



## Food Security and Nutrition Assessment in Karamoja Sub-Region



### KOTIDO DISTRICT REPORT





Department  
for International  
Development



**IBFAN Uganda**



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# Abbreviations

ADHO	Assistant District Health Officer		Action Network
ADRA	Adventist Development Relief Agency	ITC	In-patient Therapeutic Care
CAFH	Community Action for Health	IYCF	Infant and Young Child Feeding
CAO	Chief Administrative Officer	LC	Local Council
CDO	Community Development Officer	MA	Monitoring Assistant
cIYCF	Community Infant and Young Child Feeding	MAD	Minimum Acceptable Diet
DCDO	District Community Development Officer	MCHN	Maternal Child Health Nutrition
DEO	District Education Officer	MDD	Minimum Dietary Diversity
DEWS	District Early Warning System	MMF	Minimum Meal frequency
DHI	District Health Inspector	NAADS	National Agriculture Advisory Services
DLG	District Local Government	NUSAF	Northern Uganda Social Action Fund
DPMO	District Production and Marketing Officer	OTC	Out-patient Therapeutic Care
DPT	Diphtheria	SAM	Severe Acute Malnutrition
FCS	Food Consumption Score	SC	Sub County
GAM	Global Acute Malnutrition	SCDO	Subcounty Community Development Officer
HDDS	Household Dietary Diversity Score	TA	Technical Assistance
HIV	Human Immune Virus	TLU	Tropical Livestock Unit
HOF	Head of Finance	UGX	Uganda Shillings
IAS	International Aid Services	UNICEF	United Nations Children's Fund
IBFAN	International Baby Food	UNWFP	United Nations World Food Programme
		WHO	World Health Organization

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## Executive Summary

# Executive Summary

Kotido is one of the districts in the Karamoja sub-region faced with chronic food insecurity coupled with high levels of malnutrition that are of public health concern. The Food Security and Nutrition assessment was conducted in June 2017 covering all the 6 sub-counties of Kacheri, Kotido S/C, Kotido T/C<sup>1</sup>, Nakapelimoru, Panyangara and Rengen reaching 665 households, 963 children below 5 years and 667 women of child bearing age.

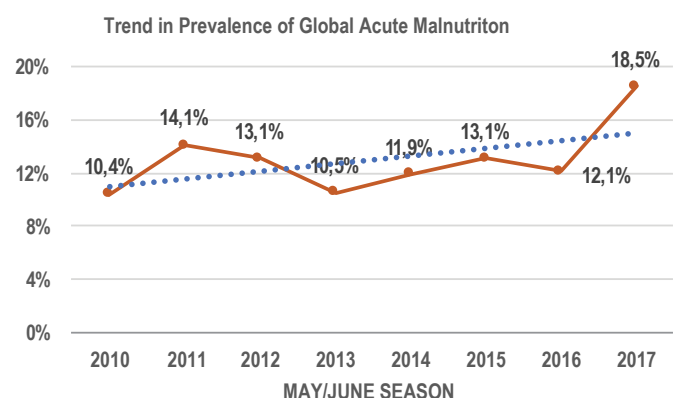
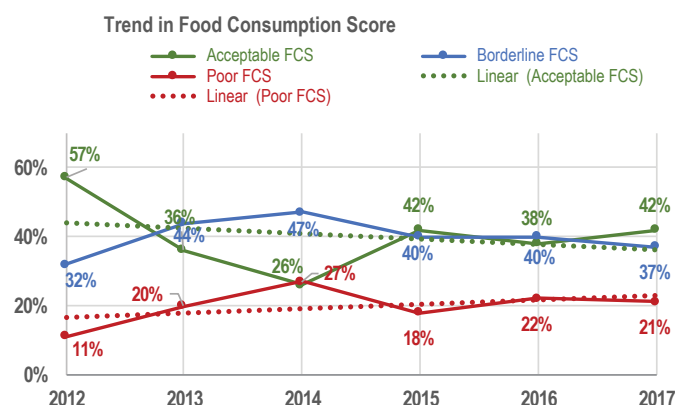
## Key Findings

- Regular school attendance by 65% boys and 56% girls;
- Most households had access to land (97%) and 95% of these, reported having cultivated food;
- Most (84%) of households were registered under one or more Development Assistance Programmes such as MCHN (57%), Food Aid (21%) and School Feeding (15%);
- Almost all households (97%) had access to relatively safe water sources such as boreholes, piped water through taps, protected wells and springs;
- Measles and DPT3 Immunization, Vitamin A supplementation and Deworming coverages were high at 99%, 97%, 90% and 84% respectively following the national protocols/schedules; however,

Child Health Card retention was found to be a problem.

Whereas nearly half (48%) of households were food insecure, the trend in Food Consumption Score over the 6-year period showed a gradual decline in the acceptable FCS. The linear trend [adjacent figure] depicts an increase from 57% to 51% over the years.

The prevalence of Global Acute Malnutrition (GAM) was 18.5% in 2017 which according to WHO threshold is 'critical/very serious'.



<sup>1</sup> Please note: For the purpose of this report, Kotido Town Council refers to Kotido Municipal Council

**Executive Summary**

The linear trend [adjacent figure] shows the steady increase from about 10.4% in 2010 to 18.5% in 2017.

According to analysis, the slow pace in improvement of food security and nutrition situation in the district could be attributed to:

- Diminished food availability as only 16% of households had food stocks and just less than half (45%) had no livestock;
- Low access to food as households had limited incomes amidst increasing food prices that had prompted high prevalence of debt (27%) borrowed primarily to buy food (64%);
- Poor Infant and Young Child Feeding (IYCF) practices with only 5% of children meeting the Minimum Acceptable Diet coupled with high prevalence of illnesses (75%) among children, affecting their ability to effectively utilize the food consumed;

- Poor water and sanitation practices with nearly 58% of households having no toilet facilities and only 19% using water at the recommended rate of 15 litres per person per day, all of which rendered gains in nutrition fragile; and

- The high proportion of female headed households (21%) coupled with low levels of formal education (10%) among mothers were among the key underlying factors to the continued high levels of malnutrition.

The sub-counties worst affected by malnutrition (both women and children) included **Nakapelimoru, Panyangara, and Rengen** while food insecurity was mainly observed in **Kotido SC, Kacheri and Panyangara**.

## Executive Summary

## Recommendations

**Agriculture/climate change:** Promotion of drought resistant and fast growing crop varieties; Introduction of drought resistant breeds of livestock; and Construction of water harvesting structures to promote irrigation; and

**Agriculture/Program area:** Allocation of more funding to support implementation of food security programs and production.

## Association between Nutrition and Household Food Security Indicators

Category	Indicator	Wasting	Stunting	Underweight
Household and social demographics	Gender of household head	✓	✓	✓
	Mother's education level	✓	✓	✓
	Mother's nutritional status by MUAC	✓	✓	✓
	Disability or chronic illness of household head	✗	✗	✗
	Extremely Vulnerable Household	✗	✓	✓
Illness and health environment	Illness in the child	✓	✓	✓
	Fever/malaria in the child	✓	✗	✓
	Diarrhoea in the child	✓	✓	✓
	ARI/ cough in the child	✗	✗	✗
	Quantity of water per person per day	✓	✓	✓
	Access to toilets by the household	✓	✓	✓
Household Food Security	Household Food Consumption patterns	✓	✗	✓
	Household Dietary Diversity score	✗	✗	✗
	Livestock ownership	✓	✓	✓
	Food Expenditure Share	✗	✗	✓
	Household dependence on the market	✗	✗	✗
	Household Coping Strategy Index	✓	✓	✓
	Household Food Security situation	✓	✗	✓



## Household Demographic &amp; Related Factors

# 1. Household Demographic & Related Factors

## 1.1: Household Demographics

Overall, based on the selected demographic factors in Figure 1, there were 21% female-headed households in Kotido district compared to 30% in the sub-region, and 10% extremely vulnerable households compared to 14% average in the sub-region. In addition, 43% of the households were polygamous and 6% headed by persons with disability or suffering from chronic illnesses. However, about half of the households (49%) were registered under the Northern Uganda Social Action Fund (NUSAF).

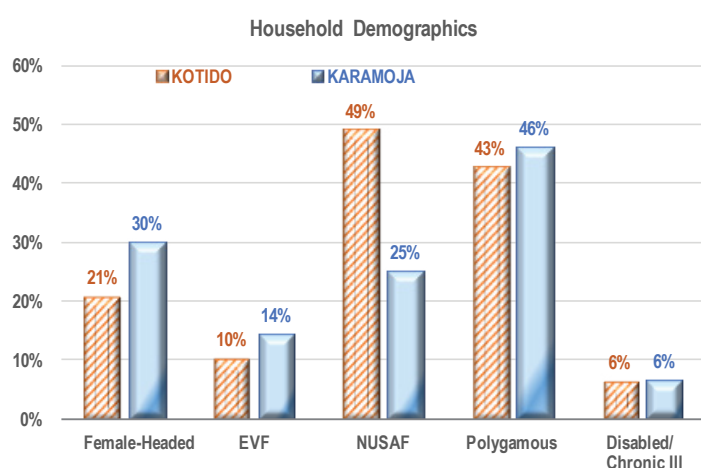


Figure 1: Household Demographics, Kotido District, June 2017

## 1.2: Mothers' Level of Education

There is an association between level of education and household income, which could in-turn influence the household food security, thus positive nutrition outcomes. There is also a significant relationship between the highest education level attained by the mother and household malnutrition. As shown in Figure 2, nine out of 10 mothers in Kotido had no formal education, only 8% had attained primary level and 1% had secondary level education, none was at the tertiary level. All the proportions of mothers who attained different levels of formal education in Kotido district were lower than the average for the sub-region.

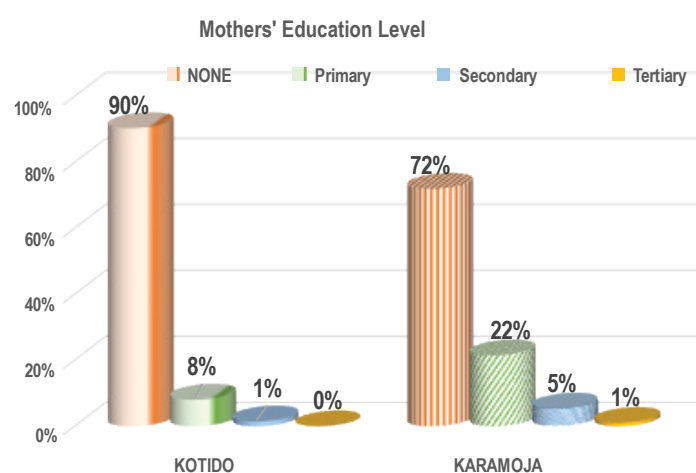


Figure 2: Mothers' Education, Kotido District, June 2017

## Household Demographic & Related Factors

### 1.3: School Attendance

There were 559 boys and 477 girls of primary school age selected from Kotido district, with regular school attendance being reported for only 44% and 26%, respectively. Regular school attendance in Kotido district was much lower than the sub-regional average among boys and girls of 62% and 53%, respectively. As illustrated in Figure 3, inability to pay school fees, uniforms, textbooks was cited as main reason for irregular attendance among boys (42%) but for most girls the main constraint was domestic household chores (58%), which was mentioned by 22% of the boys. It was noteworthy that 22% of the boys were not interested in going to school compared to only 9% of the girls. In addition, child work for cash was mentioned as constraints for 6% and 2% of the girls and boys, respectively.

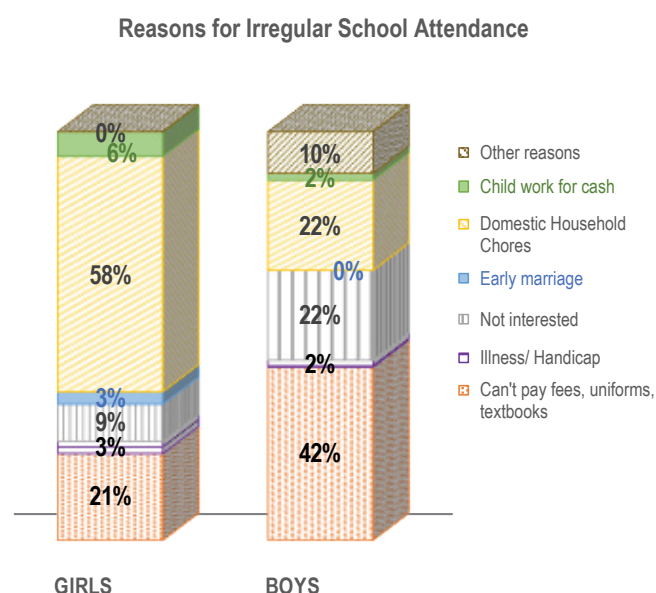


Figure 3: Reasons for Irregular School Attendance

## 2. Food Availability

## 2. Food Availability

### 2.1: Access to Land

Table 1: Access to Agricultural Land

SUB COUNTY	Agricultural Land Access (%)
Kacheri	99%
Kotido S/C	99%
Kotido T/C	84%
Nakapelimoru	97%
Panyangara	97%
Rengen	98%
KOTIDO	97%
KARAMOJA	87%

Table 1 shows that most households (97%) reported having access to land for agriculture production. The findings were much higher than those of the sub-regional average of 87%. The sub-counties of Kacheri and Kotido (99% each), recorded the highest proportion of households having access to land while not surprisingly households from Kotido Town Council had the lowest (84%), which could be attributed to its urban status. Nevertheless, it was only slightly lower than the sub-region's average.

### 2.2: Livestock Ownership

Livestock ownership has been significantly associated malnutrition levels in the household. As illustrated in Figure 4, more than half of households in Kotido district (55%) reported ownership, which was not different from the sub-regional average of 54%. In terms of density, 24% of Kotido households owned more than 2 Tropical Livestock Units (TLU), which was also similar to the sub-regional average of 23%. There was relatively higher density of livestock in the sub-counties of Rengen (36%) and Kacheri (26%), whilst Kotido Town Council registered 16% of households with more than 5 TLU.

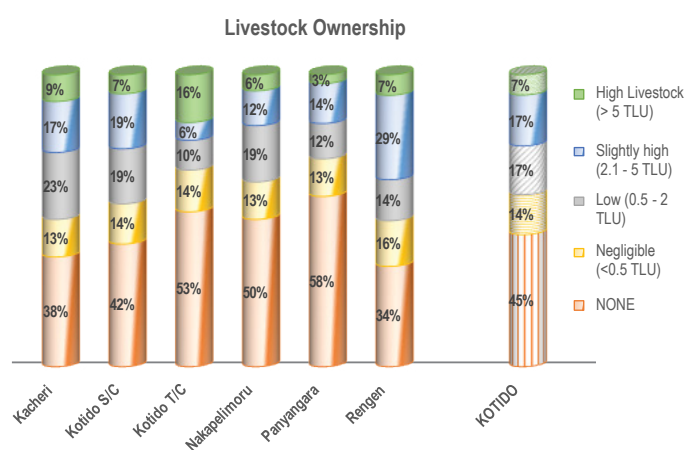


Figure 4: Livestock Ownership in Kotido District, June 2017

Overall, only 3% of the selected households reported having no constraints at all in relation to livestock production. The main constraint mentioned was parasites

## 2. Food Availability

or diseases (40%), followed by shortage of water (18%) and shortage of pasture (15%). Theft and insecurity was cited as a constraint by 12% of households and the lack of veterinary services by 5%.

The main constraint to crop production cited by 78% of households was the drought and low rainfall, followed by inadequate seeds and tools (10%) and insufficient labour (4%).

### 2.3: Cropping Practices

Overall, 95% of the selected households in Kotido district reported having cultivated staples and legumes, with a range from 71% in Kotido Town Council to 98% each in Kacheri, Kotido and Rengen sub-counties. Sorghum was the crop grown by most households (97%), followed by maize, beans millet, and cassava. As illustrated in Figure 5, agricultural production was comparatively higher in the sub-counties of Kotido, Kacheri and Nakapelimoru but lower in Kotido Town Council and Panyangara sub-county. All the households in Panyangara had planted sorghum whilst Kotido Town had the lowest. Beans as a source of protein was planted by highest proportion of households in Nakapelimoru sub-county (34%) whilst Kotido and Panyangara sub-counties had the lowest (26%).

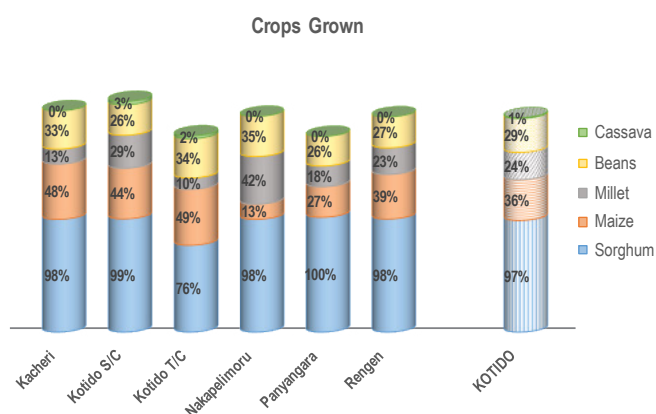


Figure 5: Main Crops Cultivated in Kotido District, June 2017

### 2.4: Household Food Stocks

- Only 16% of households in Kotido district reported food stocks at the time of assessment, slightly higher in Nakapelimoru sub-county (23%) but lower in Panyangara (11%);
- The main source of food stocks was from distribution for 58% of households, own production (35%) and markets for the remaining 7%;
- Of the households with stock, 51% had between 1 and 2 bags; whilst 49% had less than 1 bag;

The estimated mean days of stock for households in Kotido district was 9 days with a range from 6 days in Nakapelimoru sub-county to 17 days in Kotido Town Council.

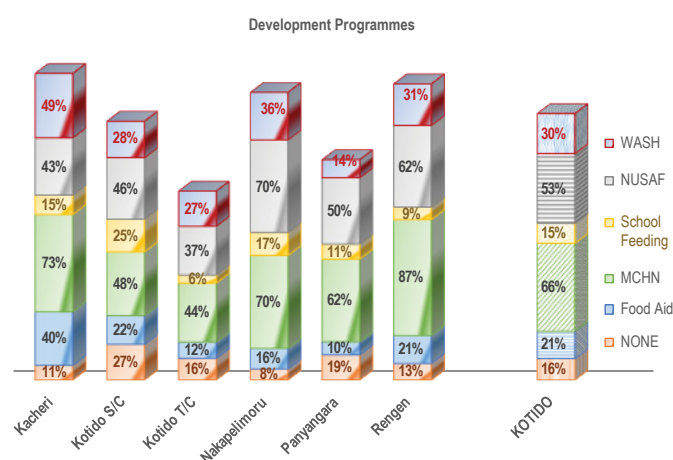


Figure 6: Food and Humanitarian Assistance in Kotido District



## 2. Food Availability

### 2.5: Food and Humanitarian Assistance

Overall only 16% of the households in Kotido district were not registered under any Development Programmes (Figure 6). MCHN reached 57% of the households, followed by NUSAF (53%), WASH (30%) while Food Aid rations reached 21% of households and the School feeding program 15%. Kotido Town Council (27%) and Panyangara sub-county (19%) had comparatively more households that did not receive any assistance while Nakapelimoru sub-county registered the fewest households (8%). Overall, households in Nakapelimoru

and Kacheri sub-counties reportedly benefitted most from the development programmes. Food aid and WASH reached more households in Kacheri sub-county (40% and 49%, respectively), whilst the MCHN and NUSAF reached comparatively more households in Nakapelimoru sub-county (70% each).

The decision in relation to handling of the food was mainly made by the women at 94% of households, while the women and men together took the decision at the remaining 6% of households.

### 3. Access to Food

## 3. Access to Food

### 3.1: Income Earners and Sources

Overall virtually all households in Kotido district had at least one income earner with only 1% without, which was much lower than the sub-region's average of 16%. As illustrated in Figure 7, all the households in Rengen and Panyangara sub-counties had at least one income earner. Only Kotido sub-county registered 4% of households without any income earner. The findings suggest relatively better economic access to food in Kotido district due to the high proportion of income earners.

- The most important source of income reported for 33% of the selected households in Kotido district was Agricultural wage labour, especially from Kotido and Panyangara sub-counties;
- The next most important source of income was Sale of firewood/ charcoal (27%), especially for sub-counties of Panyangara and Rengen; and
- The third most important source of income was Non-agricultural wage labour (12%), especially in the sub-counties of Nakapelimoru and Rengen.

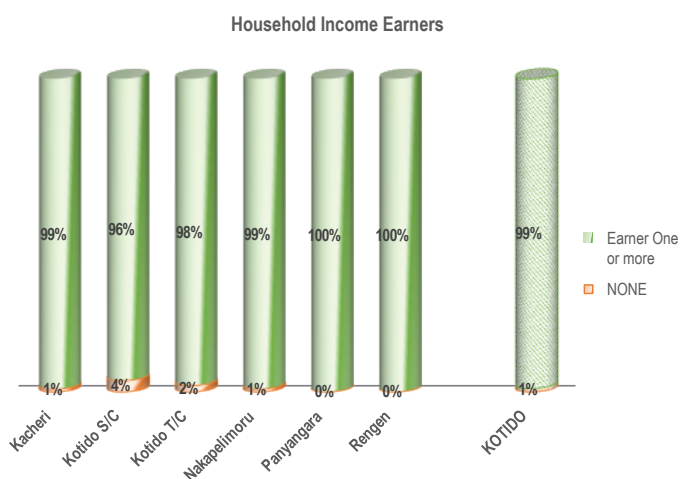


Figure 7: Income Earners in Kotido District, June 2017

- Out of all selected households in the district, the highest proportion of declared income sources were from Kotido sub-county (22%), followed by Nakapelimoru (19%), Panyangara and Rengen (18% each), Kacheri (17%) while lowest was Kotido Town Council at 6%;

### 3.2: Household Debt

- Household debt was declared by 27% of selected households in Kotido district, with a range from 24% each in Kotido Town Council and Panyangara sub-county to 29% each in Kacheri and Nakapelimoru sub-counties;
- Out of the households that had debts, 34% were required to pay interest, with lowest proportion of households in Kotido Town Council (17%) and highest in Kacheri and Rengen sub-counties (41% each);
- Main source of credit for all debts and loans in the district included: Relatives (54%), Bank/ Credit Institution/ Micro-credit project (20%) and Traders/ Shop-keeper (18%); and

### 3. Access to Food

- Average amount of debt in Kotido was UGX 35,712, lowest in Kotido sub-county (UGX 21,603) and highest in Nakapelimoru sub-county (UGX 61,531). Average interest was UGX 17,333, lowest in Kacheri sub-county and highest in Nakapelimoru sub-county.

Whereas debt is not necessarily bad for households since it can potentially be used to augment agricultural production and other income generating activities, it is indicative of stress when used to meet essential household needs, including for purchase of food. As illustrated in Figure 8, the main reason put forward by 64% of households' debt in Kotido district was for buying food, followed by health expenses (24%), Investing for business (5%) and School/ Education costs (3%). Incurring debt by households for purchase of food was highest in Kacheri sub-county (72%) whilst debt for health expenses was highest in Kotido and Panyangara sub-counties (31% each). It was mainly households from Kotido Town Council that incurred debt to cater for school/ education costs.

### 3.3: Dependence on Markets for Food

High dependence on markets for food imply high vulnerability to food insecurity due to exposure to price fluctuations that are typically high during the lean season, given the limited incomes and earning potential among the households. As illustrated in Figure 9, overall, 70% of households in the district were heavily dependent upon markets, especially from Kotido Town Council (84%). Dependence on markets for food was lowest in Kotido and Panyangara sub-counties (34% and 35%, respectively).

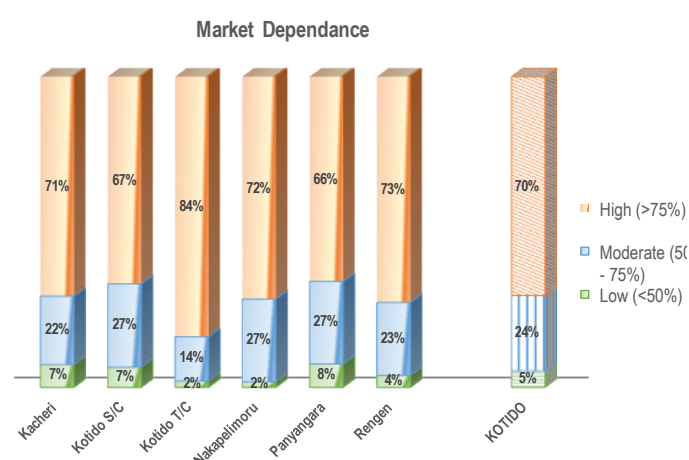


Figure 9: Dependence on Markets for Food Kotido District, June 2017

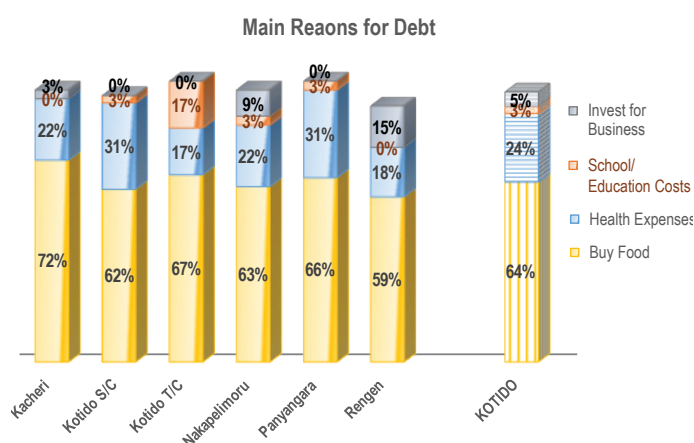


Figure 8: Main Reasons for Debt in Kotido District, June 2017

### 3. Access to Food

#### 3.4: Food Expenditure Share

The Food Expenditure Share refers to the percentage of total household expenditure that is allocated to food. The higher the percentage of total expenditure allocated by the household to food, the greater the food insecurity. For instance, households that spent <50% of total household expenditure on food were regarded as food secure; 50 - <65% as marginally food secure; 65 - <75% as moderately food insecure; and >75% as severely food insecure. As illustrated in Figure 10, almost half (49%) of households in Kotido district had Food Expenditure Share >65%, especially from the sub-counties of Kacheri (57%) and Panyangara (56%), whilst the lowest proportion was from Kotido Town Council (21%). The finding of households spending proportionately more on food than the other essential non-food items indicated higher likelihood of food access challenges.

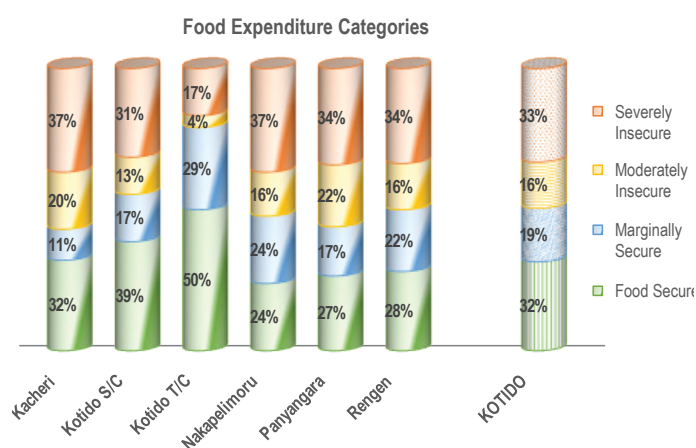


Figure 10: Food Expenditure Categories in Kotido District, June 2017



## 4. Food Utilization

# 4. Food Utilization

## 4.1: Food Consumption Score

As illustrated in Figure 11, out of the selected households in Kotido district, 42% had Food Consumption Score in the 'acceptable' category, with the highest proportion of households from Kotido Town Council (71%) and Nakapelimoru sub-county (62%). Panyangara sub-county registered the highest proportion of households under the category of 'poor' Food Consumption Score. Other sub-counties with higher than district average of 'poor' category score were Kacheri and Kotido (23% and 22%, respectively).

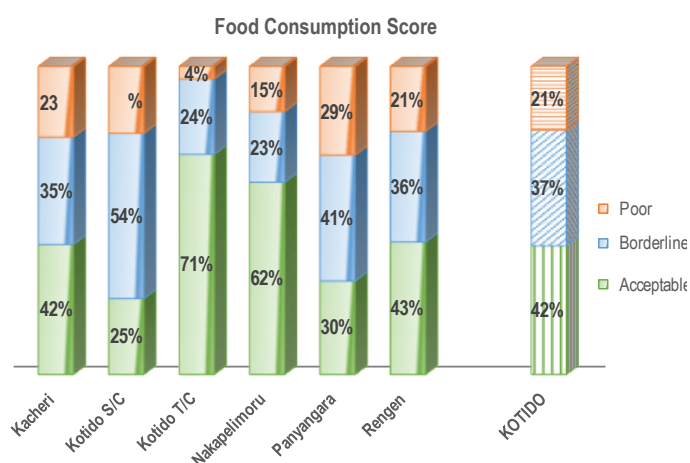


Figure 11: Food Consumption Scores for Kotido District, June 2017

## 4.2: Dietary Diversity

Figure 12 shows that only 13% of all households in the district were within the category of High Dietary Diversity Score (HDDS) above 6, especially within Kotido Town Council and Nakapelimoru sub-county. In the Medium category of above 4.5 were 43% of the households, with more from Kotido Town Council, Nakapelimoru and Kacheri sub-counties. Diet with higher diversity was more common in Kotido Town Council and Nakapelimoru sub-county. Panyangara sub-county registered the lowest proportion of households with medium and high categories of dietary diversity followed by Kotido sub-county.

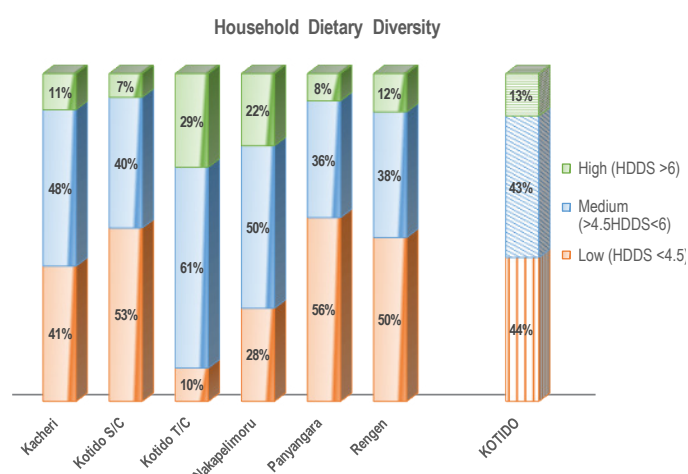


Figure 12: Household Dietary Diversity for Kotido District, June 2017

## 4. Food Utilization

### 4.3: Complementary Feeding Practices

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk. Complementary foods are necessary to meet energy and nutrient requirements to promote adequate growth. Overall, only 82% of infants 6 – 8 months of age in Kotido district received solid, semi-solid or soft foods during the day prior to the assessment, which was lower than the sub-regional average of 74%. As illustrated in Figure 13, feeding of infants and young children aged 6 – 23 months was far below the recommended infant and young child feeding (IYCF) practices. The findings also showed feeding practices for children aged 6 – 11 months and those aged 12 – 17 months were much better than 18 – 23 months:

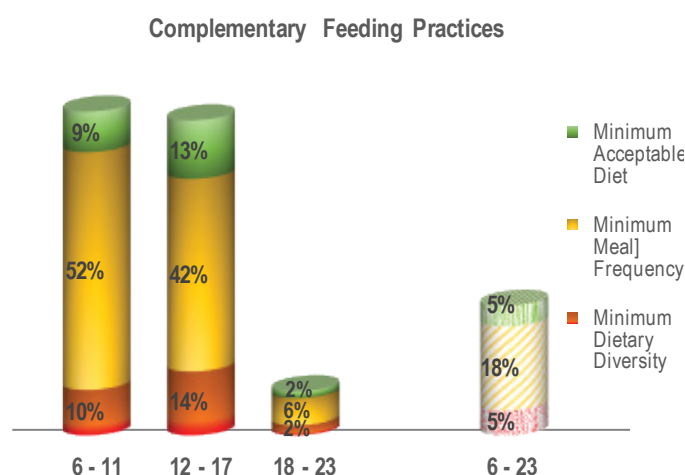


Figure 13: Complementary Feeding Practices in Kotido District

- Only 5% of children age 6 – 23 months met the Minimum Dietary Diversity (MDD), but higher in the age category 6 – 11 months and 12 – 17 months (10% and 14%, respectively);

- Only 18% of children age 6 – 23 months met the Minimum Meal Frequency (MMF), higher in the age categories 6 – 11 months and 12 – 17 months (52% and 42%, respectively); and
- Only 5% of children met the Minimum Acceptable Diet (MAD), higher in the age category of 12 – 17 months (13%).

### 4.4: Disease Prevalence

About one-quarter of all the selected households in Kotido district (25%) reported no childhood illness within 2 weeks preceding the assessment (Figure 14). Fever/ malaria was the most common illness (53%), followed by acute respiratory tract infections/ cough (38%), diarrhoea (35%) and skin diseases (10%), with only 6% of households having cited eye disease. Fever/ malaria was more prevalent in Kotido Town Council and Nakapelimoru sub-county. Overall, households in Nakapelimoru sub-county had the highest prevalence of illness among children, including ARI/ cough and

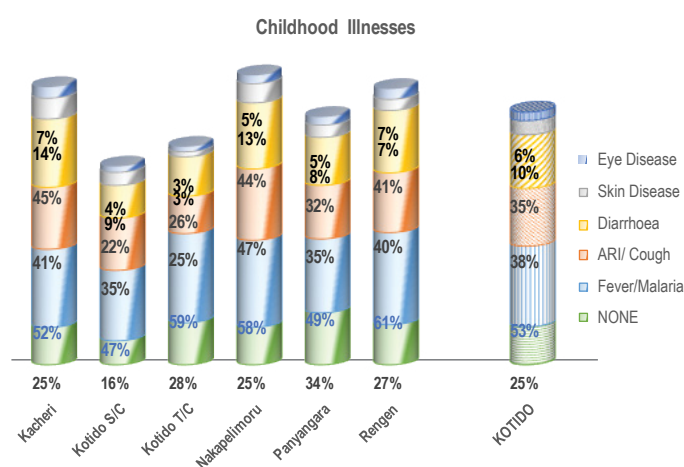


Figure 14: Prevalence of Diseases in Kotido District, June 2017

## 4. Food Utilization

diarrhoea. Households in Kacheri sub-county also had high prevalence of illness, having registered the highest proportion of diarrhoea and skin disease. Reports of eye disease was comparatively higher in Kacheri and Rengen sub-counties.

### 4.5: Immunization

The third dose of Pentavalent/ DPT vaccine is given at 14 weeks of age and its coverage reflects effectiveness of the immunisation programme. As summarised in Figure 15, overall 97% of the children had received DPT3 with verifiable evidence from the Child Health Card available for 78% but for 19% being based on the mother's or caretaker's report. The highest proportion of children was in Kotido sub-county (99%), whilst Kacheri, Kotido Town Council and Panyangara had below the district average.

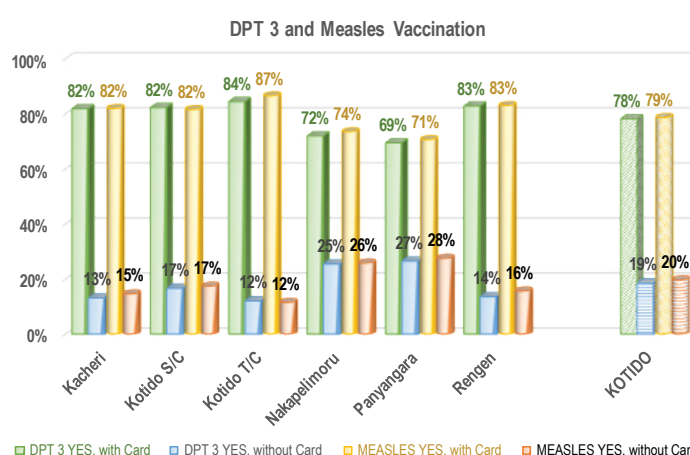


Figure 15: Dependence on Markets for Food Kotido District, June 2017

Measles vaccination is carried out at 9 months of age and overall 99% of children in the district had been immunised, 79% of them with verifiable evidence on the

Child Health cards and 20% based on the mother's or caretaker's report. The range was from 97% in Kacheri sub-county to 100% in Nakapelimoru sub-county. Kotido district registered a proportion comparable to the sub-regional average of 96%. The proportion of children without evidence from Child Health Cards was higher in Nakapelimoru and Panyangara sub-counties.

### 4.6: Supplementation and Deworming

Vitamin A supplements is provided every 6 months to children between the age of 6 and 59 months. Out of the selected households, 90% of the children aged 6 to 59 months had received vitamin A supplements within the previous six months, 73% had Child Health Cards for verification while 17% was based on mother's or caretaker's report (Figure 16). The highest was Kacheri sub-county (94%) whilst those below the district average included Panyangara and Rengen sub-counties (88% and 87%, respectively).

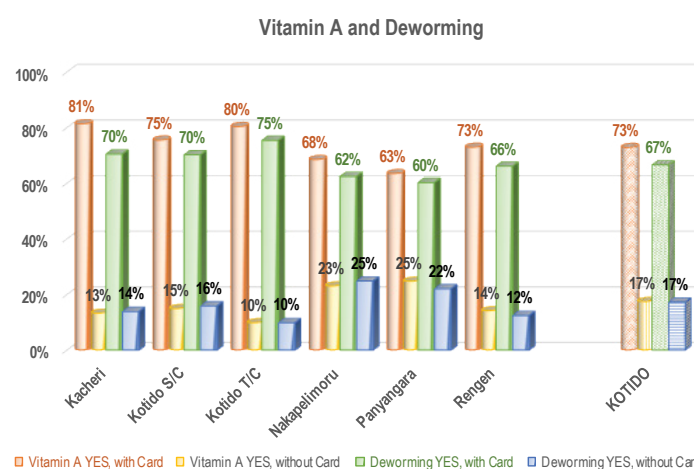


Figure 16: Vitamin A and Deworming in Kotido District, June 2017

## 4. Food Utilization

Medicines for treatment of intestinal worms is provided every 6 months to children aged between 12 and 59 months. Overall, 84% of the sampled children aged 12 to 59 months had received de-worming medicines within the 6 months preceding the assessment with verifiable evidence for 67%. The highest was in Nakapelimoru sub-county (87%) and those below the district level included Panyangara and Rengen sub-counties (82% and 78%, respectively). Lack of Child Health Cards was most marked in Nakapelimoru and Panyangara sub-counties.

### 4.7: Household Water

As illustrated in Figure 17, majority of households in Kotido district (97%) obtained water from relatively safe sources comprising of boreholes, piped water and protected wells/ springs, which was higher than the sub-region's average of 90%. Safe water sources was utilized by comparatively more households especially in Nakapelimoru and Rengen sub-counties. The sub-counties of Kotido and Panyangara (5% each) had the highest

proportion of households that obtained water from less safe sources such as open well/ spring and surface water. Only 2% of the selected households in the district reported treatment of their drinking water. Of those who treated their water, the majority (60%) used chlorination method while 40% boiled.

The recommended amount of water for basic household hygiene and sanitation is at least 15 litres per person per day. As illustrated in Figure 18, about 81% of households in Kotido district reported use of less than 15 litres of water per person per day, which was higher than 76% average for the sub-region. Kotido Town Council (73%) and Nakapelimoru sub-county (79%) registered the lowest proportion of households that utilised little quantities of water. The highest water use of more than 20 litres per person per day was registered mainly by the households in Kotido Town Council (20%).

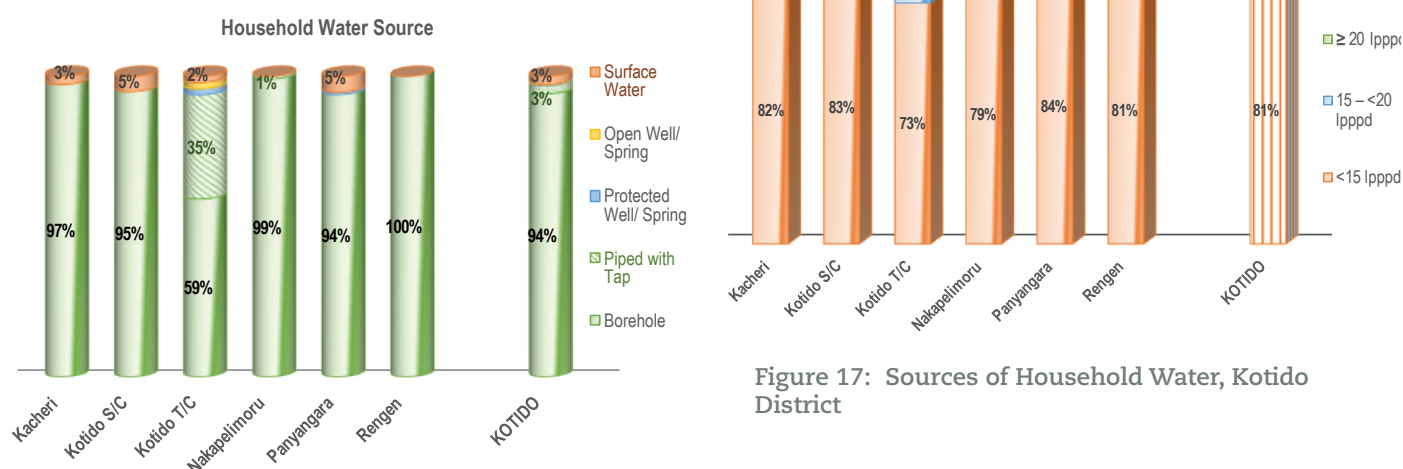


Figure 17: Sources of Household Water, Kotido District

Figure 17: Sources of Household Water, Kotido District



## 4. Food Utilization

### 4.8: Household Sanitation and Hygiene

Figure 19 shows that there were more than half (58%) of households in Kotido district that did not have any toilet facilities, which was comparable to the sub-region's average of 58%. Among the selected households in the district that had toilet facilities, 7% were being shared with other households. The lack of toilet facilities was more prominent in the sub-counties of Kotido (68%), Rengen (64%) and Panyangara (63%) but lowest in Kacheri sub-county (36%).

Only about one out of every ten households (9%) had pit latrines but the open pit without a super structure, which is of a lower quality constituted the main type of toilet facility for 90% of the selected households in the district. Open pits were virtually the only facility in Rengen sub-county, reported by all the selected households.

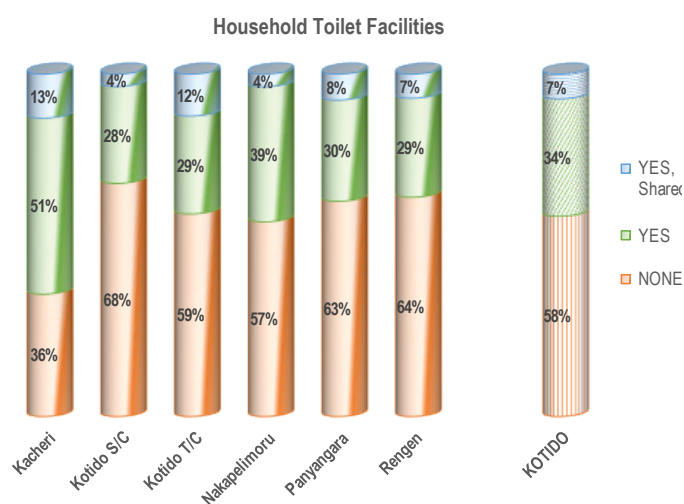


Figure 19: Availability of Toilet Facilities in Kotido District, June 2017

## 4. Food Utilization

# 5. Stability

## 5.1: Main Household Shocks

As illustrated in Figure 20, almost all the selected households in Kotido district reported having experienced some form of difficulty or shock within the 30 days preceding the assessment. More than half of the households (51%) mentioned floods/ drought, followed by sickness/ diseases (21%) and high food prices (18%). Kotido Town Council had the highest proportion of households affected by high food prices (39%) whilst Nakapelimoru sub-county had the highest proportion of households that mentioned floods/ drought (61%). The households from Kotido Town Council and the sub-county were most affected by sickness/ diseases (24% each) and the loss of crops due to rodents was a problem mentioned by most households from Kotido Town Council and Nakapelimoru sub-county.

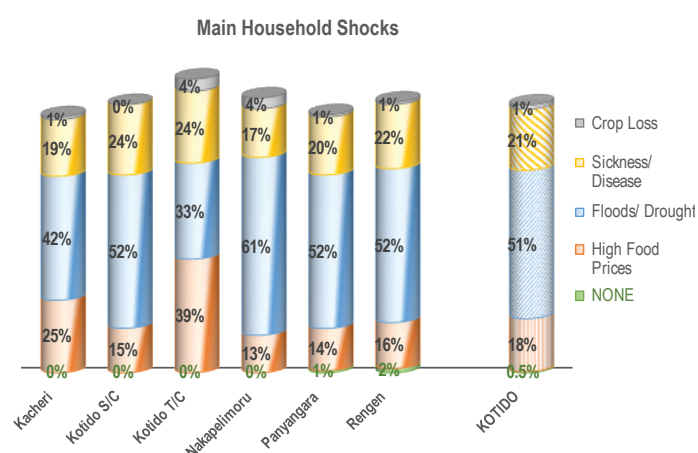


Figure 20: Main Household Shocks in Kotido District, June 2017

## 5.2: Livelihood Coping Strategies

Figure 21 shows that about one out of five households in Kotido district (18%) did not apply any coping strategies, more especially from the sub-counties of Panyangara (29%) and Nakapelimoru (21%). However, 27% of the households were in emergency coping mode, especially those from Kotido Town Council (57%) and Kotido sub-county. Emergency coping was lowest in the sub-counties of Kacheri (15%) and Nakapelimoru (17%).

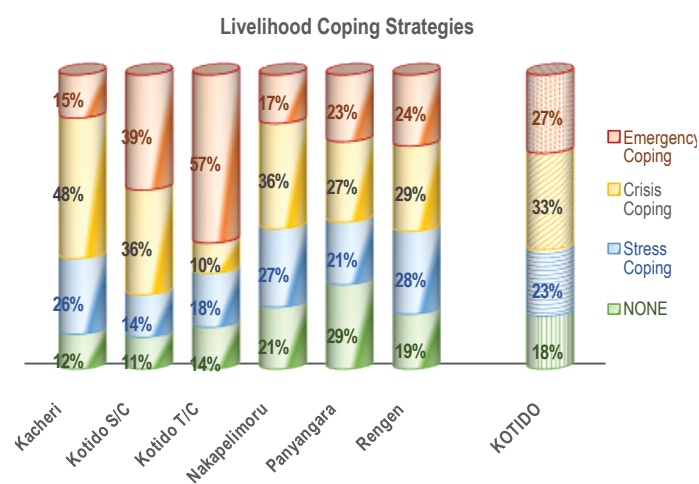


Figure 21: Livelihood Coping Strategy in Kotido District, June 2017

## 6. Food Security and Nutrition Outcomes

## 6. Food Security and Nutrition Outcomes

### 6.1: Nutritional Status of Women and Children

#### a) Women of Child-bearing Age

There is an association between malnutrition of the mother and the nutritional status of under-five children. As illustrated in Figure 22, 38% of sampled women in Kotido district were underweight, which was comparable to the sub-regional average of 39%. **Kacheri** and **Kotido** sub-counties registered the highest proportions of underweight women (50% and 45%, respectively). Kotido Town Council had the lowest proportion of underweight women (24%). On the other side, **Kotido Town Council** registered the highest proportion of overweight and obese women (7%). Other sub-counties with higher prevalence of overweight and obesity included **Panyangara** and **Rengen**.

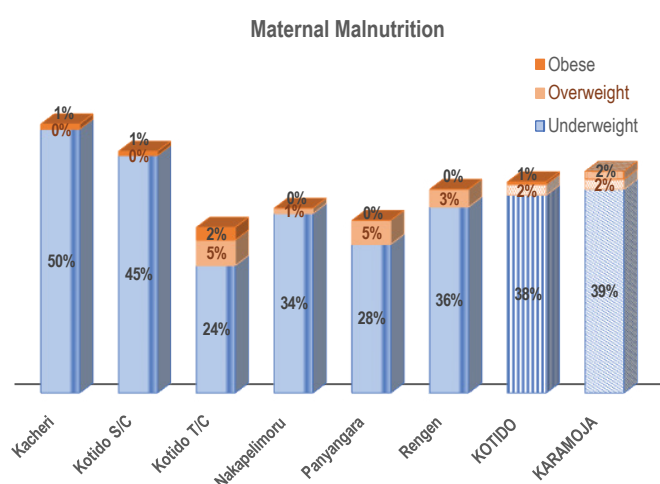


Figure 22: Malnutrition Level among Mothers in Kotido, June 2017

#### b) Under-five Children

The nutrition outcome for under-five children has been summarized and illustrated in Figure 23, key findings were as follows:

- Severe Acute Malnutrition (SAM) for Kotido district was at 3.5%, with highest proportion in **Nakapelimoru** sub-county (8.9%) and **Rengen** sub-county (5.4%) but lowest in **Kacheri** sub-county and **Kotido Town Council** (0% each). The sub-counties above the critical level of 2% included Nakapelimoru, Rengen and Panyangara;
- Global Acute Malnutrition (GAM) for Kotido district was at 18.5%, with highest proportion in **Nakapelimoru** sub-county (31.5%) and lowest in **Kacheri** sub-county (13.2%). All the sub-counties of Kotido district were above the critical level of 10%;
- Stunting for Kotido district was at 35.4%, with the highest proportion in **Kacheri** sub-county (47.4%) and lowest in **Kotido Town Council** (9.1%). All the sub-counties in Kotido district were above the critical level of 30%, with exception of **Kotido Town Council**;
- Underweight for Kotido district was at 33.1%, with the highest proportion in **Nakapelimoru** sub-county (41.1%) and lowest in **Kotido Town Council** (16.4%). All the sub-counties in Kotido district were above the critical level of 20%, with exception of **Kotido Town Council**.

## 6. Food Security and Nutrition Outcomes

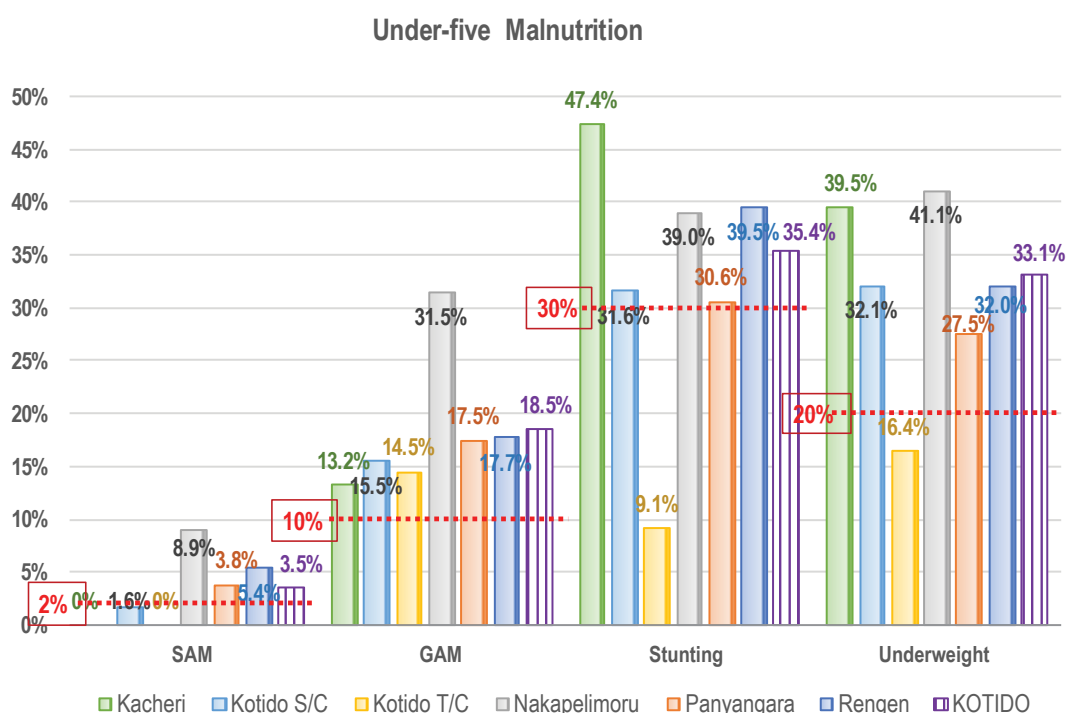


Figure 23: Prevalence of Malnutrition in Kotido District, by Sub-county in June 2017

### 6.2: Food Security Classification

As illustrated in Figure 24, the Food Security Index that combines the Food Expenditure, Food Consumption Score and Livelihood coping strategies showed that just about under one-half (48%) of households in Kotido district were food secure (Food secure + Marginally food secure categories) whilst 53% were Food Insecure. The findings showed that Kotido district had slightly less food insecure households than their counterparts in the sub-region recorded at 57%. There were more food insecure households registered in the sub-counties of **Kotido** (71%) and **Panyangara** (63%). On the other hand, lowest proportion of food insecure households were registered in **Kotido Town Council** (25%) and **Nakapelimoru** sub-county (34%).

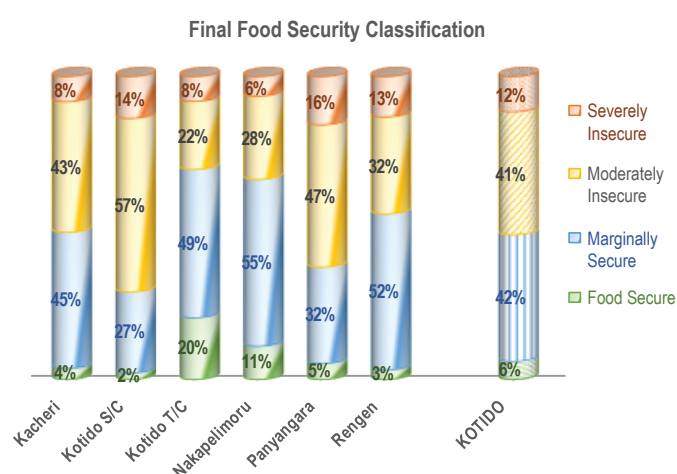


Figure 24: Final Food Security Classification for Kotido, June 2017



## 7. Recommendations

### Food Availability

1. Strengthen effective extension services to cover all villages in the district that include promotion of two planting seasons in wet belt zones and the following:
  - Improving knowledge and skills among farmers on growing of disease/drought resistant and high yielding crops;
  - Setting up demonstration centres for farmers, supplying genuine farming inputs such as seeds and ensuring quality assessment of the seeds distributed;
  - Diversification of production through mixed farming with focus on legumes, locally available fruits and vegetables;
  - Control of pests and diseases such as army worms;
  - Post-harvest handling practices such as proper use of foods during harvest season, storage technologies and preservation; and
  - Use of more efficient agricultural equipment.
2. Support re-stocking of animals in communities where cultivation has failed, create a data-base for monitoring the re-stocking activities and strengthen veterinary services, including monitoring of animal diseases;
3. Construct water catchment areas in all villages for the households to obtain water for cultivation and feeding their animals especially during the dry seasons, and advocate for establishment or strengthening of irrigation to supplement rainfall;
4. Sensitize the communities and influence their practices on:
  - Growing fast maturing crops such as pumpkins, sweet potatoes and pawpaw;
  - Food storage for future consumption and better storage technologies;
  - Proper use of foods during the harvest season and reduced selling so that some is left to take households through to the next harvest season;
  - Value addition to the commonly grown crops;
  - Role of gender in crop production; and
  - Use of modern family planning methods to reduce the household size and thus contribute towards food security in the households.
5. Promote research to support the district obtain other high yielding crop varieties, educate the communities on climate change and seasons, and strengthen the District Early Warning Systems (DEWS);

## 7. Recommendations

6. Put in place a clear land ownership policy and advocate for dialogue among communities to settle land conflicts;
7. Set up District Land Board to address the challenges related to land ownership, promote dialogue to address the on-going land conflicts and put in place interventions to increase effective land utilization;
8. Educate and support the communities on:
  - Introduction of weather resistant variety of crops and improved seeds with high yields;
  - Good storage methods and post-harvest handling;
  - Group marketing concepts; and
  - Diversification of foods grown and consumed.
9. Advocate for By-laws or ordinances to limit the indiscriminate sale of food;
10. Sensitize and involve men as the land-owners and key decision-makers, on the following:
  - Production and storage of food at the household level;
  - Joint participation in decision-making; and
  - Joint ownership of household assets e.g. land, livestock etc.
11. Advocate for the establishment of granaries at household and silos at community levels to ensure food security and sensitize the communities on their importance, including cereal bulking;
12. Reduce sell of food crops by advocating for introduction of cash crops as alternative crops for sale to generate income; and
13. Advocate for the initiation or strengthening of NAADS pilot project in the district.

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### Recommendations for Accessibility

1. Advocate to the ministry/department responsible for road construction and maintenance to improve the road networks in the district;
2. Improve food accessibility the following, among others:
  - Establish community markets at each sub-county to support diversification of household incomes;
  - Educate and support communities on Income Generation Activities;
  - Build community level business competence and skills;
  - Advocate for commercialization of agriculture;
  - Introduce Community/ Village Savings and Loans Associations to facilitate agriculture loans for farmers;
  - Scale up the food/cash for work programmes; and
  - Advocate for the formation of cooperatives to support storage and purchase of food at fair prices.
3. Encourage households to have separate gardens of

## 7. Recommendations

food and cash crops;

4. Advocate for support from the UNWFP to provide food assistance to persons living with HIV; and
5. Strengthen livelihood programs such as Income Generation Activities at community level and advocate for increased funding to promote agriculture mechanization.

### Recommendations for Utilization

1. Encourage health workers to strengthen integrated child days' activities, improve documentation and make use of child health cards for every service provided to children below age of 5 years;
2. Strengthen the functionality of Out Patient Therapeutic Care (OTC) and In-patient Therapeutic Care (ITC) sites so that all malnourished children are efficiently and effectively managed;
3. Mobilize support in the form of grants to establish model sanitation villages such as the initiative started in 2 villages of Loroo sub-county, Amudat district and in addition:
4. Strengthen community sensitization and education on hygiene and toilet usage;
  - Repair all broken-down boreholes to enable access to clean water; and
  - Promote water harvesting during the wet season.
  - Establish By-laws to facilitate reduction on alcohol consumption and strengthen community sensitization and education on

the following among others:

- Different foods and their functions in the body;
  - Proper child caring and health seeking behaviours;
  - Good feeding practices among children and women; and
  - Utilization of safe water in the households.
5. Intensify supervision of the implementing partners as well as strengthen coordination and reporting among development partners like UNICEF, WFP, Save the Children etc. for improved health and nutrition situation;
    - Advocate for support from the district leadership on:
    - Population growth control; and
    - Prevention and control of diseases at community level including those related to HIV.
  6. Educate the community and train VHTs as well as peer mothers on nutrition, sanitation and hygiene, dietary diversification and monitoring of the immunization schedules;
  7. Strengthen the nutrition programmes e.g. Community Infant and Young Child Feeding (ciYCF) by the District Health Department with support from partners like UNICEF, Save the children and WFP, to specifically address poor feeding habits;
  8. Increase access to health and nutrition services through mobile clinics and sustainable integrated outreaches to:

## 7. Recommendations

9. Improve disease prevention and management;
  - Strengthen and scale-up nutrition screening; and
  - Improve the Community Based Supplementary Feeding Programme.
10. Advocate for support from the UNWFP to continue the MCHN programme for improved maternal and child nutrition outcomes.
  - Provide sanitary pads to school girls to reduce of absenteeism;
  - Strengthening the school feeding programmes;
  - Holding dialogue with caregivers at village level to emphasize the importance of education;
  - Development of a tool to track absent pupils and teachers by the District Education department;
  - Strengthening supervision in schools; and
  - Advocating for By-laws on education ordinance.

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### Recommendations on Stability

1. Support the communities to correctly predict the cultivation periods, encourage relocation to more productive areas and put in place rapid response to disasters;
  - Recommendations on Demographic Factors
  - Improve regular school attendance of children by:
  - Advocating for establishment community schools and posting of teachers to such schools;
2. Include nutrition education in the Adult Literacy Classes.

## 7. Recommendations

### Attendance at Kotido FSNA Validation Workshop

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**For more information related to analysis, data collection, tools and analysis software, please contact:**

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