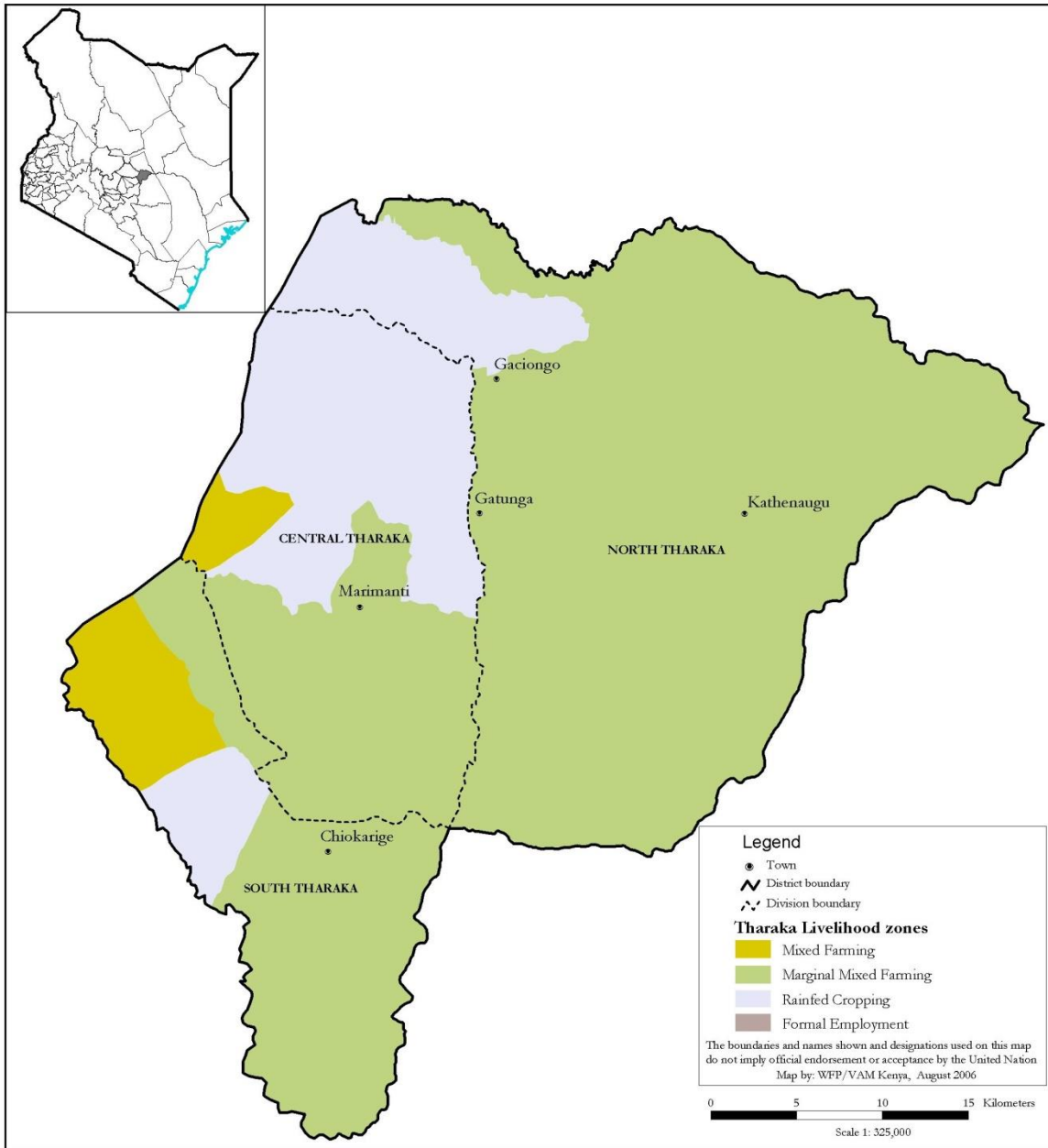


THARAKA NITHI COUNTY (THARAKA) 2016 SHORT RAINS FOOD SECURITY ASSESSMENT REPORT



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

February, 2017

¹ Vincent Obondo (Ministry of Education) and Jane Kioko (Ministry of Agriculture, Livestock and Fisheries)

TABLE OF CONTENTS

1.0 Introduction.....	5
1.1 County Background.....	5
1.2 Objectives and approach	5
2.0 Drivers of Food and Nutrition Security in the County	6
2.1 Rainfall Performance.....	6
2.2 Other shocks and hazards.....	6
3.0 Impacts of drivers on food and nutrition security.....	6
3.1 Availability.....	6
3.1.1 Crops Production	7
3.1.2 Livestock Production.....	8
3.2 Access.....	11
3.2.1 Maize prices.....	12
3.2.2 Goat prices	12
3.2.2 Terms of trade.....	12
3.2.3 Income sources	13
3.2.4 Water access and availability	13
3.3 Utilization.....	14
3.3.1 Food Consumption	15
3.3.2 Coping strategy.....	15
3.3.3 Nutritional status.....	15
3.3.4 Morbidity and mortality patterns	16
3.3.5 Sanitation and Hygiene.....	16
4.0 Food Security Prognosis	17
4.1 Prognosis assumptions	17
4.2 Outlook for 3 months (February to April	17
4.3 Food Security outlook for the Last Three Months	18
5.0 Conclusion and interventions.....	18
5.1 Conclusion.....	18
5.1.1 Phase classification.....	18
5.1.2 Summarized key findings	19
5.1.3 County ranking	19

5.2 Ongoing Interventions	19
5.2.1 Food interventions	19
5.2.2 Non-food interventions	20
5.3 Recommended Interventions	21
5.3.1 Food interventions.....	21
5.3.2 Non-food interventions	21
ANNEXES	22

Executive Summary

Tharaka Nithi County is classified as Stressed (IPC Phase 2) mainly because the households' food consumption scores (FCS) worsened from December 2016 to January 2017 due to decreased availability and limited access to food. The proportion of households with acceptable FCS declined from 88 percent in December to 40 percent in January while those in borderline increased from 12 percent to 46.7 percent. 13.3 percent of the population had poor food consumption score.

Some parts mainly in the marginal mixed farming zone namely; Kamarandi and Kamanyaki areas where comparatively lower amounts of rainfall were received, cattle body condition is fair and the pasture condition was fair to poor, all of which are affecting current food availability and consumption at household level. The coping strategies are on a worsening trend with an index of 12.2 in October compared to 15 in December 2016. The highest coping strategy index of 19.7 percent was recorded in the Marginal mixed farming zone increased to 23.7 percent in January 2017. There was also 34 percent increase in the proportion of children at risk of malnutrition for January 2017 to 9.0 percent compared to 6.7 percent in the same period the previous year.

Production of maize, green grams, millets declined by 82, 63 and 79 percent respectively as a result of poor performance of the short rains. The decrease significantly affected the food available from own production and cash income resulting in low purchasing power. The stocks held by traders are sourced from outside the county as there is a deficit from local production. Households heavily rely on market purchases as carryover stocks are depleted leading to increased demand for commodities which is evident in continuous increase in maize prices. The food situation is likely to make the household seek alternative sources to bridge the income and food gaps.

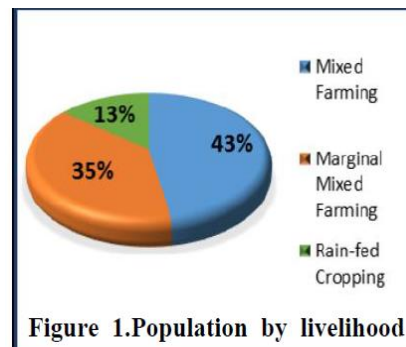
Similarly there was a decline in production under irrigated agriculture though minimal, thus reducing the required additional stocks and extra income. Livestock body condition is currently good supported by good pasture and browse conditions across the livelihood zones with exception of Kamarandi and Kamanyaki where the condition is fair. However, the body condition is on a deteriorating trend from good to fair as a result of declining pasture, increase in trekking distances for water and pasture resulting reduction in milk availability for consumption and sale. The depressed livestock prices coupled with the low demand limits household food access due to low incomes. Despite the below average short rains season, water is generally available for both domestic consumption and livestock but declining rapidly leading to an increase in the distances to the water sources. However, Marimanti, Gituma, and Chiakariga, Kamanyaki, Kamarandi, Marawa, Kathangachini, Gatue and Kanjoro locations in marginal mixed farming are most affected with low water concentration as all the seasonal rivers have dried up.

The crop failure has led low demand for on farm casual labour which further reduces the support for food access in the markets as household incomes are greatly reduced. The increasing maize prices have reduced availability of food by limiting the amount of food which can be purchased. As a result the number of meals consumed per day decreased and the dietary diversity is compromised and this has a negative impact on the nutrition status of the under-fives. The main contributors to food security situation is poor rainfall performance, increasing prices of major staples, decline in livestock prices and a significant increase in trekking distances.

1.0 Introduction

1.1 County Background

Tharaka Nithi County consists of four sub-counties, namely: Tharaka North, Tharaka South, Maara and Chuka. The assessment focused in the Semi arid part of the county which are Tharaka North and Tharaka South sub-counties. The two sub -counties covers 1,569 square kilometers which is 65 percent of the county's total geographic area; with a total population of 141,061 persons (KNBS 2016 projections). There are three main livelihood zones: Mixed farming (MF), marginal mixed farming (MMF) and rain-fed cropping (RFC) with population distribution as shown in (figure 1).



1.2 Objectives and approach

The objective of the assessment was to develop an objective, evidence-based and a transparent food and nutrition security situation analysis; taking into account the cumulative effect of previous seasons with an aim of providing recommendations for appropriate response options within specified timeframes.

Specific objectives

- To assess the impact of the October to December 2016 short rains on availability, access and utilization pillars of food security across key sectors
- Determine the impacts of other contributing factors on household food security
- Establish the required food and non-food interventions.
- Propose activities and programme that promote preparedness and building of household resilience.

Assessment approach

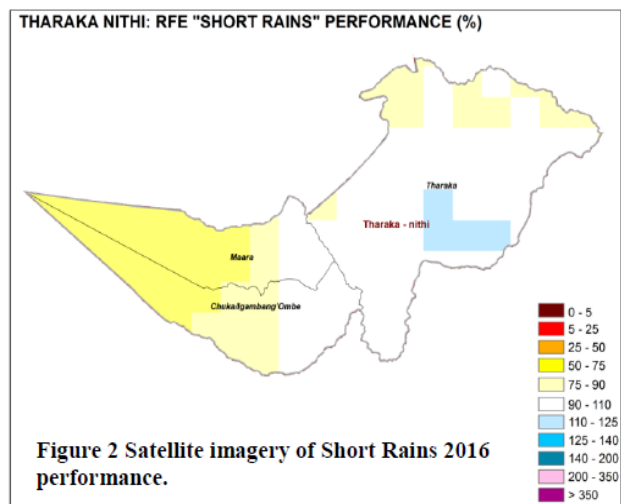
The food and nutrition security assessment for the October to December short rains season was conducted between 16th to 28th January 2017. The overall assessment approach involved pre-training workshop for the assessment teams, and equipping the teams with a briefing kit comprising of all necessary data on livelihood zones. The assessment team conducted an initial briefing meeting to the County Steering Group (CSG). The modalities for conducting the assessment were explained and the expected outputs outlined. The team reviewed the information in the checklist with the CSG technical teams and agreed on the areas to be validated and verified during the field visit. The team comprised of two officers drawn from each sub - county with representation from the participating public sectors and Caritas of Catholic Diocese of Meru. Field visits included; two focused group discussions, markets visit to sample volumes and prices of commodities. Observations were also used during transect drives to obtain qualitative information. The field data was used to validate the information provided in the checklists. Findings and recommendations from secondary data analysis and field visit were shared with the CSG during the final debriefing meeting. The Food Security Integrated Phase Classification (IPC Version 2.0) was employed in classifying severity levels of food security in different livelihood zones with the Food consumption score (FCS) and Coping Strategy

Index(CSI) being adopted to identify proportions of populations that may require immediate assistance.

2.0 Drivers of Food and Nutrition Security in the County

2.1 Rainfall Performance

The October to December short rains 2016 was generally delayed to the first week of November compared to a normal onset of the second week of October which was a delay by three weeks. North western parts of Tharaka South in the mixed farming zone and the northern parts of Tharaka North in Marginal mixed farming zone received 75-90 percent of normal rainfall. Some parts in the south western parts of Tharaka North in the marginal mixed farming zone received 110-125 percent of the normal rainfall. The remaining areas received 90-110 percent of the normal rainfall. Most of the areas experienced poor distribution of the rainfall in both space and time. Cessation of the rains was earlier than normal in all the zones ending in the third week of December which was one week earlier than normal. The average cumulative amount of rainfall received during the period was 109 mm compared to a long term average of 182 mm which was a decline of about 60 percent. (Figure 2)



2.2 Other shocks and hazards

- A threat of prussic acid poisoning from use of use of sorghum residues to feed the animals
- Accelerated depletion of pasture resulting from increased incidence of termites in pasture at Kachoroni in Gatunga ward.

3.0 Impacts of drivers on food and nutrition security

3.1 Availability

Availability as a dimension of food security evaluates whether or not food is actually or potentially physically present and considers aspects of production, wild foods, food reserves, markets and transportation. The main contributors to this pillar are mainly crop and livestock production. The section examines how the drivers of food and nutrition security have impacted on the availability of food at the household level.

Crops production decreased significantly resulting in low food stocks at the household level. The resultant effect is that very little was available for sale, further depressing the household cash income. Crop failure resulted to fewer opportunities for on- farm casual labour which further worsened accessibility to food. Food stocks held by traders are low compared to long term average against a high demand for the commodities resulting in increase in prices. Trekking distances to water and pasture sources have affected livestock productivity by reducing milk availability for consumption and sale at the household level.

3.1.1 Crops Production

Crop production activities in the county is mainly short rains dependent, with the short rains accounting for about 64 percent of annual crop production. The main crops grown in the county include maize, millet, pigeon peas, green grams, sorghum and cowpeas across all livelihood zones. However, production of these crops for either food or income varies across the livelihood zones.

Table 1: Contribution of major crops to food and income

Livelihoods	Marginal Mixed Farming		Mixed Farming		Rain fed cropping	
	Contribution to Food (%)	Contribution to income (%)	Contribution to Food (%)	Contribution to Income (%)	Contribution to Food (%)	Contribution to Income (%)
Maize	20	0	40	1	50	8
Cowpeas	33	20	6	3	-	-
Millet	50	18	11	6	15	40
Greengram	9	40	4	14	-	-

Rain fed crop performance

The area under green grams increased significantly by 20 percent while production decreased by 63 percent compared to the long term average. The area and production in maize decreased significantly by 16 and 82 percent respectively compared to the long term average. The area under millets increased by 0.6 percent compared to the long term average and production declined significantly by 79 percent compared to the long term average (Table 2). The increase in area under green grams and millet is attributed to opening up more virgin land and support to farmers some of the land previously put under maize being planted with grams and millet with support seed, fertilizer and pesticides given to farmers by the county government.

Despite increase in areas, crops under rain fed conditions experienced a significant decline in production thereby reducing the food available at the households, Secondly; depressed quantities were available for sale which negatively affected household purchasing power and on farm casual labor. As result, households were forced to seek alternative sources to meet income and food gaps.

Table 2: Rain-fed crop production

Crop	Area planted during Short season (Ha)	Long Term Average area planted during the Short rains season (Ha)	2016 Short rains season production (90 kg bags) Projected/Actual	Long Term Average production during the Short rains season (90 kg bags)
Maize	8,560	10,240	17,120	99,600
Green Grams	14,790	12,225	29,580	80,070
Millet	14,450	14,350	37,190	177,720

Irrigated Crop Production

Area under pawpaw increased significantly by 25 percent compared to the long term average while the area under bananas increased by a paltry 5 hectares. Expansion in area under pawpaw was attributed to the high demand for the fresh fruits in the market coupled with a comparative advantage over bananas which are grown under rain-fed production system in the neighboring

county of Meru. Area under maize decreased significantly by 46 percent due an increased competition the bananas and pawpaw. Production of maize declined by 22 percent compared to the long term average (table 3). Reduction in area and production is attributed to the inadequate water for irrigation due to the reduced water levels in the rivers. Crop grown under irrigation is meant to supplement sources of income and food. Decrease in production has negatively impacted on food availability and cash income at the household level.

Table 3: Irrigated crop performance

Crop	Area planted during the 2016 Short rains season (ha)	Long Term Average (3 years) area planted during Short rains season (ha)	2016 Short rains season production (90 kg bags) Projected/ actual	Long Term Average (3 years) production (90 kg bags)
Banana	450	445	7570 Tons	9000
Pawpaw	425	340	425 Tons	500
Maize green	160	300	2400 Bags	2730

Maize commodity stocks in the county

The projected household stocks from the short rains season harvest was 19,540 bags. Estimated maize stocks held at households level was 24 percent of the long term average; this was insignificant forcing most households to rely on market supply. The traders stocks also decreased by 44 percent compared to long term average and replenishment was mainly from sources outside the county. Broadly, there was 75 percent decrease in stocks held within these sub-counties compared to long term average attributed to poor rainfall performance (Table 4).The reliance on market purchases has increased the demand resulting in increase in prices. Stocks available were expected to last for one to two and half months.

Table 4: Maize stocks

Maize stocks held by	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	19,540 (Projected)	80,500
Traders	900	1,600
Millers	0	0
NCPB	0	0
Total	20,440	82,100

3.1.2 Livestock Production

The main livestock species kept in all the livelihood zones are cattle, goats, sheep and chicken. The increase in trekking distances by 20 percent and the condition of the pasture and browse being between poor to good across the livelihood zones have also contributed to decline in milk availability for consumption and sale. Although the body condition is currently good for all species, the ongoing dry spell has made households result to disposing the animals before body condition deterioration and continued fall of prices. Household food access and availability is therefore being limited by the low income levels as a result of decline in livestock productivity and low livestock prices. The increased volume of livestock for sale poses a threat the asset base of the households and consequently food security.

Table 5: Contribution of livestock to income

Livelihood	Livestock type	Contribution to income (%)
Marginal Mixed Farming	Livestock Production (including meat, milk, hides, skins, and by products)	40
	Poultry Production including meat and egg production	20
Mixed Farming	Livestock Production (including meat, milk, hides, skins, and by products)	15
	Poultry Production including meat and egg production	5
Rain fed cropping	Livestock Production (including meat, milk, hides, skins, and by products)	10
	Poultry Production including meat and egg production	10

Pasture and browse

The pasture and browse was fair to good in marginal mixed farming while they were poor to fair in rain fed livelihood zones. This was not normal at this time of the year. The available pasture and browse are expected to last up to two months. The deteriorating pastures and browse resulted to deteriorating livestock body condition led to in decrease in prices thereby decreasing the cash income available to households for purchase of food. It also affected the availability and consumption of milk at household level. Additionally, termite attacks also accelerated depletion of available pastures.

Table 6: Forage Conditions by livelihood

Livelihood zone	Pasture condition			Browse condition		
	Current	Normally	Projected Duration to last (Months)	Current	Normally	Projected Duration to last (Months)
Marginal Mixed farming	Fair to poor	Good	2 months	Good	Excellent	2 months
Mixed farming	Fair to good	Good	2 months	Good	Excellent	2 months
Rainfed	Fair to good	Good	2 months	Good	Excellent	2 months

Livestock body condition.

Livestock body condition was good for all species in all livelihood zones; which is normal at this time of the year. However, there was exception in Kamanyaki and Kamarandi within the marginal mixed farming zone where body condition of cattle was fair (table 7). With the decreasing availability of pasture and browse in both quantity and quality coupled with walking increasing trekking distances to water and grazing lands especially in the marginal mixed farming and rainfed zones, the body conditions is expected to deteriorate further within the next one month and this will negatively affect milk production and consumption at the households.

Table7: Livestock body condition

Livelihood	Cattle		Goats		Sheep	
	Current	Normal	Current	Normal	Current	Normal
Mixed farming	good	Good	Good	Good	Good	Good
Marginal mixed farming	Fair to good	Good	Good	Good	Good	Good
Rain-fed Agriculture	Good	Good	Good	Good	Good	Good

Milk availability and consumption

Milk production was 0.7 - 0.8 litres per household per day in all the livelihood zones compared to the LTA of 1.5 -3 litres per household per day. There was decline in milk consumption from 1-2 litres per household per day to less than one litres in all the livelihood zones. There were increase in milk prices in all the livelihood zones; with the highest being marginal mixed farming where milk was selling at 80 shillings per litre compared to the LTA of 50 shillings (table 7). Reduction were attributed to declining livestock productivity. Increase in price limits access to the milk to most households which can negatively affect the nutritional status especially the children under five years.

Table 7: Milk production and consumption

Livelihood zone	Milk production(litres)/household		Milk consumption litres per household		Prices kshs	
	Current	LTA	Current	LTA	Current	LTA
Rainfed	0.70	1.5	0.70	1.5	50	60
Mixed farming	0.79	0.5-1	0.79	2	50	60
Marginal mixed farming	0.86	3	0.86	2	80	50

Tropical livestock Units (TLUs)

The average TLUs per household declined from three TLUs in 2015 Short rains season to two TLUs in short rains season 2016. Notably, the average TLUs for the poor class declined by 32.5 percent from 4 TLUs in 2015 short rains season to 1.3 TLUs in 2016 short rains season. (table 8). The reduced TLUs is as a result of households disposing the animals due to inadequate pasture and browse.

Table 8: Tropical livestock units

Type of livestock	Poor households		Middle classHouseholds	
	SRA 2015	SRA 2016	SRA 2015	SRA 2016
Cattle	2	1	4	3
Goats	8	3	11	8
Sheep	2	0	5	2

Birth rate

Peak calving period are normally between mid-March to June while kidding is in September. Currently, the birth rates were very low which was normal at this time of the year and this reduced milk available for consumption and sale at the household level ; although they were expected to increase with onset of the long rains season. Further, there were few cases of abortions attributed to nutritional stress.

Livestock migration, disease and mortalities.

There was no in migration or out migration which is normal at this time of the year. Likewise, there were no outbreaks of livestock diseases except endemic diseases namely; Contagious Caprine Pleuro Pneumonia (CCPP), Trypanosomosis, Orf, Sheep and Goat Pox and Heart Water Disease which are endemic in Marginal Mixed farming zones. Other common diseases include Helminthosis, Pneumonia and Anaplasmosis. In poultry, the common diseases included; Newcastle disease (NCD), Fowl typhoid and Infectious bronchitis.

Water for livestock

The current water sources for livestock include permanent rivers, boreholes, water pans, piped water, seasonal rivers and furrow water. However, the volumes declined by 33 percent which is significantly below normal at this time of the year due to poor recharge .The current return trekking distances increased at an average of 20 percent compared to the normal at this time of the year due to drying up and decreased volumes affecting the flow of water and leaving stagnant pools of low quality due to contamination. The trekking distance is likely to increase thereby reducing the watering frequency within the next one month across the livelihood zones and it will impact negatively on livestock body conditions, productivity and livestock prices.

Table 9: Trekking distances, duration expected to last and watering frequency for livestock

Livelihood zone	Return trekking distances		Expected duration to last(Months)		Watering frequency	
	Current (km)	Normal(km)	Current *	Normal	Current	Normal
Mixed farming	0.5-1	1	1.5 - 12	3-12	Once to twice	Once to twice
Marginal mixed farming	6-7	6	0.5 - 12	2-12	once	once
Rain-fed Agriculture	2-3	2	0.5 - 12	2-12	Once	Once

* Lower digit is for water pans and upper is for permanent rivers.

3.2 Access

Access as a dimension of food security evaluates whether households have sufficient access to food when it is actually or potentially physically present either by enabling infrastructure, financially or through social means.

Market operations

Marimanti Kathangachini, Gatunga, Chiakariga, Kathwana and Tunyai are the main markets in the County. All the major markets were operational. The main commodities traded in the market included cattle, sheep, goats chicken, sorghum, millet, cowpeas and green grams which

originated from within the county. Other commodities such as maize, Irish potatoes, onions and vegetables were sourced from other neighboring counties. Due to decline in of production of green grams; which is normally highest contributor to household cash, farmers resorted to sale of livestock which is not normal at his time of the year.

3.2.1 Maize prices

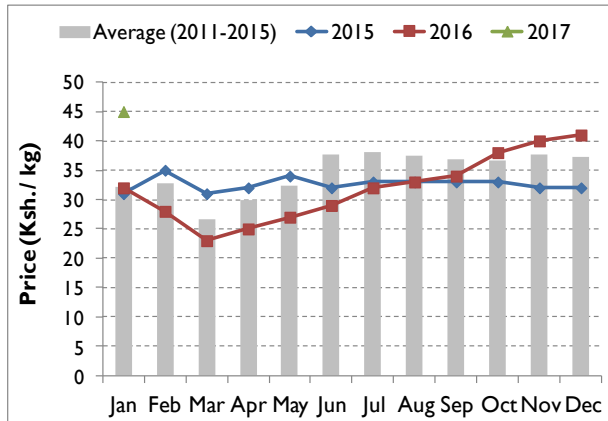


Figure 3: Maize prices

The average price of a kilogram of maize increased from Kshs 38 in October 2016 to Kshs 45 in January 2017 due to decreased supply of the commodity in the markets. The average price was 28 percent above the long term average of Kshs 35 (figure 3). The prices are expected to gradually to increase due to the projected low harvest from the short rains season and reliance on market purchases creating increased demand

3.2.2 Goat prices

Average household goat prices decreased by 16 percent from Kshs 2,866 to Kshs 2400 in January 2017 denoting a decline of eight percent compared to the long term average (figure 4). The decline in livestock prices were attributed increased demand during festive season followed by a drop in prices in January as higher volumes were offered for sale to meet food and school fees requirements. The decline in prices expected to continue next three months as farmers dispose their animals to purchase food and meet other household requirements, which is normal at this time of the year.

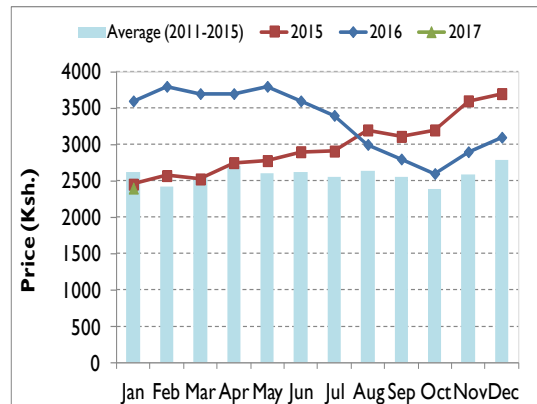


Figure 4: Goat prices

3.2.2 Terms of trade

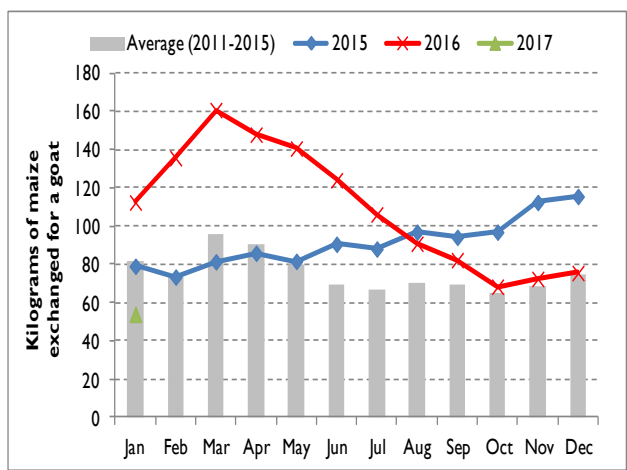


Figure 5: Terms of Trade

The Terms of trade (ToT) was 30 percent below the LTA. Households could purchase 54 kilograms from sale of one goat compared to 77 kilograms at such a time last year (Figure 5). The situation is expected to deteriorate in the coming months as the livestock prices declines while maize prices increase; this would reduce food availability, cash income at the household and result in reduced purchasing power and access to food.

3.2.3 Income sources

Crop production contributes the highest proportion of household income and food. (Table 11). Poor performance of the short rains directly impacted on the household incomes in all the entire livelihood zones.

Table 11: Income sources

Livelihood zone	Income source	Contribution to income (%)
Marginal Mixed Farming	Livestock production (including meat, milk, hides, skins, and by products)	40
	Food Crop Production	20
	Poultry Production including meat and egg production	20
	Casual Waged-labour Income	5
	Firewood collection/charcoal burning	5
	Cash Crop Production	5
	Small Businesses/own business	2
Mixed Farming	Cash Crop Production	32
	Food Crop Production	20
	Livestock Production (including meat, milk, hides, skins, and by products)	15
	Casual Waged-labour Income	10
	Formal Waged Labour including public and private sector employees	7
	Small Businesses/own business including crafts, non-farm production, beer etc	6
	Poultry Production including meat and egg production	5
Rain fed cropping	Food Crop Production	45
	Poultry Production including meat and egg production	10
	Livestock Production (including meat, milk, hides, skins, and by products)	10
	Cash Crop Production	8
	Casual Waged-labour Income	8
	Firewood collection/charcoal burning	6
	Formal Waged Labour including public and private sector employees	5
	Small Businesses/own business including crafts, non-farm production,	5

3.2.4 Water access and availability

Despite the inadequate rainfall of the short rains season, water is generally available for both domestic and livestock although there is an increase in the distances to the water sources. The areas most affected with low water concentration in Marginal Mixed Farming zone includes, Marimanti, Gituma, and Chiakariga, Kamanyaki, Kamarandi, Marawa, Kathangachini, Gatué and Kanjoro locations where all the seasonal rivers have dried up. The distances are expected to increase with time and this is likely to result in increased cost, reducing consumption at the

household level and reduced watering frequency which impacts directly on milk and meat production.

Major water sources

The major water sources for both domestic and livestock are permanent rivers, boreholes and piped water. Recharge during the short rains period was estimated to be 65 percent. Marginal mixed farming livelihood zone were most affected in areas such as Marimanti, Gituma, and Chiakariga and Kamanyak amongst other places. The seasonal rivers have dried. This was not normal at this time of the year and this was attributed to depressed short rains. However, existing water sources are estimated to last until the onset of long rains.

Distance to water sources

The return water distances increased marginal mixed farming zone and mixed farming zone from 3km to 5km and 1km to 2km respectively. In the rain-fed cropping zone the distance increased marginally from 2km to 2.5 km. Current water distances are expected to increase in as the drying and reduction of water volumes continues.

Waiting time at the source

Waiting time for domestic water increased in all the livelihood zones. Increase from eight to 18 minutes, five to 10 minute and five to eight minutes in marginal mixed farming, rain fed cropping zone and mixed farming zones respectively. The waiting time is expected to increase as some seasonal water sources continue to dry.

Cost of water

Cost of water per 20 litre jerrican increased by range of five to ten shillings across all the livelihood zones. A marked increase was observed in the rain-fed cropping zone where the price doubled from Kshs 5 to Kshs 10.

Water consumption

Water consumption was 14, 18 and 20 litres per person per day in marginal mixed farming livelihood zone, mixed farming and rain fed cropping zones respectively. The decreases were attributed to low increased distance to water sources. However, this was normal at this time of the year.

Water sanitation and hygiene

There was water contamination at source, caused mainly by open defecation; washing of cloths, bathing and contamination from livestock dung. The water treatment chemicals were acceptable to 70 percent of the households but they are not easily accessible in the local markets. Currently most household treat drinking water by boiling and sand filtering treatment practices which are normal at this time of the year.

3.3 Utilization

Utilization as a food security pillar evaluates whether households are sufficiently utilizing the food in terms of food preferences, preparation, feeding practices, storage and access to improved water sources.

3.3.1 Food Consumption

Food consumption score for households in December 2016 was 12 and 88 percent acceptable and borderline respectively, compared to 17 and 83 percent borderline and acceptable respectively in November 2016. The improvement was attributed to the consumption of green grams and other vegetables whose harvesting had started at this time which contributed the improved nutrition.

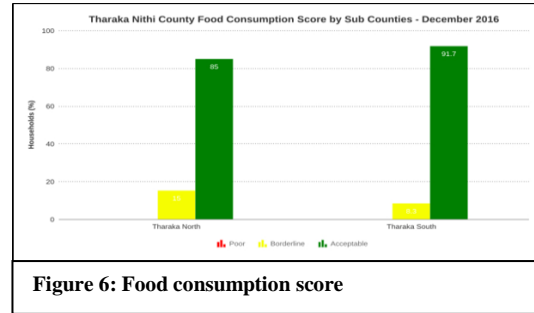


Figure 6: Food consumption score

3.3.2 Coping strategy

The coping strategy index (CSI) increased from, 12.2 in October to 14.88 in December 2016. The results mean that there is an increase in the number of households who are more food insecure. The highest CSI recorded in December was in the Marginal Mixed Farming zone at 19.7 percent compared to 12.4 percent and 7.7 percent in the Mixed Farming and Rain Fed livelihood zones respectively. The households in the marginal mixed farming are employing more severe coping strategies than rain fed livelihood zone. The most commonly employed coping mechanisms included reliance on less preferred and or less expensive food and reduction of the number and or portion size of meals.

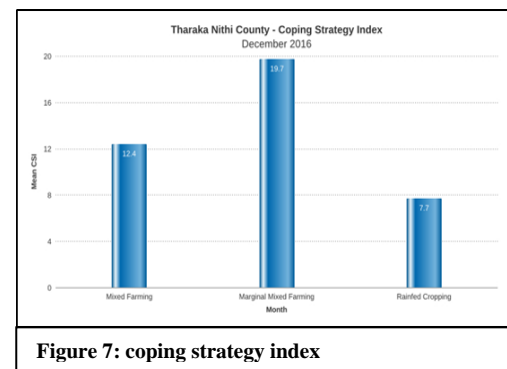


Figure 7: coping strategy index

3.3.3 Nutritional status

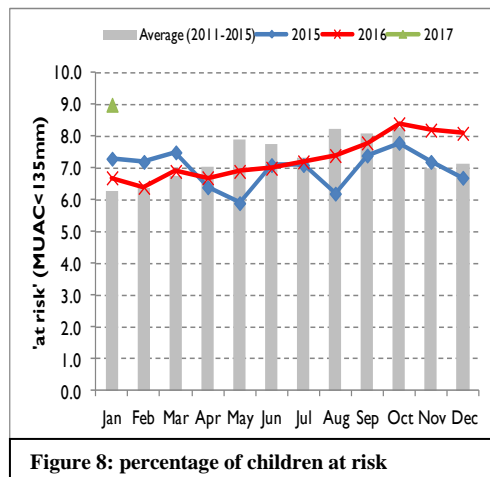


Figure 8: percentage of children at risk

There was 20 percent increase in the proportion of children at risk of malnutrition which is measured by the mid upper arm circumference (MUAC < 135mm) for the January 2017 at nine percent which is higher compared to 6.7 of the same period in the previous year (figure 8). The reduction in number of meals and dietary diversity is as a result of the crops failure and consequently reduced household income.

During the period under review, majority of households are having an average of two meals per day compared to a normal of three. The meals are mostly composed of five food groups namely, starch (maize, sorghum and finger millet), proteins (beans, green grams and cowpeas) and fruits.

However, majority of households are unable to afford meat. The deteriorating diversity is attributed to reduced frequencies.

3.3.4 Morbidity and mortality patterns

The most prevalent diseases for under-fives were diseases of the respiratory system, confirmed malaria, pneumonia, intestinal worms and disease of the skin while top diseases for the general population were respiratory system, confirmed malaria, disease of the skin, UTI, and arthritis. The top prevalent diseases for both groups were similar to the period July to December 2015. There was no disease outbreak for the period under review. There was also significant decline recorded for the epidemic prone diseases such as cholera, diarrhea, measles, dysentery, malaria and typhoid fever for the period July to December 2016 compared to same period in 2015.

Fully immunized child (FIC) coverage, Vitamin A supplementation and coverage for children aged 1 to 5years for the period July to December 2016 decreased by four percent from 56 percent, 15 percent, and 16.7 percent respectively as compared to same period in 2015. The observed declines were attributed to non-functional health facilities due to frequent strike by medical personnel in both sub-counties.

3.3.5 Sanitation and Hygiene

Latrine coverage in the two sub-counties for the period under review was at 86.1% which was higher compared 68 percent in 2015. 1.8 percent of the households still defecate in the open while 12.2 percent use neighbor shared traditional or improved latrine. Household storage of water in closed containers was at 94.1 percent with 5.9 percent still using open containers. Water for drinking was sometimes treated although in some areas there was shortage of water treatment tablets at the local markets. Households' awareness on basic hygiene practices was 94.7 percent with 35.7 percent washing during preparation of food. 36.3 percent of households treated their water before consumption.

Table 12: Food security trends in Tharaka Nithi County

Indicator	Long rains assessment, July 2016	Short rains assessment, February 2017
Maize stocks held by households	22810 (90kg bags)	19540 (90kg bags)
Livestock body condition	Good	Good
Water consumption (litres per person per day)	20 litres per person per day	17 litres per person per day.
Price of maize (per kg)	Kshs 32	Kshs 45
Distance to grazing	3 km	3 km
Terms of trade	103 kg of maize/goat	54 kg of maize/goat
Coping strategy index	13	15
Food consumption score	91% acceptable	88 % acceptable

Education

Enrolment

There are a total of 106 and 59 primary schools in Tharaka South and North Sub counties respectively. The total enrolment increased by 5.5 percent to 39,324 pupils which is within the normal growth rate. The total enrolment for ECD stands at 8,100 spread in the 174 in the two sub-counties. School attendance remained at approximately 98 percent which was normal as currently there were no external drivers affecting children attendance.

School meals programme

There are a total of 52 and 13 primary schools under Home Grown School Meals Program (HGSMP) in Tharaka North and Tharaka South respectively with a total of 21,695 beneficiaries. Similarly, an additional 36 primary schools with a total enrolment of are 6,954 in Tharaka South have a school feeding programme sponsored by International Aid Services. The schools with the programs have enhanced enrolment, retention and better concentration of children in learning activities compared to schools without especially during this period of reliance on markets for food as a result of crop failure. From the interviews with Education officials, it was established that most schools in the county had water tanks with exception of approximately 20 that were lacking. Some of the schools visited indicated that the tanks had no water which may require water trucking to facilitate cooking and consumption at the schools.

4.0 Food Security Prognosis

4.1 Prognosis assumptions

- The long rains of March to May are likely to be late and to be below average in performance
- Market are likely to be functional
- Food prices are likely to remain high
- Supply of food commodities from outside the county are likely to continue.
- Pasture and browse is likely to deteriorate
- Farm inputs are likely to be availed in time for the planting season.

4.2 Outlook for 3 months (February to April)

The households are likely to continue relying on markets purchases after exhaustion of the harvested food stocks. Households that are using coping mechanisms in an effort to compensate for the foregone income and food are likely to increase. The situation will further be compounded by the increasing staple food prices and reduced on-farm casual labour opportunities. The low household incomes will likely limit food access by most of the households. The proportion of children at risk of malnutrition (MUAC<135mm) is likely to increase during this period. The food situation is on a worsening trend.

Livestock productivity is expected to remain low as the below average rainfall will not support adequate pasture and browse regeneration. Further water and pasture stress are likely to occur throughout the period. The distance to watering points is expected to progressively increase in the lean period in all livelihood zones due to drying up of the water sources as a result of the dry spell. Livestock market prices are expected to drop further due to increase of volumes of livestock offered for sale after exhaustion of alternative sources of income and progressively

poor body condition. Milk production and consumption per household across the livelihood zones was expected to decrease in tandem with decreased access to pasture, browse and water. Livestock body condition is expected to deteriorate from good to fair in the mixed farming and rain-fed cropping and marginal mixed farming zones with the exception of cattle in Kamarandi and Kamanyaki where the body condition will be fair to poor. Water consumption is expected to reduce further across all the livelihood zones. In schools, attendance is likely to decline while absenteeism was expected to increase due to lack of meals both at school and at household level especially in the schools without feeding programmes.

4.3 Food Security outlook for the Last Three Months

The long rains will likely result in below-average crop production based on the current projections of below normal rainfall. Given that it will be the second consecutive poor harvest, household food availability is likely to continue declining. It is likely that there will be a reduction in food commodities in the markets due to the consecutive below normal production from the two seasons it is likely that this will culminate in continued increasing food prices. There is likelihood for an increased reliance on market supplies for household provisions. Pasture and browse regeneration, water volumes at source points and return trekking distances are likely to improve for a short period although below normal, however, higher volumes of livestock offered for sale at markets thereby depressing prices further. The body condition of livestock across all livelihood zones is expected to deteriorate and farmers are likely to continue to disposing off their livestock in fear of losing them. Calving and kidding rates are likely to be below normal given the poor availability of feed and nutritional stress resulting in decreased milk availability and consumption and sales at the household level. Consequently decline in livestock productivity is likely lead to low income levels and limiting of household food access. Households are likely to continue experiencing food gaps due to the sustained reduction in stocks, incomes and livestock productivity. Children at risk of malnutrition (MUAC<135mm) is likely to reduce marginally before worsening. School attendance is also expected to decline further.

5.0 Conclusion and interventions

5.1 Conclusion

5.1.1 Phase classification

The County was classified in Minimal Food security Phase (IPC Phase 1) but on a worsening trend. However, some parts in the marginal mixed farming zone are likely to deteriorate into Stressed Food Security phase (IPC Phase 2) especially Gatunga, Chiakariga and Marimanti wards as a result of the increasing food prices, reducing water levels, deteriorating pasture and browse condition, increasing trekking distance ,reduced milk availability, reliance on markets for food purchases and decline on livestock prices . The factors to be monitored include forage situation, distance to water sources, water availability and access, livestock body condition, food and livestock prices, human wildlife conflicts and nutrition status of the children under five years.

5.1.2 Summarized key findings

The assessment established that the population in need of immediate food assistance for the next six months (March to August) is 10 to 15 percent of the populations in Gatunga, Chiakariga and Marimanti wards. The cumulative effect of two consecutive previous good seasons short rains 2015 and 2016 long rains had generated substantial improvement of household food security in other parts of the county. The county was experiencing over 70 percent of crop failure especially in the marginal mixed farming zone. Livestock body condition was generally good across all livelihood zones and is expected to be supported by the available pasture and browse for the next two months and supplemented with failed crop residues. The terms of trade were not favourable to the livestock farmers and are likely to worsen with time as a result of declining livestock prices. The prices of maize and other staples were on an increasing trend thereby limiting the household purchasing power. Distances to water sources have increased due to inadequate recharges as a result of the depressed rainfall. The children at risk of malnutrition (MUAC<135mm) was 20 percent higher than same period in 2015.

5.1.3 County ranking

Livelihood zone	Coping strategy index	Food consumption score	County Rank	Ward ranking	Rank	Percentage in need of assistance
Marginal mixed farming zone	19.7	88% acceptable, 12% borderline, 0% poor	Tharaka North (1)	Gatunga	1	10-15
				Mukothima	5	
Mixed farming zone	12.4		Tharaka South (2)	Marimanti	3	10-15
				Chiakariga	2	10-15
				Nkodi	4	
Rainfed cropping zone	7.7					
Tharaka County mean	15					

5.2 Ongoing Interventions

5.2.1 Food interventions

- Home Grown School Meals Program (HGSMP) in Tharaka North and Tharaka South respectively with a total of 21,695 beneficiaries.
- 36 primary schools in Tharaka South with a total enrolment of are 6,954 beneficiaries of school feeding programme sponsored by International Aid Services

5.2.2 Non-food interventions

Sub County	Intervention	Location	No. of beneficiaries	Implementers	Impacts in terms of food security	Cost	Time Frame
Agriculture							
Tharaka North & Tharaka South	Promotion of post-harvest grain management and preservation	all	12144	MOA,NDMA, County Government	Improved post-harvest management , better prices	-	End of March 2018
Tharaka North & Tharaka South	Training on storage, utilization of locally produced foods	all	12144	MOA,NDMA, County Government	Improved post-harvest management , diversified food diets	-	End of March 2018
Tharaka North & Tharaka South	Promotion of crop method demonstration sites(farmer field schools)	all	6500	MOA,NDMA, County Government	Improved production	-	End of May 2018
Tharaka South	Expand Cereal enhancement program	All	6000	MoA/Stakeholders	Increased production of legumes and small cereals	-	2 years
Livestock							
Tharaka North & South	Rural Livelihood (Upgrading Goats for Milk and meat production)	Tharaka North & South	225	Upper-Tana and Livestock Production Office	It will improve production and availability of Milk/meat per Household which has an impact on Nutrition of the Households and boost household income	Kshs. 4.8M	From March 2016 (continuous)
Tharaka North & South	(Rural livelihood) Upgrading chicken for meat and eggs production	Tharaka North & South	139	Upper-Tana and Livestock Production Office	It will improve production and availability of eggs and white meat per	Kshs. 2M	From March 2016 (continuous)

					Household which has an impact on Nutrition of the Households and boost household income		
Tharaka North & South	(Rural livelihood) Dairy farming	Tharaka North & South	45	Upper-Tana and Livestock Production Office	It will improve production and availability of milk per Household which has an impact on Nutrition of the Households and boost household income	Kshs. 2.1M	From March 2016 (continuous)

5.3 Recommended Interventions

5.3.1 Food interventions

- Expanded School Meal Programme(ESMP) for the 97 primary school not covered by the home grown school programme and Day Secondary Schools
- Schools to be supported with water trucking and tanks where not available
- Food for asset to targeted population

5.3.2 Non-food interventions

Sub County	Intervention	Location	No. of beneficiaries	Implementers	Required Resources	Available Resources	Time Frame
Agriculture	Provision of traditional high value crops seeds and other inputs	All	6000	MoA/Stakeholders	Facilitation and Demonstration Materials	Technical personnel, vehicles	End of March 2018
	Promotion of post harvest grain management,	all	8500	MOA,NDMA,County	Facilitation and	Technical personnel,	End of March 2018

	preservation & Utilization			Government	Demonstration Materials	vehicles	
	Promotion of crop method demonstration sites(farmer field schools) and conservation agriculture	all	6500	MOA,NDMA ,County Government	Facilitation and Demonstration Materials	Technical personnel, vehicles	End of May 2018
Livestock							
Tharaka North & South	Community Sensitization on the importance of fodder preservation, controlled grazing and on farm destocking	All	2,700	County Government, Livestock Production, Caritus Meru, NDMA, CDF	Kshs. 2.9M	Personnel	January to March, 2017
Tharaka North & South	Vaccination of Cattle against <i>Lumpy skin disease (LSD)</i> and goats against <i>contagious caprine preulopneumonia (CCPP)</i>	All	1,200	County Government, Veterinary Department, Caritus Meru, NDMA, CDF	Kshs. 3.3M	Personnel	January to March, 2017
Tharaka North & South	Mass deworming	All	8,000	County Government, Veterinary Department, Caritus Meru, NDMA, CDF	Kshs. 4.2M	Personnel	January to March, 2017

ANNEXES

Implementation status of Recommended Interventions (from 2016 LRA)

Intervention	Location	No of beneficiaries	Cost in Ksh	Implementers	Remarks
--------------	----------	---------------------	-------------	--------------	---------

description/type					/actors	✓ Implementation status (ongoing, completed, not completed)
		Male	Female			✓ % completion status
Community sensitization on fodder preservation and controlled grazing	Tharaka North & south	1,500		Kshs. 1.5M	Livestock production office, county government and NDMA	35% implemented and stalled due to insufficient funds
Community sensitization on on-farm destocking and proper stocking rate	Tharaka North & south	2,000		Kshs. 1M	Livestock production office, county government	22.5% implemented and stalled due to insufficient funds
Vaccination of cattle against foot and mouth disease (FMD)	Tharaka North & south	6,000		Kshs. 2M	Veterinary Department	Was not implemented due to lack of funds