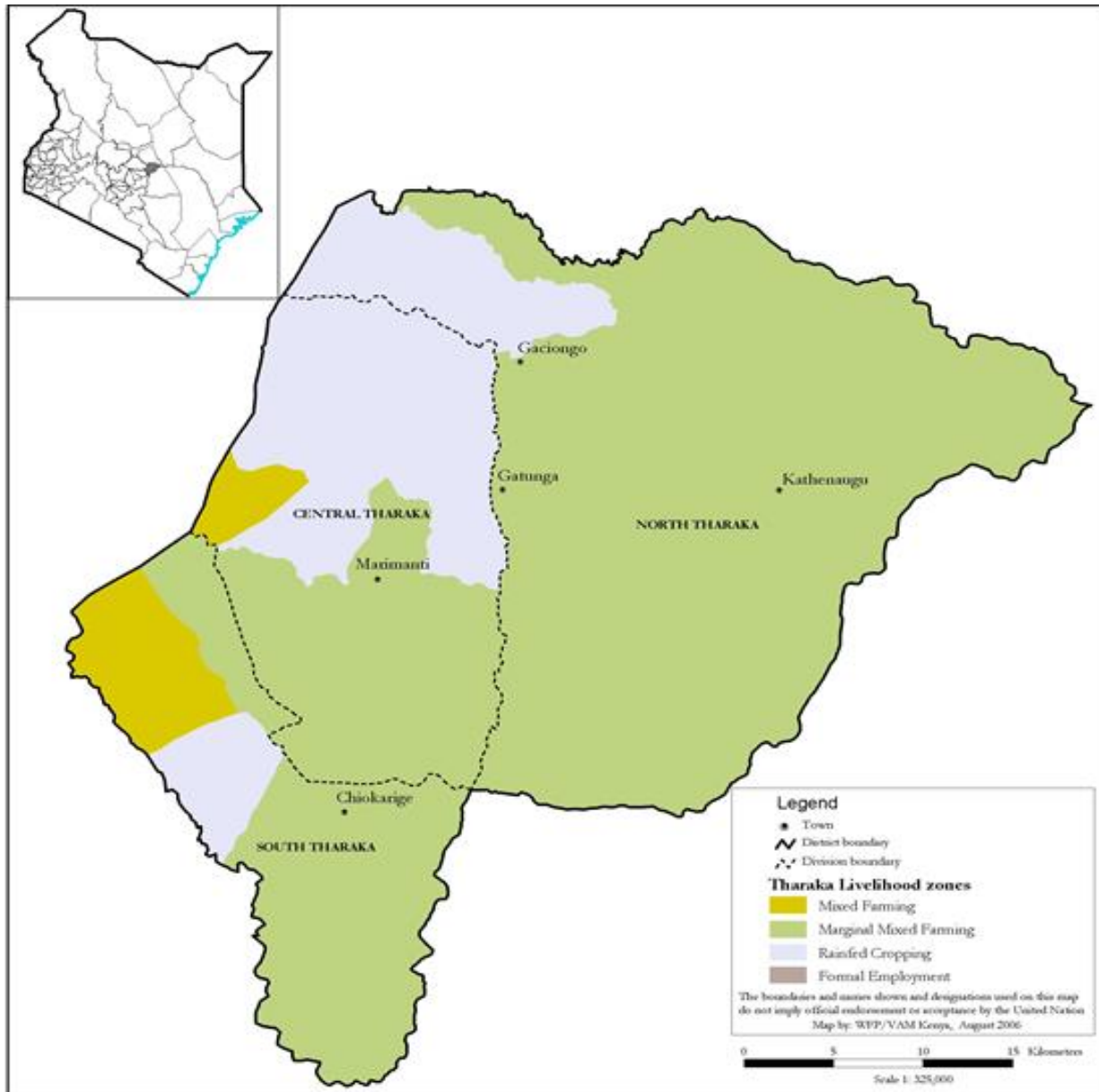


**THARAKA NITHI COUNTY**  
**2016 LONG RAINS FOOD SECURITY ASSESSMENT REPORT**



**A Joint Report by the Kenya Food Security Steering Group (KFSSG)<sup>1</sup> and Tharaka Nithi County Steering Group (CSG)**

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## 1.0 INTRODUCTION

### 1.1 County Background

Tharaka Nithi County has four sub-counties, namely: Tharaka North, Tharaka South, Maara and Chuka. The semi-arid parts of the Tharaka Nithi County namely; Tharaka North and Tharaka South sub-counties (Tharaka Constituency) were the areas covered during the assessment. Tharaka South and North cover an area of 1,569 square kilometers with a total population of 130,098 people (KNBS 2009 census). The area has three livelihood zones; mixed farming (MF), marginal mixed farming (MMF) and rain-fed cropping (RFC) as seen in figure 1.

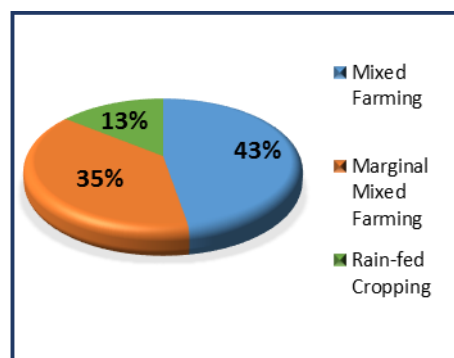


Figure 1: population by Livelihood zones

## 2.0 COUNTY FOOD SECURITY SITUATION

### 2.1 Current Food Security Situation

All the livelihood zones in Tharaka County are currently in ‘None or Minimal’ food security phase classification (IPC Phase I). The current factors affecting food security include poor road and water infrastructure, poor storage facilities at household leading to post harvest losses, immediate disposal for sale after harvesting and poor rainfall distribution. In May 2016, the food consumption scores (FCS) for the acceptable category was 91 percent implying an improved household dietary diversity and food frequency which has resulted from sufficient food production and favorable market prices of food commodities. The coping strategy index (CSI) was 13 in May 2016 which implied that households were not frequently engaging in consumption based coping strategies with majority of households not adopting any coping strategies. The proportion of children at risk of malnutrition was 6.8 percent in June 2016 slightly below long term average (LTA) of 7.3 percent. Most households are consuming two to three meals day across all livelihood zones which is normal at this period of the year.

### 2.2 Food Security Trends

Table 1. Food security trends

Indicator	Current situation	Previous season
Food security phase	None or Minimal (IPC phase1)	None or Minimal (IPC Phase 1)
Household food stocks (Maize)	22810 (90kg bags)	118250 (90kg bags)
Livestock body condition	Good	Good
Household water consumption, Rainfed agriculture zone	20 ltrs pppd	30 ltrs pppd
Household water consumption, marginal mixed zone	16 ltrs pppd	20 ltrs pppd
Household water consumption, mixed farming zone	20 ltrs pppd	25 ltrs pppd
Terms of trade	103 kg of maize/goat	113 kg of maize/goat
Coping strategy index	13	20
Food consumption score(Acceptable)	91% acceptable	88% acceptable
Children at risk of malnutrition	6.8%	6.7%

## 2.3 Rainfall Performance

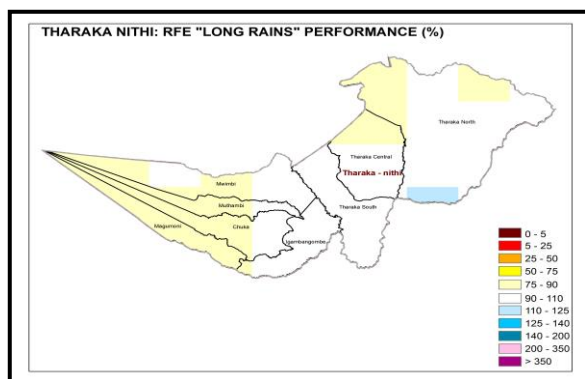


Figure 2. Rainfall performance as percent of normal

The onset of the long rains occurred in first dekad of April being late as the area normally receives the rains in the first dekad of March. Most parts of the County received between 75-110 percent of normal rainfall except some pockets of Tharaka North in areas of Kamaguna (figure 2) which received between 110-125 percent of normal rainfall. Spatial distribution was uneven while temporal distribution was poor. Cessation was early during the second dekad of May as compared to third dekad normally.

## 3.0 IMPACT OF RAINFALL PERFORMANCE, SHOCKS AND HAZARDS

### 3.1 Crop Production

The County is mainly short rains dependent. The main crops grown in the County are maize, green grams, millet, sorghum and pigeon peas. Maize, millet, pigeon peas are most produced in the rain fed and mixed farming for food while green grams, sorghum and cowpeas take precedence in the marginal mixed farming zone. Green grams crop is largely produced for sale and contribute only 10 percent to households food needs in the marginal mixed farming zones while maize contribute eight and 20 percent food in marginal mixed and rain fed zones respectively.

#### Rain fed crop performance

The area put under production decreased by 50 and 15 percent for maize and millet respectively while green grams increased by 33 percent. Decrease in area put under maize and millet production was as result of farmers attempt to switch to sorghum and green grams production. Production decreased by 83, 9 and 59 percent for maize, green grams and millet respectively (Table 2) as result of decrease in area put under production and poor performance of 2016 long rains.

Table 2. Rain fed crop production

Crop	Area planted during 2016 long rains season (Ha)	Long Term Average area planted during the long rains season (Ha)	2016 long rains season production (90 kg bags) Projected	Long Term Average Production during the Short rains season (90 kg bags)
Maize	4020	8114	10400	58859
Green grams	18050	13550	54000	59450
Millet	10200	11950	42500	103500

#### Irrigated crop

The area put under production for banana and pawpaw increased by 11 and 46 percent respectively while maize decreased by 13 percent. Decrease in area put under maize production was as result of increase in area put under bananas and pawpaw. Production for banana, and pawpaw decreased by one and 30 percent respectively while maize increased by 275 percent as compared to long term average (Table 2).

**Table 3: Irrigated Crop Production**

Crop	Area planted during the 2016 Long rains season (ha)	Long Term Average (3 years) area planted during Long rains season (ha)	2016 Long rains season production (Tones) Projected	Long Term Average (3 years) production during 2016 Long rains season (Tones)
Banana	500	450	8910	9000
Pawpaw	350	240	350	500
Maize	200	230	3000	800

**Maize Stocks**

The stocks held by household and the traders decreased by 82 and 16 percent respectively as compared to the long-term average (Table 4). The decrease is largely attributed to poor performance of long rains since the available stocks are mainly carryover from short rains season. There are no millers and NCPB store in the county. The current stocks are expected to last until next harvest with supplementation of green grams and pigeon peas.

**Table 4. Available maize stocks**

Maize stocks held by	Quantities held currently (90-kg bags)	Long Term Average quantities held (90-kg bags) at similar time of the year
House Holds	22,810	81,000
Traders	3,700	4,400
Millers	0	0
NCPB	0	0
<b>Total</b>	<b>26,510</b>	<b>85,400</b>

**3.2 Livestock Production**

The main livestock species in the county and a cross all the livelihood zones include cattle, goats, sheep and chicken. Livestock contribute 40, 15 and 10 percent to cash income in marginal mixed farming, mixed farming and rain fed cropping respectively. Livestock related products such as milk, hides, skin and other by-products has been source of food and cash income to farmers directly and indirectly enabling them to meet their basic needs.

**Forage Condition**

Pasture and browse condition is good in mixed farming and rain-fed agriculture while fair to poor in marginal mixed farming livelihood zone. With the onset of the dry spell and poor performance of long rains, pasture and browse is expected to deteriorate across all livelihood zones and is expected to last for two months in mixed farming and rain-fed agriculture while one month in marginal mixed farming livelihood zone.

**Livestock Productivity**

The livestock body condition for all species (cattle, goat and sheep) is good across all livelihood zones which is normal situation at this time of the year (Table 5). Currently there are no constraints to access of pasture and browse and substantial post-harvest crop residues are projected to sustain the body conditions until the next rain season.

**Table 5. Livestock body condition**

Livelihood zone	Cattle		Sheep		Goat	
	Current	Normally	Current	Normally	Current	Normally
Mixed farming	Good	Good	Good	Good	Good	Good
Marginal mixed farming	Good	Good	Good	Good	Good	Good
Rainfed Agriculture	Good	Good	Good	Good	Good	Good

**Milk production, Consumption and prices**

Milk production and consumption was below normal because calving/kidding/lambing is expected in mid-late August. Average milk prices are normal across all livelihoods (Table 6).

**Table 6. Milk production, consumption and prices**

Livelihood zone	Milk Production (Litres)/Household		Milk consumption (Litres)per Household		Prices (Ksh)/Litre	
	Current	LTA	Current	LTA	Current	LTA
Mixed farming	2	3	1	2	50	60
Marginal mixed farming	1	2	1	2	40	50
Rainfed Agriculture	1	3	1	3	50	60

**Tropical livestock units (TLU) and Birth rates**

Currently, the average TLUs per household has reduced compared to the TLUs in 2010, thus limiting access to food by households that rely heavily on livestock for food and cash income. The herd number for each livestock species has maintained a downward trend since the last normal year, hitherto, it shows improving signs though at a very slow phase (Table 6).

**Table 7. Tropical livestock units for good year (2010) as compared to current year (2016)**

Type of livestock	Poor class		Middle class	
	2010	Current	2010	Current
Cattle	2	1	4	3
Goats	8	4	12	11
Sheep	2	0	5	3

**Birth rate**

Currently, the birth rates are low which is a normal situation at this time of the year because the kidding/calving/lambing season has not yet commenced and the same is expected to start and reach to its peak by mid-late August.

**Migration.**

Currently, there are reported incidence of internal livestock migration (from kamachabi and kiamiramba) towards Meru national park which is a normal situation at this time of the year. The situation requires close monitoring to avoid outbreak of livestock diseases.

**Livestock disease and mortalities.**

Currently, there are suspected cases of foot and mouth disease (FMD), lumpy skin disease(LSD) in cattle, rabies in goats and dogs, CCP in goats and Newcastle disease (NCD) in chicken in some parts of the two sub-counties. Responsible departments have intervened through vaccinations, prompt supportive therapy and isolation advises to the affected farms. The main endemic diseases in the two sub-counties are heart water disease, pneumonias, trypanosomiasis

and helminthosis affecting cattle, goats and sheep; and newcastle disease, ectoparasitism, fowl typhoid and infectious bronchitis affecting poultry.

### Water for livestock

The main sources of water were rivers, shallow wells and boreholes which were adequately recharged as result of previous short rains together with additional long rains recharge. Trekking distance and watering frequency was below normal. Available water sources are expected to last up to three months which is normal at this period of the year (Table 8).

**Table 8. Water 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	1-2	3	3	2	2
Rainfed Agriculture	1-2	2-3	3	3	2	2
Marginal mixed farming	3-5	4-6	3	3	2	2

### 3.3. Water and Sanitation

The major sources of water for domestic use are: permanent and seasonal rivers, boreholes, dams/pans, piped water system, springs and sand dams. The long rains recharged water sources to more than 80 percent.

**Table 9. Water and sanitation**

Sub county / livelihood zone	Distance to Water for Domestic Use (Km)		Cost of Water (Kshs./20litres)		Waiting Time at Water Source (Minutes)		Average HH Use (Litres/person/day)		Projected duration availability (months)
	Normal	Current	Normal	Current	Normal	Current	Normal	Current	
Mixed farming	2.5	1.5	20	15	20	16	15	20	3
Rainfed Agriculture	2.5	2	20	20	20	16	15	20	3
Marginal mixed farming	5	4	30	30	30	20	15	16	3

Water consumption per person per litre per day and waiting time at water source was normal across all livelihood zones and below long term average. Water sources are expected to last up to three months which is normal at this period of the year (Table 9).

### 3.4 Markets and Trade

#### Market operations

The main markets in the region are Gathangachini, Gatunga, Marimanti, Chiakariga, Mukothima and Tunyai. The main livestock in the markets were cattle, sheep, goats and chicken while main cereals were maize, sorghum, millet, cowpeas and green grams. Market operations were normal during the period under review.

#### Maize price

Prices in 2016 were lower than 2015 throughout the months due to good performance of short rains which resulted to good harvest. The prices have been rising steadily from April to July 2016 as result of poor long rains harvest for maize price. Prices are expected to increase as farmers exhaust carryover stocks.

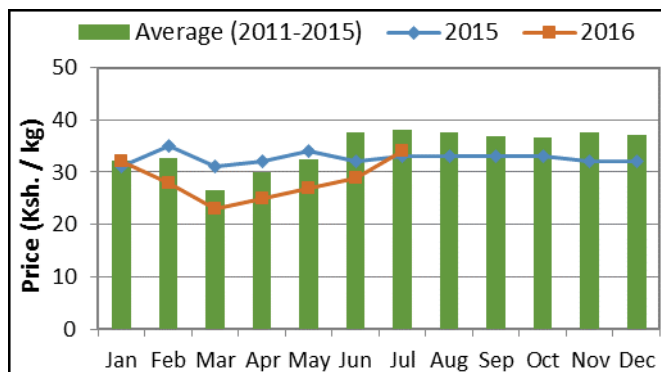


Figure 3. Maize prices

#### Goat prices

Goat prices have remained stable since January 2016. The current price is 37 percent above the LTA and 20 percent above July 2015 prices (figure 4). The high price is attributed to the current good body condition of goats and the gradual scarcity occasioned by farmers holding on to livestock during good seasons. Goat prices are expected to decrease as farmers flood the market with livestock for sale in effort to purchase food to fill the food gap caused by below average long rains harvest.

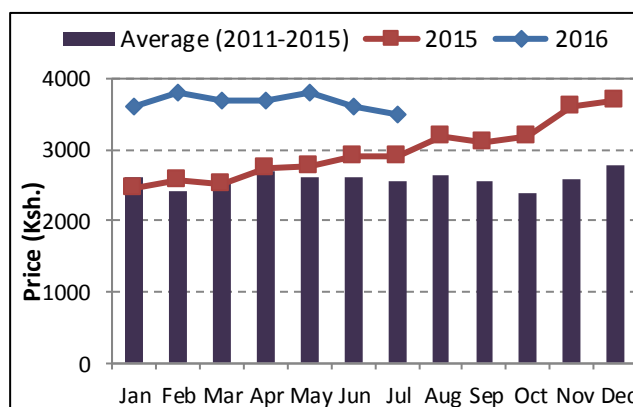


Figure 4. Goat Prices

#### Terms of trade

Livestock-to cereal terms of trade (ToT) improved in the first three months of 2016 then started declining from March. Nonetheless, the trend remain favorable to livestock farmers and is currently 54% above LTA and comparable to July 2015 prices. Proceeds from sale of a goat can purchase 103 kg of maize which can sustain a household for 3 months thus improving food availability for households in marginal mixed farming zone who rely on markets. ToT are expected to deteriorate as maize price increases with decreasing goat price.

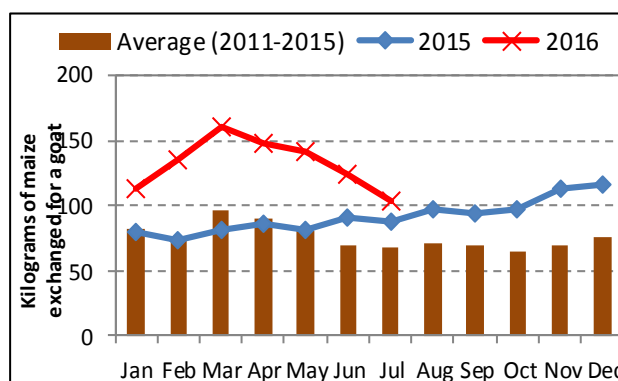


Figure 5. Terms of trade



### 3.5 Health and Nutrition

#### Morbidity patterns

Morbidity cases for both children under five years and general population have generally reduced during the period January to June 2016 as compared to same period in 2015. Reduction in morbidity was due to health promotions by county government on hygiene and use of mosquito nets (Table 10).

**Table 10: Morbidity cases for children under five and general population**

Reported Morbidity cases for children under five				Reported Morbidity cases for General Population			
Disease	Jan-June 2015	Jan-June 2016	% Change	Disease	Jan-June 2015	Jan-June 2016	% Change
Disease of the respiratory system	12900	10908	-15.4	Disease of the respiratory system	23921	26516	+10.8
Malaria	4056	2804	-30.9	Malaria	7107	5847	-19.5
Pneumonia	2395	2343	-2.2	Skin disease	6932	5672	-17.3
Intestinal worms	2291	1693	-37.2	UTI	2011	2797	-35
Skin Disease	2398	2131	-11.1	Rheumatism	5840	4755	-8.9

#### Epidemic prone diseases

The epidemic prone diseases increased between January to June 2016 as compared to similar period last year except measles which reduced by 85 percent (Table 10). The increase was as result of poor hygiene practises and health seeking behaviours.

**Table 10: Epidemic prone diseases**

Epidemic	January –June 2015		January –June 2016	
	No of cases	Reported Deaths	No of cases	Reported Deaths
Measles	183	0	27	0
Cholera	0	0	103	0
Dysentery	70	0	183	0
Diarrhoea	895	0	1886	0
Malaria	2866	0	3419	0
Typhoid	483	0	1106	0

#### Immunization coverage

Fully immunized child coverage increased from 52 percent in 2015 to 56 in 2016 percent, though it is still below the national target of 80 percent. The improvement is attributed to immunization campaigns and community sensitization on the importance to have children immunized.

**Table 11. Immunization coverage**

Year	Percentage of fully immunized children in the district (Source DHIS MOH 710 Vaccines and Immunizations)	Percentage of children immunized against the mentioned diseases in the district Source Nutrition survey
January to June 2016	56	OPV 1 58.7 OPV 3 54.8 Measles 40.8
January to June 2015	52	OPV 1 55 OPV 3 50 Measles 38

## Nutrition Status and Dietary Diversity

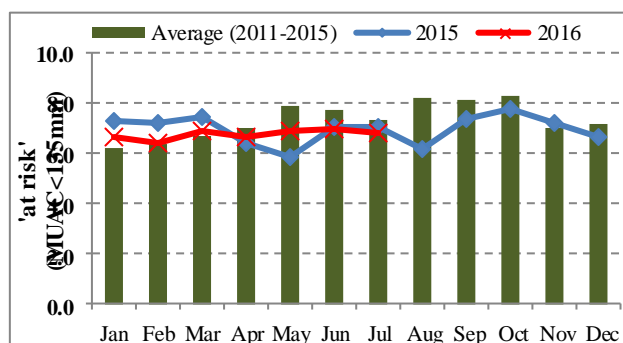


Figure 6: Children under five at risk of malnutrition

The percentage of children at risk of malnutrition by mid upper arm circumference (MUAC < 135mm) remained stable and below long term average. (Figure 6). The stability is attributed to good dietary diversity which was as result of good performance of short rains season. The situation is likely to remain stable with supplement food crops like pigeon peas and green grams.

Food consumption has generally improved with proportion on households with acceptable food consumption score (FCS) increasing to 91 percent in all livelihood zones (Table 11), which is indicative of improve household dietary diversity and food frequency that has resulted from adequate hoshold stocks and favourable market prices of food commodities. Most households across all livelihood zones were consuming 2-3 meals day consisting of a staple and vegetables on a daily basis which were complemented by pulses and oil.

Table 11. Food consumption score (FCS).

Period	Poor	Borderline	Acceptable
May 2016	1.0	7.9	91.1
May 2015	6.1	21	72.9

### Coping Strategy

The mean coping strategy score (CSI) has reduced as compared to the same period in 2015 (Figure 12), implying that households are less frequently engaging in consumption-based coping strategies and the coping strategies were less severe.

Table 12. Showing Coping Mechanisms

Coping strategy Index May 2015	Coping strategy Index May 2016	Most utilized coping strategy (Narrative)
20	13	Households not adopting coping strategies

### Sanitation and Hygiene

Latrine coverage has remain the same in all livelihood zones compared to last year and is above national coverage of 61 percent (Table 13).

Table 13. Latrine coverage

Division/Livelihood zone	January to June 2016 % Coverage	July to December 2015 % Coverage
Tharaka South	67	67
Tharaka North	70	70

## **4.0. FOOD SECURITY PROGNOSIS**

### **4.1 Prognosis Assumptions**

- The short rains will be near normal and timely
- Markets will be functional and prices remain stable
- The livestock body condition will be stable for the next three months
- The household stocks will be maintained with the ongoing harvesting

### **4.2 Food Security Outcomes for the Next Three Months (August-October)**

It is expected that there will be no food gaps because of availability of other staple food varieties like pigeon peas, green grams and millet. Nutrition situation will remain stable across all livelihood zones. Milk production and consumption per household across the livelihood zones are expected to increase in September after calving, kidding and lambing.

### **4.3 Food Security Outcomes for the Last Three Months (November-January)**

The Short rains season is likely to be normal/above normal which would will rejuvenate the pasture and browse. Open water sources will likely to be replenished and thereby resulting to decreased distances. As livestock return to their wet season grazing areas, milk production is likely to increase at household level which will likely improve the nutritional status of children particularly in marginal mixed farming livelihood zones.

## **5.0. CONCLUSION AND RECOMMENDATIONS**

### **5.1 Conclusion**

The county was classified in the Minimal food security phase (IPC Phase 1) and will likely remain in the Minimal food security (IPC Phase 1) however there is need of close monitoring of marginal mixed farming livelihood zone. Key factors to be monitored include; human disease outbreaks especially Cholera, market functions, increase in morbidity trends of water borne diseases, rangeland conditions and distance to water especially in marginal mixed farming areas. Other factors are livestock diseases.

### **5.2 Summary of Recommendations**

Key recommendation proposed by different sector in the county included;

- Provision of school meals program, provision of sanitary pads and learning materials.
- Conduct integrated outreaches services and provision of food supplements.
- Livestock feed processing by use of crop residues and establishment of feeds reserves.

### 5.3 Sub county ranking

#### Sub county food security ranking (Worst to best)

Sub County	Ward	Food security rank (1-10)	Main food security threat (if any)
Tharaka North	Gatunga	1	Crops failure, depleting pasture and browse, low household stocks long distances to water points, drying of main water sources, poor market infrastructure, increasing food prices,
Tharaka South	Chiakariga	2	Poor crop performance leading to low yields, depleting pasture and browse, minimal household food stock, increasing food prices, increased distances to water points,
Tharaka South	Marimanti	3	Increasing food prices, minimal household food stock, fair market infrastructure, fair crop performance, fair pasture
Tharaka South	Nkondi	4	Minimal household food stock, fair market infrastructure, good to fair pasture
Tharaka North	Mukothima	5	Minimal household food stock, good to fair pasture,

## 6.0. ANNEXES

### 6.1. Ongoing interventions by sector

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Cost	Time Frame
<b>HEALTH</b>						
Tharaka South/North	Vitamin A and Zinc Supplementation IMAM and deworming	All	All children in the sub-county	MoH Aphia plus Kamili	8 M	Continuous
Tharaka south/North	IYCN Interventions (EBF and Timely Intro of complementary Foods)+ Iron Folate Supplementation among Pregnant Women	All	All infants	MoH	12.5 M	Continuous
<b>AGRICULTURE</b>						
Tharaka North	Grain Storage Structure and conservation agriculture	ALL	9000	MOA/FAO	22 M	4YRS
<b>WATER</b>						
Tharaka South	Drilling of borehole	Nkodi	500	County Government	1.8 M	
<b>LIVESTOCK</b>						
Tharaka North	Upgrading Goats and local chicken for meat & milk production	All	200	Upper Tana Natural Resource Management Program/ASDSP	1.6 M	2016 to 2017
Tharaka North	Pasture establishment, management and conservation	All	15	Upper Tana Natural Resource Management, caritus and livestock department	0.5 M	Continuous
Tharaka North	Sensitization of farmers on better Livestock husbandry and improvement honey production	All	250	County Government FAO and livestock department	0.8M	Continuous
Tharaka North Tharaka South	Rehabilitation of Livestock markets, crushes and slaughter houses	Gatunga Marimanti Nkarini	5000	Kenya Semi-Arid livestock Enhancement Support.	5M	Five years

## School meals Programme

Name of sub counties	No. of school	HGSM		Total
		Boys	Girls	
Tharaka South	13	1835	1876	3711
Tharaka North	52	8411	9543	17954
<b>Sub total</b>	<b>65</b>	<b>10246</b>	<b>11419</b>	
<b>Grand total</b>		<b>21665</b>		<b>21665</b>

## 6.2 Proposed Intervention

### Food Intervention Required

No food intervention required

### Non-food Interventions (by sector)

Sub County	Intervention	Location	No. of beneficiaries	Proposed Implementers	Required Resources	Available Resources	Time Frame
<b>HEALTH</b>							
Tharaka South	Nutrition survey	Whole sub-county	All under 5, Pregnant and lactating mothers	MoH, Red Cross, NHP plus, Aphia plus Kamili	2M	Manpower	3months
<b>EDUCATION</b>							
All sub counties	Roof water catchment and storage	All sub counties	28,000	CG WVK	3M	Land	1 year
<b>AGRICULTURE</b>							
Tharaka North	Construction of a NCPB store and setting of irrigation	Mukothima, Gatue, Maragwa, kanjoro and Kathangachini	15000	MOA Stakeholders MOWI	Capital Land Labour	Land	2 years
<b>WATER</b>							
Tharaka South	Repair 20 boreholes and construction water pans, pipeline construction	Gatunga Mukothima, Marimanti	3500	County Government NDMA CG	4M	Skilled labour	2years
Tharaka South	Provision of meters and rehabilitation of treatment works and training of water committees	Chiakariga Marimanti	4000	Water services Trust fund CG	1.5M	Labour	Two years
<b>LIVESTOCK</b>							
Tharaka South	Livestock markets demarcation ,construction and improvement local chicken breed/beekeeping	ALL	6,000	County Government	Public land funds	Personel	2016/2017 financial year
Tharaka North Tharaka south	Pastures establishment, management , conservation , cattle upgrading ,sensitization	All	900	County Government, caritus Meru	20M	Personnel	Continuous