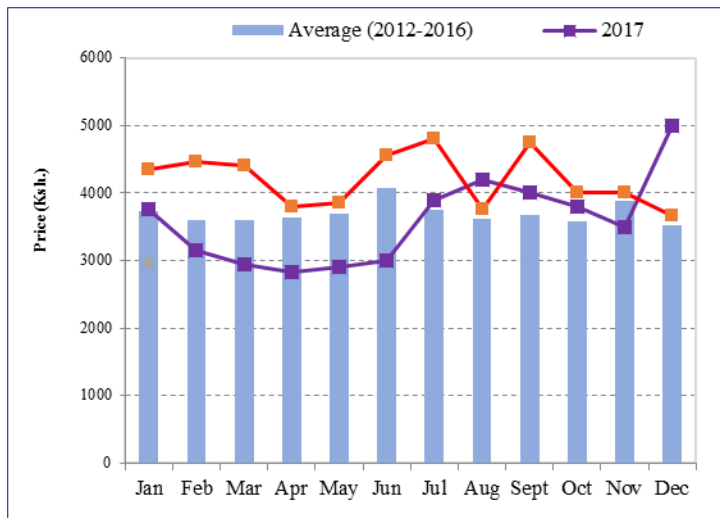


Figure 4: Trends in Sheep Prices

The average price of sheep in December 2017 was Ksh. 5,000 which was 26 and 30 percent above the price recorded at same period in 2016 and the 2012–2016 LTA respectively. The good prices were supported by improved body condition of the animals and high demand for meat that prevailed during the holiday season. In January 2018, the prices declined due to oversupply of sheep in the market as most households were offering more animals for sale in order to raise school fees. Prices were expected to decrease considering that the current status of both pasture and browse was deteriorating towards poor and the supply of sheep in markets is likely to increase as livestock keepers will possibly opt to sell their animals before their body condition deteriorates further.

3.2.3. Terms of Trade

The terms of trade (ToT) improved during the months of November and December 2017 as a result of both good body condition and favourable sheep prices during the holiday festivities. However, the terms of trade (ToT) in January 2018 were unfavourable to the livestock keepers as proceeds from the sale of one sheep can purchase 52 kg of maize which is 40 and 42 percent below the 2012-2016 LTA and ToT for January 2017 respectively. The ToT are expected to remain unfavourable as sheep prices are expected to continue on a downward trend as the body condition of livestock declines due to the poor forage condition while maize prices will most likely remain high until the next harvesting season.

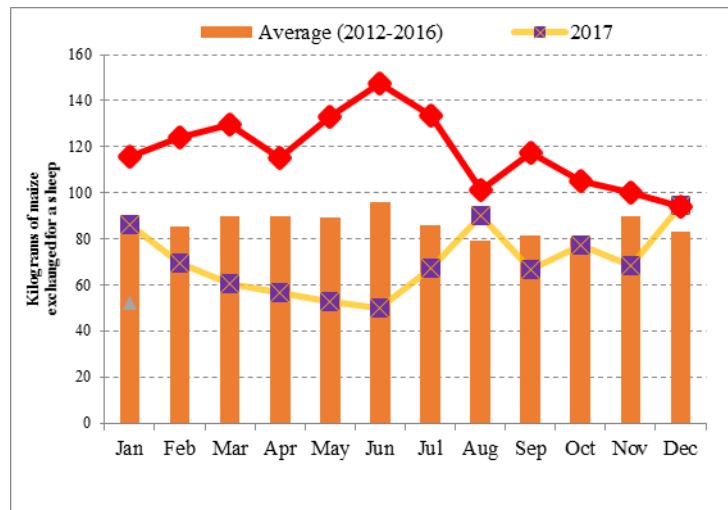


Figure 5: Terms of Trade in the County

3.2.4. Income Sources

The main sources of income in marginal mixed farming livelihood areas are sale of livestock (sheep and cattle) accounting for 77 percent. Cash crop and food crop production accounts for 67 percent of cash income in the mixed farming livelihood. Population distribution by livelihood is as follows; marginal mixed farming 43 percent, Mixed Farming 34 percent, Non-formal employment 16 percent and formal employment 7 percent. Sources of income were affected, as there were limited casual labour activities due to depressed rainfalls that led to low crop and livestock productivity.

3.2.5. Water Access and Availability

Major Water Sources

The current water sources include rivers, dams, boreholes, springs and roof harvesting. Due to rainfall ceasing earlier than expected rivers, earth dams/pans and boreholes were not fully recharged as expected and some rivers and earth dams have already dried up. Current water sources are below normal at this time of the year. This is due to poor performance of the October-November-December seasonal rains. Areas with low water points concentrations include Karemeno, Kienjero, Biricha, Komu, Labura, Mahiga, Kamatongu, Njengu, Kiboya, Giachuma, Burguret, Lusoi, Githungo, Maragima, Gatei. In the mixed farming livelihood zone, available water is projected to last for two months while most of the open water sources in the marginal mixed farming livelihood zone are likely to dry up by mid-March.

Distance to Water Sources

The current distances for domestic water in the mixed farming livelihood zone is 0.5-2 compared to the normal of less than 0.5 km while in the marginal mixed farming livelihood zone the

current average distances are between 6 and 12 kilometres compared to 1-3 kilometres normally. The variations were due to drying up of open water sources and water rationing.

Waiting Time at the Source

The current waiting time for domestic water in the mixed farming zone is 0-2 minutes compared to the normal of 0 minutes and 5 minutes for 20 liters jerrycans normal is of 2 minutes in the mixed farming zone. The variation is due to the fact the upstream (Mixed Farming) zones near the mountains are not so much affected by drought like the downstream marginal mixed) zones. Therefore, water usage is high in Mixed Farming zones than marginal mixed farming zones.

Cost of Water

The cost of a 20 litre jerrican currently is between Ksh. 20 -30 compared to a normal of Ksh. 5/= The availability of water and distance to the source affects the cost. Water projects charge a flat rate of 200/= per month whether one gets water daily or once a week.

Water Consumption

The current water consumption in the mixed farming and pastoral livelihood zones is between 15 and 20 compared to the normal average water consumption of 40 litres per person per day. The reduction in water consumption by over 50 percent is attributed to the long trekking distances, water rationing and low levels of water in most of the water sources.

3.2.6. Coping Strategy

The coping strategy index (CSI) was higher in the marginal mixed farming compared to the mixed farming livelihood zone. Generally, there has been an increase in coping strategies for households in both livelihood zones. For instance, in the marginal mixed farming areas, CSI in December was 5.9 which increased to 7.6 in January 2018, implying that households were employing consumption-based coping mechanisms more frequently in order to bridge food consumption gaps. The most commonly employed strategies were: reduction of number of meals, restricting consumption of meals by adults for small children and limiting portion size at meal times.

3.3. Utilization

3.3.1. Morbidity and Mortality Patterns

The five top common diseases are upper respiratory tract infection (URTI), diseases of the skin, diarrhoea, pneumonia and intestinal worms across all livelihood zones affecting under-fives while in the general population the five major diseases are upper respiratory tract infection (URTI), arthritis, joint pains and skin diseases.

Table 6: Morbidity Trends

Reported Morbidity for Children Under Five Years				Reported Morbidity for General Population			
Disease	July - Dec 2016	July - Dec 2017	% change	Disease	June - Dec 2016	July - Dec 2016	% change
Upper Respiratory Tract Infections (URTI)	16,665	12,717	23.7	Upper Respiratory Tract Infections (URTI)	48,755	35,774	26.6

Diarrhoea	2,341	1,788	23.6	Arthritis/Joint pains	9,460	7,888	16.6
Diseases of the skin	2,153	2,064	4.1	Diseases of the skin	9,739	7,780	20.1

3.3.2. Immunization and Vitamin A supplementation

The proportion of fully immunized children from July to December 2017 was 70 percent which was lower than the national target of 80 percent. The coverage for children aged 6-11 months reduced due to the nurses strike while that for children aged 12-59 months increased owing to the fact that *Malezi Bora* campaigns were carried out in November 2017 in which supplementation was done at the early childhood development (ECD) centers. Vitamin a supplementation was at 30.9% and 23.4% in the 2nd and 1st trimesters of 2017 respectively thus the county failed to achieve the national target of 80%.

3.3.3. Nutritional status and dietary diversity

Proportion of children under five years of age at risk of malnutrition with Mid Upper Arm Circumference (MUAC<135mm) in January 2017 was at 1.2 percent compared to LTA of 1.6 percent. The proportion has increased compared to December, 2017 due to poor rainfall performance, water borne diseases and poor recovery from the previous drought. The trend is likely to deteriorate as available stocks at household level continue to diminish. There was no recent nutrition survey done hence most data is not available such as on early initiation and exclusive breastfeeding. Dietary diversity in the sub counties was poor as most people are only having two food group and having 2-3 meals per day. The current level of malnutrition is increasing compared with the usual level at this time of the year due to inadequate food intake, diseases and poor child care especially on complementary feeding.

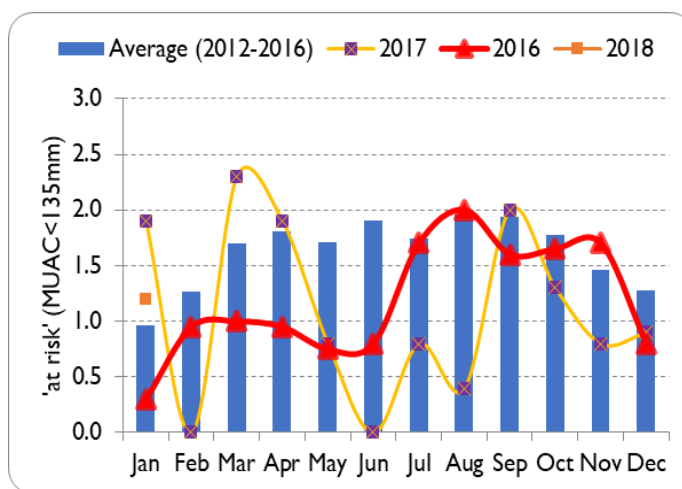


Figure 6: Trends of Children at Risk of Malnutrition

3.3.4. Sanitation and Hygiene

Water scarcity and use of open water sources have led to below optimal hand washing practices, resulting to increased incidences of water borne related diseases like diarrhoea. Latrine coverage was reported at above 90 percent across both livelihood zones. Majority of the households were issued with water treatment tablets through community health workers though the usage was at 60 percent.

3.4. Trends of Key Food Security Indicators

Table 7: Food security trends in Nyeri County

Indicator	Long rains assessment, July 2017	Short rains assessment, Feb 2018
% of maize stocks held by households (marginal mixed farming)	Nil	Nil
Livestock body	Fair to poor	Fair to poor
Water consumption (litres per person per day) MIXED FARMING	15-20 litres	15-20 litres
Water consumption (litres per person per day) MMIXED FARMING	10-15 litres	10-15 litres
Price of maize (per kg)	50	57.5
Distance to grazing		3.3
Terms of trade (pastoral zone)	60 kg	63.8
Coping strategy index	1.6 MMF: 8. MF: 4.3	5.4 MMF – 7.6 MF – 4.2
Food consumption score Poor: Borderline: Acceptable	Mixed farming livelihood zone 6.7: 38.3: 55 Marginal mixed farming livelihood zone 10: 40: 50	3 % poor 38.4% borderline 58.6 Acceptable.

4. CROSS CUTTING ISSUES

4.1. Education

Enrolment

Enrollment for both public Early Childhood Development (ECD) and primary schools decreased in the current term compared to previous term due to proliferation of private ECDE centers and transfer to schools outside the sub county. The enrolment for both boys and girls both in ECD centres and primary schools went down in 2018 as compared to Term III of 2017.

Dropout

The drop-out rates for ECD and primary were 14.3 and 18 percent respectively. The higher dropout rates in primary schools which affected more boys than girls was attributed to peer pressure and engagement of boys in casual work including boda boda jobs.

School Meals Programme

44 schools in both sub counties are under Home Grown School Meals Program (HGSM) feeding 5,513 boys and 5,130 girls. 63 schools are not eating (4,510 boys and 4,620 girls). The feeding program enhances attendance and enrolment for both girls and boys in primary schools. Most of the schools in the two sub counties have adequate water from rivers, boreholes & piped water. In terms of the Hygiene, all the schools have adequate & functional latrines with access to hand washing facilities; teachers and children in the school are protected through child friendly schools and through the children act.

5. FOOD SECURITY PROGNOSIS

5.1. Prognosis Assumptions

- Timely onset of the long rains
- Pests and disease infestation.
- High staple food prices.

5.2. Food Security Outcomes from February to April 2018

The terms of trade are likely to decrease with deteriorating body and lack of produce from the farms. Household food Security is expected to decline through to April. Household food access and consumption is expected to deteriorate as result of poor production, poor rains and pest infestation. Households are expected to intensify their livelihood and consumption coping strategies with increased proportion using stress coping strategies to bridge the income and meet essential food needs. Water sources particularly in farming areas will dry through to April as a result of poor recharge during the short rains. The food security situation is likely to deteriorate with more households moving into the “Stressed” (IPC Phase 2) phase.

5.3. Food Security Outcomes from May to July 2018

There is likely to be substantial regeneration of pasture and water recharge which is likely to improve milk production. Improved livestock body which will likely result in seasonal increase in prices. Early maturing crops will be ready thus improving food availability and low food prices. Distance to water sources is likely to reduce across all livelihood zones.

6. CONCLUSION AND INTERVENTIONS

6.1. Conclusion

The current food security situation in Kieni is bound to escalate if the prevailing conditions do not change. There is increase in trekking distances and the body condition of both cattle and goat will worsen if pasture and browse do not improve. There is an urgent need to carry out a SMART survey focussed primarily on Kieni East and West to clearly present finding on the health and nutrition status of children under five years and pregnant and lactating women.

6.2. Phase Classification

The current food security situation in Kieni is stressed IPC (IPC Phase 2). The factors to monitor are water availability, pasture and browse condition, market trends, crop value chain development, and health and nutrition status of the population and are expected to worsen due to poor short rains and also long rains. In the next three to six months, there will be need to monitor water situation in the both Mixed and marginal mixed farming livelihood zone, Livestock and livestock diseases, agriculture production, nutrition and health status among the population.

6.3. Summary of Findings

The onset of the October-November-December (OND) rains was early in the second week of October compared to third week of October normally. The rains were poorly distributed in time and space. The first and second dekad registered 16.7 mm and 60.3 mm compared to long term averages of 27.8 mm and 34 mm. Most amounts of rain were recorded in the second dekad of October and first dekad of November. High attitude areas received fair amounts of rains compared to the lower zones. On average the region received rains for five days in upper zones and three days in lower zones.

6.4. Sub-County Ranking

Table 8: Sub County Food Security Ranking

Ward	Total population (Census 2009)	% Population in need of food aid	Food security threat
Thegu	28,432	30-35	80% Depleted pastures, 40% Dry water sources, High incidences of Frost bites, Fall army worm, 90% crop failure and Poor rainfall performance
Mugunda	17,264	35-40	80% Depleted pastures, 35% Dry water sources, High incidences Frost bites, Fall army worm, 90% crop failure and Poor rainfall performance
Gakawa	20,025	35-40	70% Depleted pastures, Dry water sources, Incidences of Frost bites, Fall army worm, 80% crop failure, Poor rainfall performance and Millipedes infestation Human wildlife conflict In migration Malnutrition rates
Gatarakwa	12,600	35-40	60% Depleted pastures, Dry water sources, incidences of Frost bites, Fall army worm, 80%

			crop failure, Poor rainfall performance and MNLD
Mweiga	26,321	35-40	60% Depleted pastures, Dry water sources, High incidences of Frost bites, Fall army worm, MLND, 85% crop failure and poor rainfall performance
Naromoru/ Kiamathaga	33,476	30-35	55% Depleted pastures, Dry water sources Frost bites, Fall army worm, 65% crop failure, Poor rainfall performance and In migration
Enderasha/ mwiwongo	22,084	20-25	50% Depleted pastures, Reduced water sources Frost bites, Fall army worm, MLND, 60% crop failure, Poor rainfall performance and Human wildlife conflict
Kabaru	14,619	15-20	40% Depleted pastures, Reduced water levels, Frost bites, Fall army worm, MLND, 50% crop failure, Poor rainfall performance and Human wildlife conflict

6.5. Ongoing Interventions

6.5.1. Food Interventions

The government subsidized maize flour has not reached households and therefore they were depending on markets.

6.5.2. Non-Food Interventions

AGRICULTURE

Interventions	Objective	Specific Location	Cost	No. Of Beneficiaries	Implementation Time Frame	Implementation Stakeholders
Immediate On-going Interventions						
Training on good agricultural practices	empower farmers on improved farming and tapping into new technologies	all wards	20,00	11,000 households	Feb – June 2018	NDMA, CG Met and development partners
soil sampling and analysis	to improve production and productivity	all wards	2M	300 farm holdings	august – November	CG and development partners
Medium And Long Term On-going Interventions						
Interventions	Objective	Specific Location	Cost	No. Of Beneficiaries	Implementation Time Frame	Implementation Stakeholders

provision of insecticide against FAW	The pest are overwintering/ surviving on alternate host crop species and in the soil after the crops died and population is likely to be higher.	all wards	4M	9500 HH	JAN to APRIL 2018	CG,NDMA and researchers
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LIVESTOCK

Interventions	Objective	Specific Location	Activity Target	Cost	No. Of Beneficiaries	Implementation Time Frame	Implementation Stakeholders
Immediate On-going Interventions							
Subsidized A.I services	Upgrading of existing breeds for higher production	All wards in Kieni	All dairy farmers	300,000	All dairy farmers – 1500 dairy cattle per year	Continuous	CAGRIC and Dept of Veterinary - County Government
Capacity building on better management practices and dry season feeding. Through group trainings and demos	To equip farmers with skills on alternative feeding strategies To avert any deaths that may result from malnutrition through sustained supplies of milk and other livestock products	All wards in Kieni	Increase milk, meat and egg production and incomes	Farmer initiative/ County government	Livestock keeping households (1200)	Continuous	County government & UTaNRP, Farmers
Disease surveillance	Early detection of diseases and their control Reduce mortalities	All wards in Kieni with concentration in the hot spot areas	Close monitoring of livestock movements in areas of livestock concentration. - Monitor any disease incidences	1,444,000	Livestock keepers in the endemic areas	Continuous	Vet dept - County govt, NDMA and Farmers

			es				
Medium And Long Term On Going Interventions							
Intervention s	Objective	Specific Location	Activity Target	Cost	No. Of Beneficiaries	Implementation Time Frame	Implementation Stakeholders
Improved Pasture establishment (Rhodes grass)	To maintain production through prolonged livestock feed supply	Kamburaini and Aguthi	Dairy SHGs	0.18m	300 persons	1 year	County government & UTaNRMP, Farmers
Promotion and capacity building on dairy goat and dairy cow farming, bee keeping and milk cooling	To equip farmers with skills on alternative livelihoods	Mweiga, Endarasha/ Mwiyo and Kabarwards	To diversify sources of income	8,390,000	About 40 farmer groups with an average membership of 20 persons. (800 farmers)	1 year	DALD-County govt, NDMA, UTaNRMP and Farmers
Education							
Kieni East &	HLSM	44schs	10669	WFP	High Retention Rates & Improved Performance Countdown		
Kieni West			Pupils	MOEST			
Water and Sanitation							
Water storage improvement	Increase water storage	Amboni, Mwiyo, Endarasha, Birisha	Increase domestic water storage	8m	800	17/18f/yr	CGN
Borehole rehabilitation	Alternative source	Mahiga, Karera	Increase water sources	5m	270	17/18f/yr	CGN
Rehabilitation and storage improvement	Increase flow level	Gatarakwap	Intake and distribution system	4m	300	17/18f/yr	LFTI
Construction of storage tanks	Increase water storage during the time of water rationing from the rivers. Increase water	Munyu, warazajet, Burguret	-Increase access water for domestic use	Ksh. 20 million.	Over 7,200 households	2017/2018 Fy	-NCG -Child Fund Narumoro.

	distribution rate.	Ngogithi, Ndiriti Aguthi, Mwea B. Ruai, Gatumba					
Medium to Long-term							
Solar powering all operational boreholes	Increase water supply at near zero pumping cost	Ruirii Primary borehole, kabati, labura,	Poverty reduction	13m	1500	5YRS	CGN
Rehabilitation of dams	Increase water storage	Birisha, kiguru, Kienjoro	Desilting	10m	1000	17/18f/yr	CGN
Construct 225m ³ masonry tank	Enhance water storage	Lamuria	Improve water management	2.5m	200	17/18F/YR	CGN
Construction of storage tanks	Increase water capacity	Munyu, Burguret, Mwea B. Ruai, Gatumba	Increase access water for domestic use				
Drilling and rehabilitation of boreholes.	Increase water source	Munyu, gitero, nyange, toll station, kabati, Gitwe	Drill and equip and rehabilitate boreholes	KSH. 20MILLION	3000 HOUSE HOLDS	2018-2020	NCG
Rehabilitation of Nyumba tatu dam	Increase water for livestock use	kiboya	Removal of silt and embankment repair	15million	500 house holds	2017-2018	NCGC

6.6. Recommended Interventions

6.6.1. Food interventions

The government subsidized maize flour has not reached households and therefore they were depending on markets.

6.6.2. Non-food interventions

Sub-County	Intervention	Wards	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
Agriculture							
	Provision DTC and Fertilizers	All Wards	5000 HH	Research Centers, CG, NDMA, And NG			Feb – April
	Invest on GAP – CA and modern technologies and liming of soils	All Wards	9500 HH	Research Centers, CG, NDMA, And NG	12M		Jan to April
	Participatory scenario planning and advisory	All Wards	21,000 HH	Research Centers, CG, NDMA, And NG And Met.	1.5M		Jan to April 2018
Livestock							
	Up scaling on Preventive Vaccination against FMD, CCPP and NCD in local poultry.	All wards but emphasis on the hot spots	10,000 heads of cattle, 10,000 shoats and 40,000 local birds	Vet Dept/ KVA-County Govt, NDMA and Farmers	3,326,200		1 year
	Up scaling on pasture and fodder production, conservation & utilization. 23 acres	AMS in Thegu ward –Kieni East	All dairy farmers	DALD-County govt, NDMA and Farmers	1,343,900		1 year
	Up scaling on Enterprise diversification and Provision of quality breeding stock/	All wards in Kieni	About 40 farmer groups with an	DALD-County govt, NDMA,	8,390,000		1 year

Sub-County	Intervention	Wards	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
	equipment: beekeeping, dairy goats, poultry farming.		average membership of 20 persons. (800 farmers)	UTaNR MP and Farmers			
	Bulking of protein rich fodder crops for animal feeds	8 sites in Kieni.	2500 Livestock keepers	DALD-County govt, NDMA, UTaNR MP and Farmers	191,000		1 year
	Up scaling on Preventive Vaccination against FMD, CCPP and NCD in local poultry.	All wards but emphasis on the hot spots	10,000 heads of cattle, 10,000 shoats and 40,000 local birds	Vet Dept/KV A-County govt, NDMA and Farmers	3,326,200		1 year
Water and Sanitation							
	Upgrading of community Water Projects and construction of water storage facilities,	Tail ends of Giachuma, Gatune , lusoi, Rongai and irrigithathi route area	2500 H/hOLDS	GOK -County Govt. of Nyeri -NDMA - Other Dev. Partners	20 million		2017-2018
	Provision of roof water harvesting facilities in schools and other institutions and provide 10 M ³ Plastic water tanks to Institutions and community water points	institutions in most dry areas	50 institutions	GOK -County Govt. of Nyeri -NDMA - Other Dev. Partners	6 million		2017-2018
	Capacity building on better water management	600 members trained	600 households	GOK -County Govt. of Nyeri -NDMA - Other	3 million		2017-2018

Sub-County	Intervention	Wards	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
				Dev. Partners			
	Construction of Mega dams	Gatarakwa, Endarasha, Naromoru , Nairobi and Nanyuki rivers	12,500 households	GOK -County Govt. of Nyeri -NDMA - Other Dev. Partners	62 billion		
	Provision of Storage tanks	Githura and Lamuria primary schools, Community groups	1,300 households	NDMA	300,000		
Health and Nutrition							
	Conduct nutrition survey	Kieni west & West	15962	MOH, NDMA	6.5m		July-august 2018
	Conduct nutrition outreaches & rapid screening	Kieni west & West	15962	MOH, NDMA	1.8M		March-June 2018
	Procurement of anthropometric equipment	Kieni west & West		MOH, NDMA	1M		May 2018
	Vitamin A supplementation in ECDs	Kieni east&west	15962	MOH	500,000		May & November 2018
	Nutrition education	Kieni west & West	50,000	MOH	100,000		Throughout
	Zinc supplementation	Kieni west & West	15962	MOH	20,000		Throughout
	Iron & folic supplementation	Kieni west & West	20,000	MOH	100,000		Throughout
	Establish Management of moderate and severe malnutrition programme	Kieni west & West	5,000	MOH	1M		Throughout