



Food Security and Nutrition Assessment in Karamoja Sub-Region

MOROTO DISTRICT REPORT





Department
for International
Development



IBFAN Uganda

Acknowledgements

This report is the outcome of a collaborative process and would not have been possible without the contribution of many individuals:

WFP & UNICEF are grateful to the Government of Uganda and the people of Karamoja for the support provided during the entire exercise, especially during data collection across all the Karamoja districts.

Appreciation is also extended to the Ministry of Health and the District Health Offices of Abim, Amudat, Kaabong, Kotido, Moroto, Nakapiripirit and Napak for supporting the assessment exercise and, as

well, to the senior district leadership that provided initial guidance for the analysis of the report.

Appreciation also goes to the International Baby Food Action Network (IBFAN) that was responsible for the overall field data collection, analysis and report writing for this round of the FSNA.

Last but not least, thanks goes to colleagues from WFP field offices in Karamoja and the Regional Bureau; the team of supervisors and Enumerators; community leaders and village health teams who worked tirelessly to assure quality for the whole exercise.

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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

Moroto 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 5 sub-counties of Katikekile, Nadunget, Municipality, Rupa and Tapac reaching 777 households, 986 children below 5 years and 802 women of child bearing age.

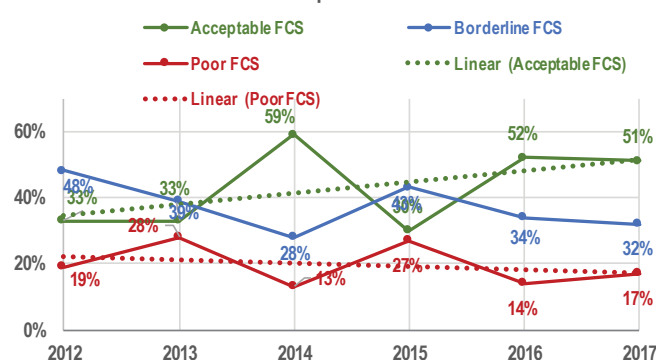
Child Health Card retention was found to be a problem.

Whereas nearly half (46%) of households were food insecure, the trend in Food Consumption Score over the 6-year period showed a gradual improvement in the acceptable. The linear trend [adjacent figure] depicts an increase from 33% to 51% over the years.

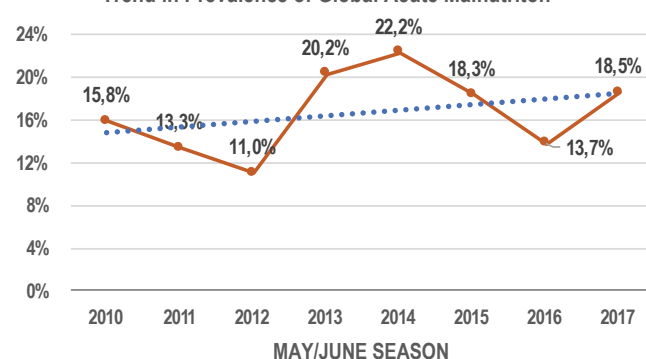
Key Findings

- Regular school attendance by 65% boys and 56% girls;
- Most households had access to land (73%) and 66% of these, reported having cultivated food;
- About two-thirds (69%) of households were registered under one or more Development Assistance Programmes such as MCHN (38%), Food Aid (23%) and School Feeding (23%);
- 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 97%, 98%, 87% and 81% respectively following the national protocols/schedules; however,

Trend in Food Consumption Score



Trend in Prevalence of Global Acute Malnutrition



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

Executive Summary

The linear trend [adjacent figure] shows the steady increase from about 15% 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 8% of households had food stocks and two-thirds (67%) had no livestock;
- Low access to food as households had limited incomes amidst increasing food prices that had prompted high prevalence of debt (43%) borrowed primarily to buy food (59%);
- Poor Infant and Young Child Feeding (IYCF) practices with only 4% of children meeting the Minimum Acceptable Diet coupled with high prevalence of illnesses (84%) among children, affecting their ability to effectively utilize the food consumed;
- Poor water and sanitation practices with nearly 73% of households having no toilet facilities and only 3% 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 (50%) coupled with low levels of formal education (30%) 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 **Nadunget, Rupa and Katikekile** while food insecurity was mainly observed in **Katikekile, Tapac and Nadunget**.

Recommendations**Agriculture:**

Plant quick-maturing crops; Intercropping cereals with legumes; Diversification of agriculture; Use of local post-harvest handling techniques such as cow dung, urine and integrate it with conventional methods; Combine crop with livestock production; and Promotion of mushroom growing;

Climate change:

Introduction and use of appropriate technology (use of irrigation techniques appropriate for use by communities, water harvesting jugs);

Livestock:

Promote the rearing of small ruminants at household level especially for women; and

Resilience:

Dissemination of early warning information to communities. Scaling-up food for work and other safety net interventions.

Executive Summary**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	✓	✗	✓

1. Household Demographic & Related Factors

1.1: Household Demographics

Based on the selected demographic factors in Figure 1, there were 50% female headed households, only 20% extremely vulnerable households and 5% headed by persons living with disability and those with chronic illnesses. Half of the households in Moroto were polygamous and 13% were registered under the Northern Uganda Social Action Fund (NUSAF). Moroto district households had higher proportions for most factors than the Karamoja sub-region's average apart from NUSAF and Disabled/chronic illnesses.

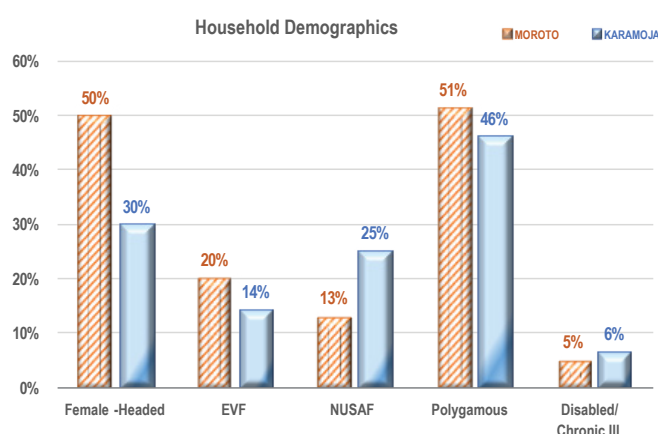


Figure 1: Household Demographics, Moroto District, June 2017

1.2: Mothers' Level of Education

There is a positive 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, 71% of mothers in Moroto had no formal education, 19% had attained primary level and 6% had secondary level education. The proportions in Moroto were similar to the average for the sub-region.

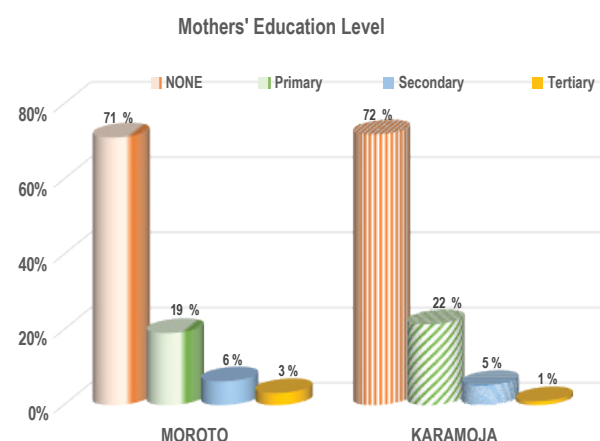


Figure 2: Mothers' Education, Moroto District, June 2017

1.3: School Attendance

There were 493 boys and 435 girls of primary school age selected from Moroto district, with regular school attendance being reported at 65% and 56%, respectively. Regular school attendance in Moroto district among boys and girls was higher than the sub-regional

1. Household Demographic & Related Factors

average of 62% and 53%, respectively. Figure 3 shows the main reasons cited for irregular school attendance: among girls it was illness/ handicap (28%), inability to pay school fees and related costs (25%), and domestic household chores (19%). Among the boys it was inability to pay fees (28%), illness/ handicap (24%) and lack of interest (16%).

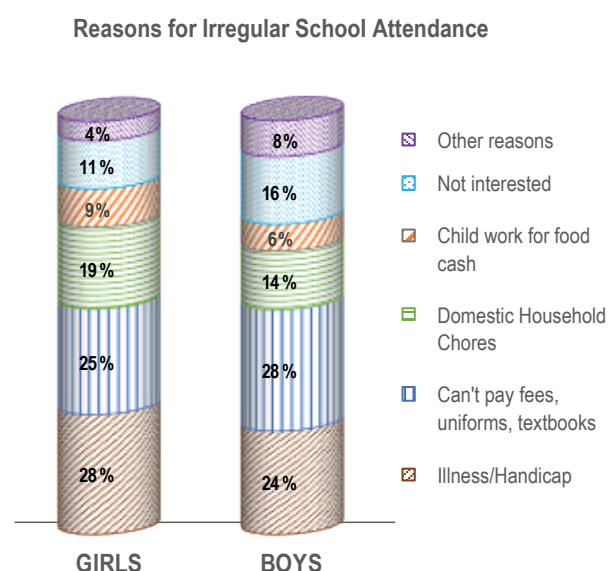


Figure 3: Reasons for Irregular School Attendance

Food Availability

2.1: Access to Land

Table 1: Access to Agricultural Land

SUB COUNTY	Agricultural Land Access (%)
Katikekile	77%
Nadunget	84%
Municipality	17%
Rupa	82%
Tapac	81%
MOROTO	73%
KARAMOJA	87%

Table 1 shows that most households (73%) reported having access to land for agriculture production. The findings were below those of the sub-regional average of 87%. The sub-counties of Nadunget (84%), Rupa (82%) and Tapac (81%) recorded the highest proportion of households having access to land while not surprisingly households from the Municipality had the lowest (17%), which could be attributed to its urban status.

2.2: Livestock Ownership

Livestock ownership has been significantly associated with malnutrition levels in the households. Figure 4 shows 34% of households in the district owned livestock compared to 54% for the sub-regional average. Livestock ownership was higher in the sub-counties of Tapac

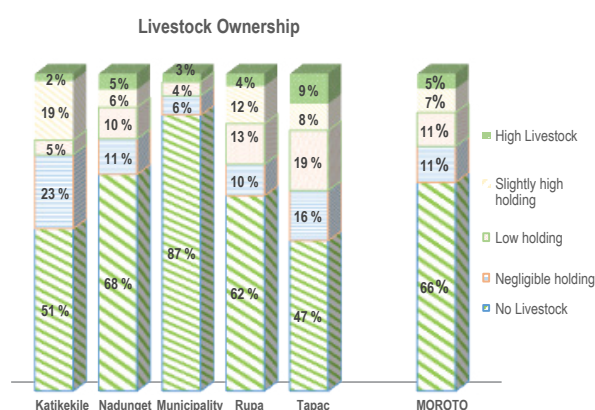


Figure 4: Livestock Ownership, Moroto District, June 2017

(53%) and Katikekile (49%) but lowest in the Municipality (13%), which could be attributed its urban status. There were fewer households with TLU greater than 5 in Moroto district (5%) compared to the sub regional average of 9% with the highest proportion observed in the sub county of Tapac (9%). The main constraints reported by households that owned livestock included:

- Parasites/diseases (67%) – [Nadunget (73%) and Tapac (73%)]
- Lack of pastures for their animals (13%) – [Katikekile (14%) and Rupa (19%)]
- Lack of veterinary services (9%) – [Katikekile (24%) and Tapac (16%)]; and
- Theft in 6% - [Katikekile (19%) and Municipality (33%)].

2. Food Availability

2.3: Cropping Practices

Overall, 66% of the selected households in Moroto district reported having cultivated legumes and staples. As illustrated in Figure 5, the most commonly cultivated crops were sorghum (79%) and maize (54%), followed by beans at 34%. Maize, sorghum and beans production were at the same level as the regional average of 57%, 77% and 35%, respectively. The sub-counties with higher proportion of households cultivating staples and legumes above the district average included:

- Maize – Katiekile (76%), Tapac (94%);
- Sorghum – Nadunget (96%) and Rupa (81%); and
- Beans – Katiekile and Municipality both at 58%.

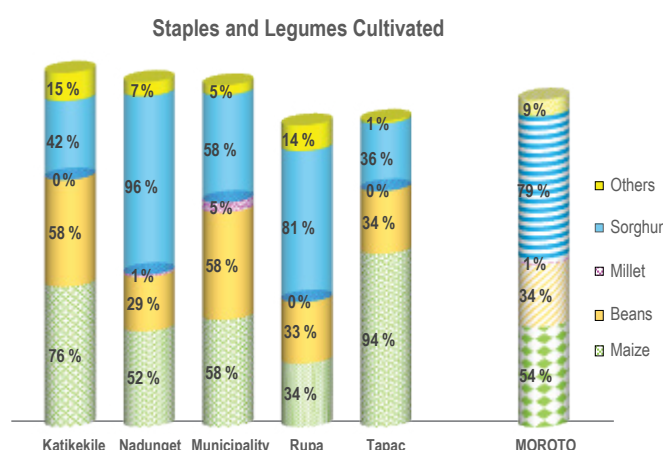


Figure 5: Main Crops Cultivated in Moroto District, June 2017

The findings further revealed that cultivation of crops was higher in Katiekile, Nadunget and the Municipality in Moroto district. Most crops grown by households occupied 0.5 to 1.5 acres (67%) and followed by 1.6-3 acres at 30%. The main constraint to crop production cited was drought/low rainfall, reported

in 74% of households, ranging from 69% in Nadunget to 91% in Katiekile sub-county. Inadequate seeds/ tools were the next cited constraints to crop production at 12%.

2.4: Household Food Stocks

As summarized in Table 2, food stocks in households was reportedly low with only 8% reporting having some in their household, which ranged from 2% in Katiekile to 23% in the Municipality. The food stocks were mainly from:

- Own Production (13%) - [Nadunget (32%), Tapac (33%)]
- Markets (77%) - [Katiekile (100%), Municipality (100%) and Rupa (80%)] and
- Food Distribution (7%) - [Nadunget (11%), Rupa (10%) and Tapac (17%)]

The findings from the district showed that the source of food stocks from markets was far above the sub-regional average of Markets (48%), whilst Own Production and UNWFP/Partner food distribution were below at 36% and 15%, respectively.

Generally, more than half the households (79%) had less than 1 bag (50kg) of maize and/or sorghum still available in their stock, followed by those with 1-2 bags (11%) and 3-5 bags (3%). Households with more food stocks in terms of 3-5 bags still available were only in Nadunget sub-county (5%) and the Municipality (4%). The possible reasons for the lower food stocks in the district included the fact that the survey was conducted in the typical lean season.

2. Food Availability

2.5: Food and Humanitarian Assistance

Overall, about two-thirds (69%) of households in Moroto district were registered under one or more Development Assistance Programmes with Katiekile (81%) and Rupa (71%) sub-counties having comparatively more households that did receive assistance (Figure 6). The main programmes in the district included MCHN (38%) and Food Aid (23%) and School Feeding (23%) spread over the 5 sub-counties. The MCHN programme reached more households in Katiekile TC (47%) and Rupa (40%) compared to Nadunget (32%) and Tapac (33%). Food aid on the other hand reached more households in the sub-counties of Katiekile (37%), followed by Rupa (25%) and Tapac (24%). Meanwhile, School feeding was more pronounced in Moroto Municipality (31%). The other programmes in the district included WASH (3%), Karamoja Livelihood Improvement (2%), Adult Literacy Programme (1%) and farmer field Schools (2%).

Cash Assistance was more pronounced in Katiekile (19%), followed by Rupa (17%). Nadunget sub-county received the lowest assistance compared to the other sub-counties. On decision-making related to the food aid such as sell, trade, lend or share a portion of it: 89% indicated women (Katiekile, Nadunget and Municipality); 11% indicated both women and men (Municipality, Rupa, Tapac; and only 1% indicated men (Nadunget). The decisions related to the cash/voucher given by UNWFP such as when, where and what to buy, 76% indicated women (Katiekile, Rupa and Tapac); whilst 12% indicated both women and men (Nadunget, Rupa); and 12% indicated men (Katiekile, Rupa and Tapac). Only 7% of households reported having safety problems to, at and from the WFP programme sites: 1% while going to the site (Katiekile, Municipality, Tapac); 3% at the site (Katiekile, Municipality, Rupa; and 2% travelling from the site (Katiekile, Rupa and Tapac).

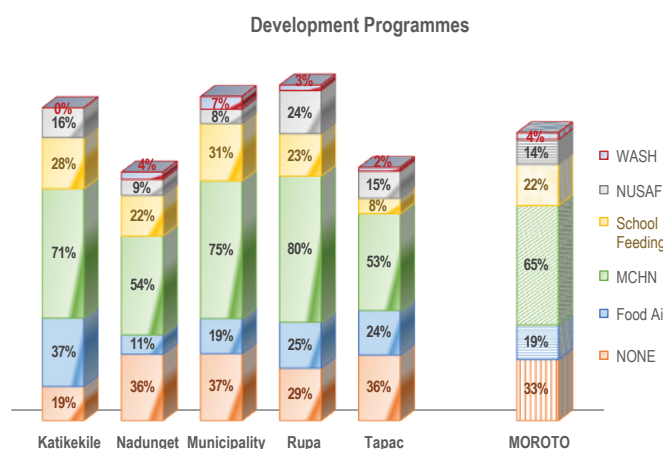


Figure 6: Food and Humanitarian Assistance, Moroto District

3. Food Accessibility

3.1: Income Earners and Sources

Overall only 2% of households in Moroto district did not have any income earner, which was much lower than average of 16% in the sub-region. As illustrated in Figure 7, all selected households in Katiekile and Nadunget sub-counties had at least one income earner, whilst Rupa sub-county (93%) had the lowest. The findings suggest relatively better economic access to food in Moroto district due to the very high proportion of income earners.

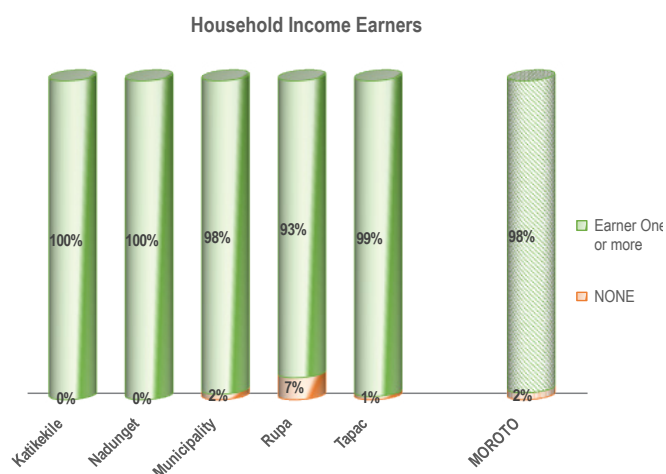


Figure 7: Income Earners in Moroto District, June 2017

- Out of all selected households in the district, the highest proportion of declared income sources were from Nadunget sub-county (44%), followed by Rupa (27%), Municipality (14%), Tapac (9%) and

Katiekile was lowest with 5%;

- The most important source of income reported for 41% of the selected households in Moroto was sale of firewood/ charcoal, especially from Nadunget and Rupa sub-counties
- The next most important source of income was non-agricultural wage labour (16%), especially for sub-counties of Nadunget and Tapac;
- The third most important source of income was agricultural wage labour and salaries (9% each). The former was particularly in the sub-counties of Nadunget and Rupa, while the latter was mainly from Moroto Municipality and Nadunget sub-county.

3.2: Household Debt

- Household debt was declared by 43% of selected households in Moroto district, with a range from 28% each in Katiekile and Tapac sub-counties to 52% in Rupa sub-county;
- Out of the households that had debts, 55% were required to pay interest, with lowest proportion of households in Tapac sub-county (26% each) and highest in Rupa sub-county (63%);
- Main source of credit for all debts and loans in the district included: Relatives (36%), Traders/ Shop-keeper (23%), Money lender (22%)

3. Food Accessibility

and Bank/ Credit Institution/ Micro-credit project (12%);

- Average amount of debt in Moroto was UGX 204,330, lowest in Rupa sub-county (UGX 41,188) and highest in Moroto Municipality (UGX 1,259,628). Average interest was UGX 60,870, lowest in Tapac sub-county and highest in Moroto Municipality.

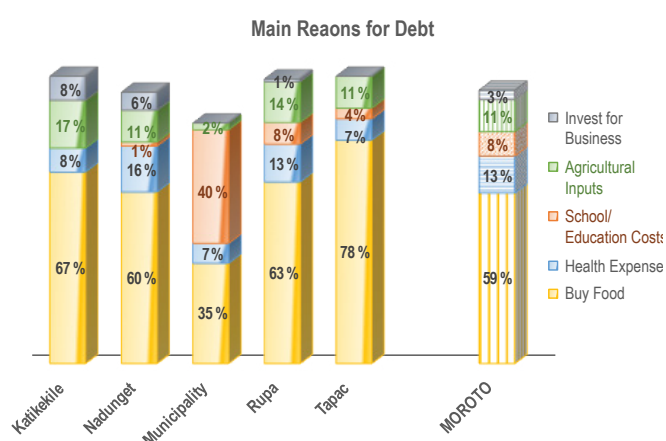


Figure 8: Main Reasons for Debt in Moroto District, June 2017

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 59% of households' debt in Moroto district was for buying food, followed by health expenses (13%) and Agricultural inputs (11%), whilst school and education costs was cited by 8%. Incurring debt by households for purchase of food was highest in Tapac and Katikekile sub-counties (78% and 67%, respectively) whilst debt for health expenses was highest in Nadunget sub-county (16%). Not surprising, it was mainly households from Moroto Municipality that incurred

debt to cater for school/ education costs. Debts for Agricultural inputs was highest in Rupa sub-county whilst for investment in business was highest in Katikekile sub-county.

3.3: Dependence on Markets for Food

High dependence on markets¹ 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.

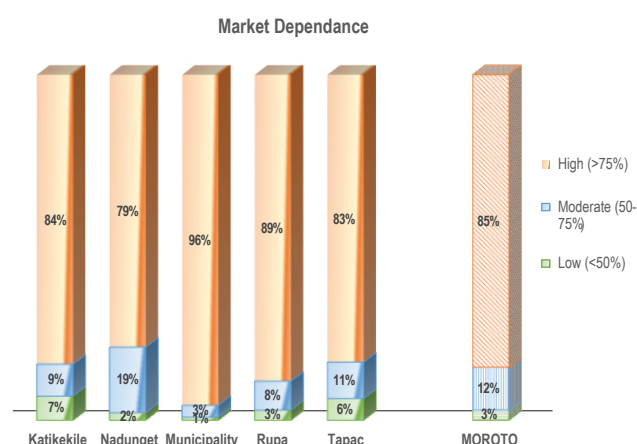


Figure 9: Dependence on Markets for Food Moroto, June 2017

As illustrated in Figure 9, overall, 85% of households in the district were heavily dependent upon markets, especially those from Moroto Municipality (96%) and Rupa sub-county (89%). Dependence on markets for food was comparatively lower in Nadunget sub-county (79%).

¹ When the household derive over 75% of food consumed from markets

3. Food Accessibility

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, one-quarter (25%) of households in Moroto district had Food Expenditure Share >65%, especially from Katikile and Tapac sub-counties (41% and 34% of households, respectively), followed by Nadunget sub-county (27%), whilst the lowest proportion was from Moroto Municipality (14%). The finding of a comparatively lower proportion of households from the Municipality

possibly reflected the relatively higher income level of that community. On the other hand, the finding of households spending proportionately more on food than the other essential non-food items indicated higher likelihood of food access challenges.

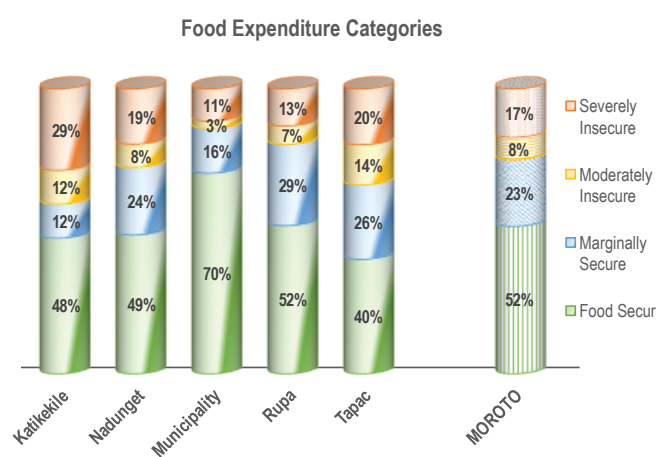


Figure 10: Food Expenditure Share in Moroto District, June 2017

4. Food Utilization

4.1: Food Consumption

As illustrated in Figure 11, 51% of households in the district of Moroto had acceptable Food Consumption Score (FCS), 32% borderline and only 17% poor. The Municipality (77%) and Rupa (52%) had the highest proportion of households with acceptable food consumption score. Katikekile (30%), on the other hand had the highest proportion of households with poor food consumption score above the sub-regional average.

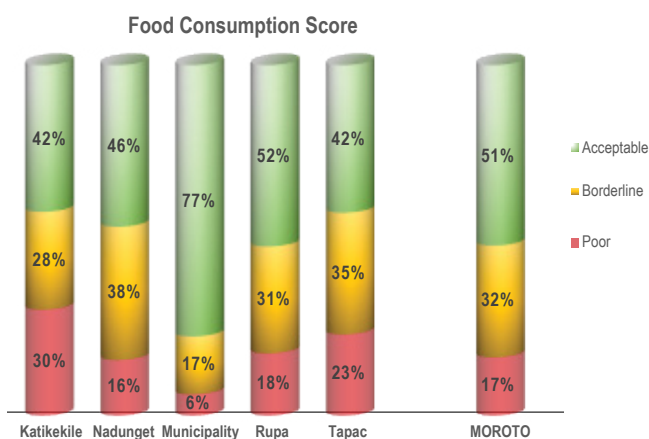


Figure 11: Food Consumption Scores Moroto, June 2017

4.2: Dietary Diversity

Figure 12 shows that only 16% of selected households in Moroto district were within the category of High Dietary Diversity Score (HDDS) above 6, especially within Municipality (32%). In the Medium category of above 4.5 were 54% of the households,

with more from Rupa and Nadunget sub-counties. There was less diversity in the diets of households in Katikekile and Tapac sub-counties.

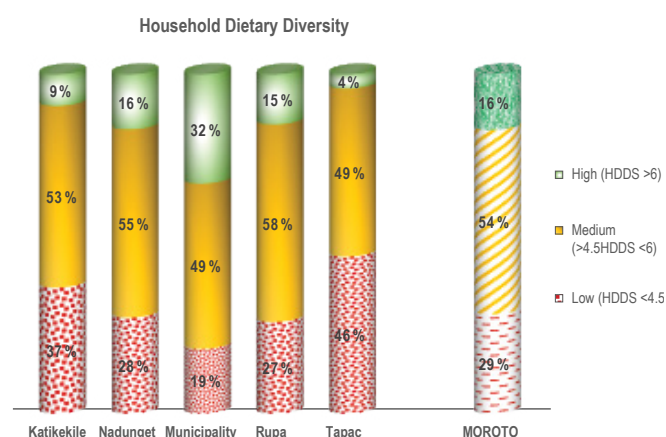


Figure 12: Household Dietary Diversity Moroto, June 2017

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 68% of infants 6–8 months of age received solid, semi-solid or soft foods during the day prior to the assessment. These findings are however lower than the sub-regional average of 74%. Figure 13 illustrates that generally, feeding of infants and young children aged 6-23months was far below the

4. Food Utilization

recommended IYCF practices. The findings also show that feeding practices for children 6-11 months were much better than those aged 12-17 and 18-23 months:

- Only 5% of children 6 – 23 months met the Minimum Dietary Diversity² (MDD), higher in the age category 6-11 months;
- Only 18% of children 6-23 months met the Minimum Meal Frequency³ (MMF), higher in the age categories 6-11months and 12-17 months; and
- Only 4% of children met the Minimum Acceptable Diet⁴ (MAD), higher in the age categories 6-11 months and 12-17 months

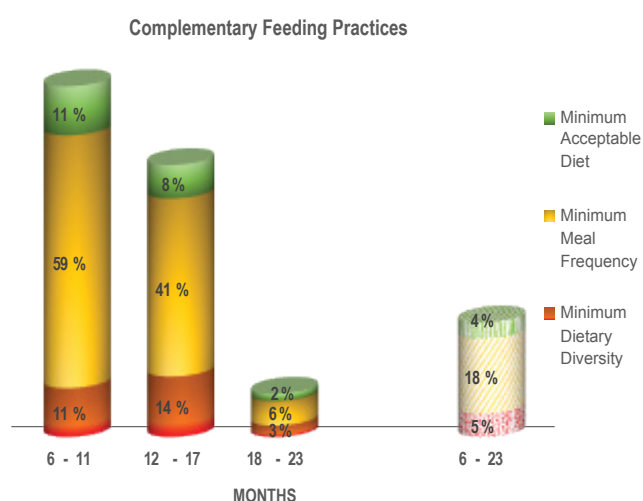


Figure 13: Complementary Feeding Practices, Moroto District

- Dietary diversity is a proxy for adequate micronutrient-density of foods.
- Number of meals an infant or young child ate in a day
- Indicator combines standards of dietary diversity and feeding frequency by breastfeeding status

4.4: Disease Prevalence

Overall, about eight in ten households (84%) in Moroto district reported that their children were sick in the 2 weeks prior to the survey. Figure 14 illustrates that households in Katiekile and Nadunget sub-counties had the highest prevalence of illnesses whilst Municipality had the lowest. The most common illness/diseases included Fever/ malaria (60%) and ARI/ Cough (46%) and lowest included measles (2%), Eye and skin diseases at 8% and 5% respectively.

- Fever/Malaria more prevalent in [Katiekile (69%), Rupa (63%); and
- ARI/Cough more pronounced in Katiekile (52%) and Tapac (53%).

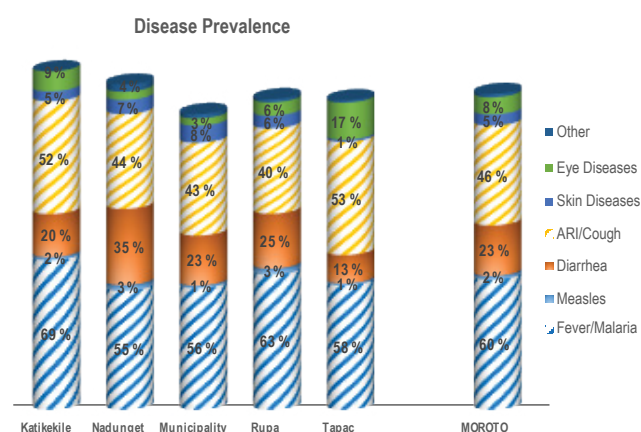


Figure 14: Prevalence of Disease, Amudat District, June 2017

4.5: Immunization

The third dose of Pentavalent/ DPT vaccine is given at 14 weeks of age and its coverage reflects effectiveness of the immunization programme. As summarized in Figure 15, overall 98% of the children in Moroto district had received DPT3 with verifiable

4. Food Utilization

evidence from the Child Health Card available for 60% but for 38% being based on the mother's or caretaker's report. The coverage ranged from 97% in Municipality to 99% in Nadunget.

Measles vaccination is carried out at 9 months of age and 17. The range was from 96% in Nadunget sub-county to 100% in Tapac sub-county. Moroto district coverage was the same as that recorded at the sub-regional of 96%. The proportion of children without evidence from Child Health Cards was higher in Municipality, Rupa and Nadunget.

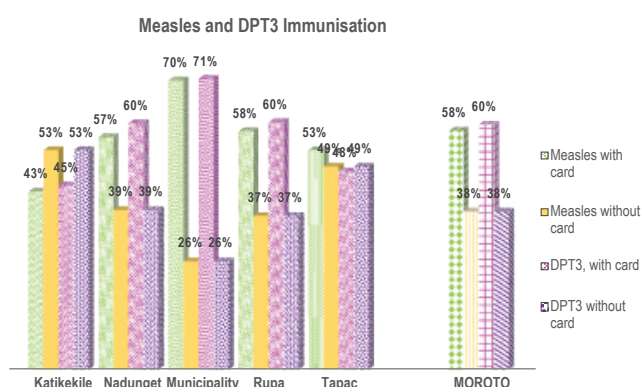


Figure 15: Measles and DPT3 Immunisation Coverage, June 2017

4.6: Supplementation and De-worming

Vitamin A supplements is provided every 6 months to children between the age of 6 and 59 months. Out of the selected households, 87% of the children aged 6 to 59 months had received vitamin A supplements within the previous six months, 48% had Child Health Cards for verification while 38% was based on mother's or caretaker's report (Figure 16). All the sub-counties had almost the same coverage ranging from 73% in Tapac to 91% in Municipality.

Medicines for treatment of intestinal worms is provided every 6 months to children aged between 12 and 59 months.

Overall, 81% 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 37%. All the sub-counties had almost the same coverage ranging from 52% in Tapac sub-county to 88% in Municipality. Lack of Child Health Cards was most marked in all the sub-counties ranging from 27% in Tapac to 49% in Katikekile sub-county.

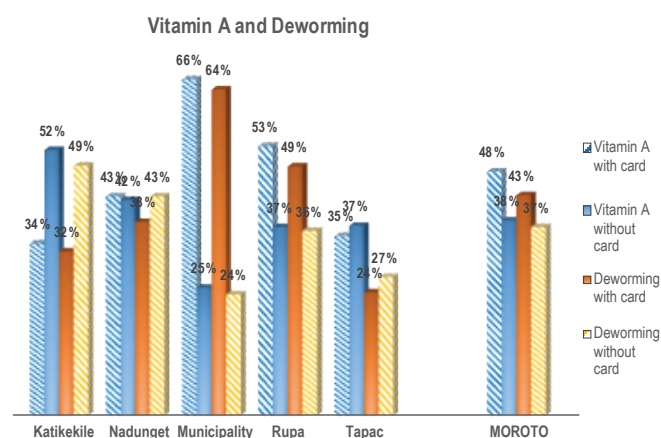


Figure 16: Vitamin A and Deworming Coverage, June 2017

4.7: Household Water

a) Water Access

Overall, 97% of selected households in Moroto district accessed water from relatively safe sources such as boreholes fitted with hand pumps, piped water through taps, protected wells and springs (Figure 17). Apart from Katikekile, all the other 4 sub-counties had higher proportion of households with access to safe water. Katikekile sub-county on the other hand had the largest proportion of households that accessed water from relatively unsafe sources specifically, surface water (from river, dam, run off etc.). Overall, only 22% of households treated their drinking water with the highest proportion being from Municipality (52%), Nadunget (21%),

4. Food Utilization

Katikekile and Rupa at 14% each. The most commonly used method for treatment was by boiling at 70% and chlorination at 28%.

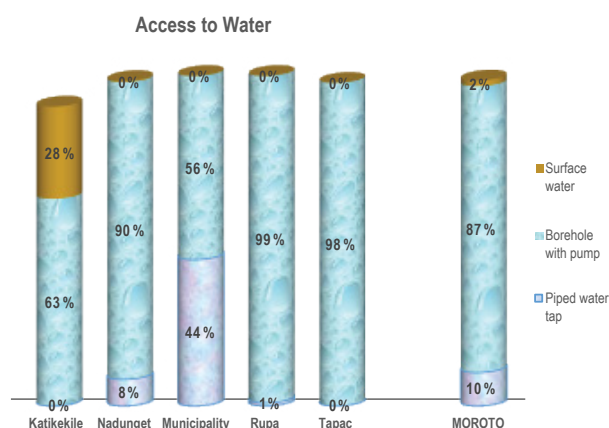


Figure 17: Sources of Household Water, Moroto District

b) Water Usage

Amount of water used was found to be significantly associated with malnutrition levels in the households. 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, most (81%) of the selected households in Moroto district reported use of less than 15 litres of water per person per day, with a range from 50% in Municipality to 91% in Katikekile sub-county. The district had

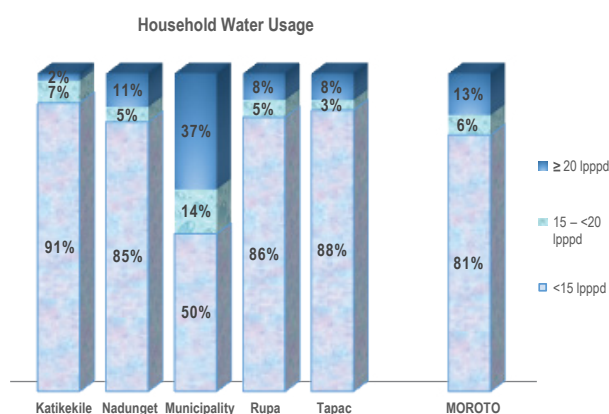


Figure 18: Amount of Water used in Households, June 2017

more households using less than 15 litres of water pppd than the regional average of 76%.

4.8: Household Sanitation and Hygiene

a) Availability of Toilet Facilities

Figure 19 illustrates that 73% of selected households in Moroto district did not have any toilet facilities and out of the 27% that had, 13% shared with other households. The lack of toilet facilities was more common in Nadunget, Rupa and Tapac sub-counties. Findings further show that almost all households (81%) in Municipality had toilet facilities but 34% shared with other households.

The types of toilets ranged from:

- Pit Latrine with slab/VIP (64%): [Municipality (77%), Tapac (64%), (Nadunget (60%), Katikekile (46%), and Rupa (45%); and
- Open pit without a super structure (29%): [Katikekile and Rupa (55%), Nadunget (40%),

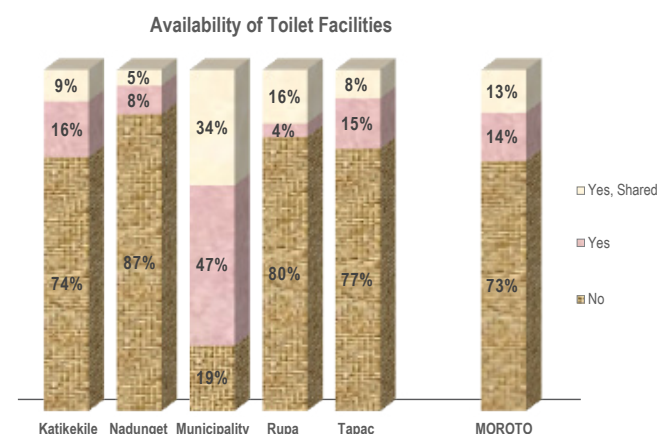


Figure 19: Availability of Toilet Facilities, June 2017

5. Stability

5.1: Main Household Shocks

As illustrated in Figure 20, only 14% of the selected households in Moroto district reported having experienced no difficulty or shock within the 30 days preceding the assessment. Sickness/ disease featured highest (27%), followed by high food prices cited by 23% of the households, floods/ drought (20%) and crop loss due to rodents (6%). Not surprising, Moroto Municipality had the highest proportion of households affected by high food prices (40%) whilst floods/ drought was particularly problematic in the Nadunget and Tapac. High prevalence of sickness/ disease was particularly an issue in Katikekile sub-county while the loss of crops due to rodents was mainly a problem in Tapac sub-county.

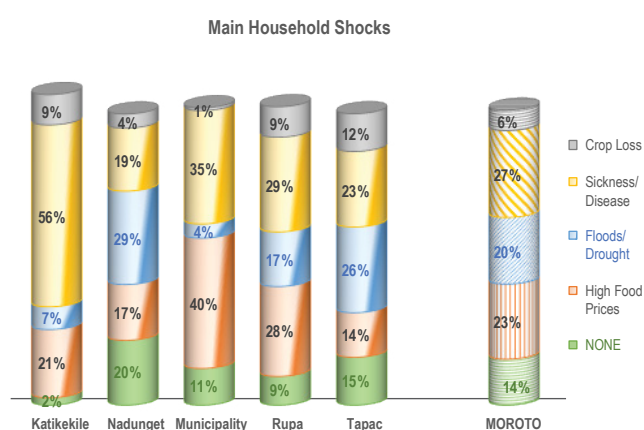


Figure 20: Main Households Household Shocks in Moroto, June 2017

5.2: Livelihood Coping Strategies

As illustrated in Figure 21, about one out of five households in Moroto district (21%) did not apply any coping strategies, more especially from Moroto Municipality (45%). However, about half of households (50%) were in emergency coping mode, especially in the sub-counties of Rupa (57%) and Tapac (55%). Emergency coping was lowest in Moroto Municipality (21%).

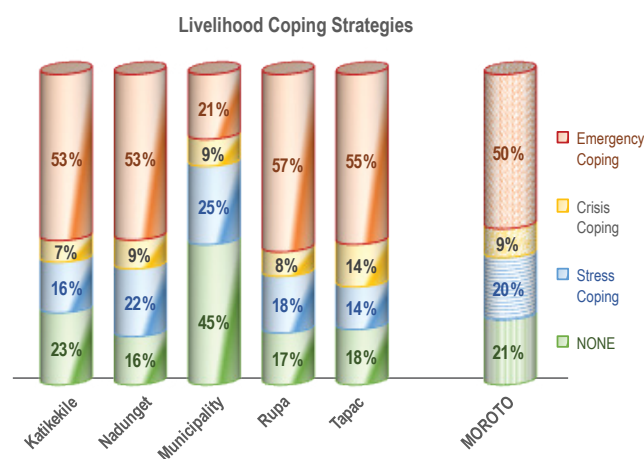


Figure 21: Livelihood Coping Strategy in Moroto, June 2017

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, about 39% of sampled women in Moroto district were underweight, which was similar to the sub-regional average of 39%. **Nadunget** and **Katikekile** sub-counties registered the highest proportions of underweight women (56% and 44%, respectively). Moroto Municipality and Tapac sub-county had the lowest proportion of underweight women (26% each). On the hand other side, **Moroto Municipality** registered the highest proportion of overweight and obese women (18%), which was much higher than the sub-regional average of 4%.

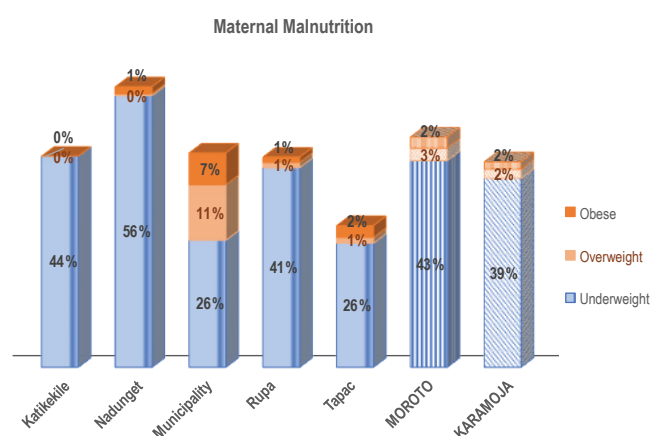


Figure 22: Malnutrition Level among Mothers in Moroto, June 2017

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 Moroto district was at 4.5%, with highest proportion in **Nadunget** sub-county (6%) and lowest in **Katikekile** sub-county (1.9%). All sub-counties were above the critical level of 2%, only exception being **Katikekile** sub-county;
- Global Acute Malnutrition (GAM) for Moroto district was at 18.5%, with highest proportions in **Katikekile** and **Nadunget** sub-counties (22.2% and 21.6%, respectively) and lowest in **Tapac** sub-county (13.9%). All sub-counties were above the critical level of 10%;
- Stunting for Moroto district was at 40.9%, with the highest proportion in **Rupa** and **Nadunget** sub-counties (49% and 44.1%, respectively) and lowest in **Katikekile** sub-county (24.1%). The sub-counties above the critical level of 30% included: **Nadunget**, **Rupa** and **Tapac**;
- Underweight for Moroto district was at 35.9%, with the highest proportion in **Rupa** and **Nadunget** sub-counties (41.4% and 39.4%, respectively) and lowest in **Moroto Municipality** (21.2%). All sub-counties were above the critical level of 20%.

6. Food Security and Nutrition Outcomes

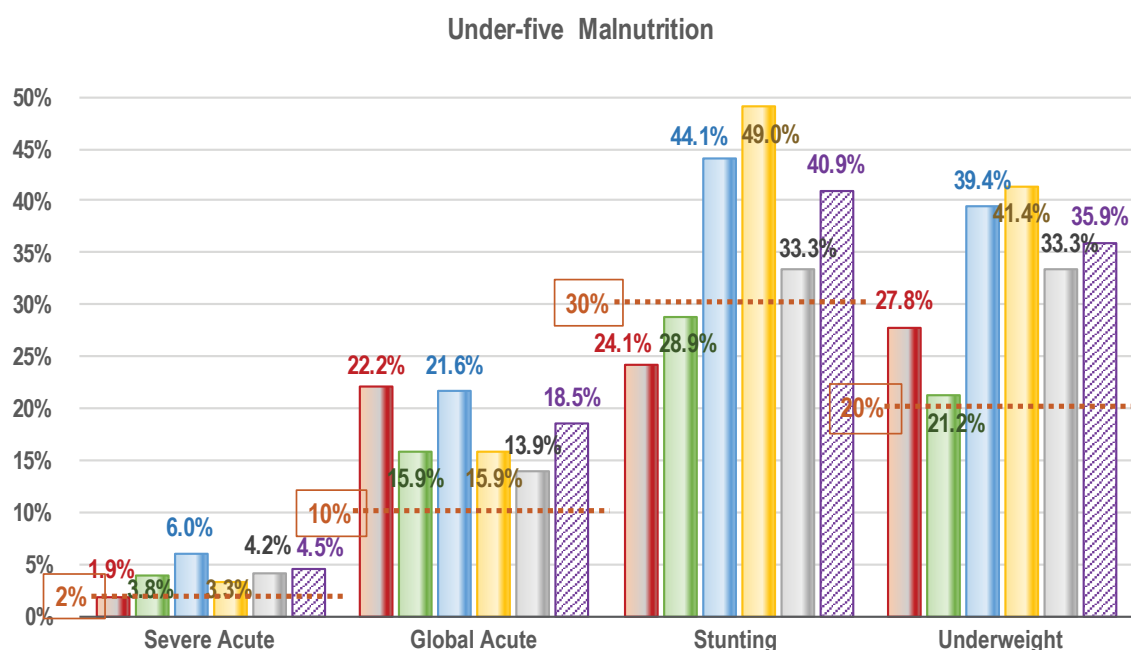


Figure 23: Prevalence of Malnutrition in Moroto District, by Sub-county in June 2017

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 about half (54%) of households in Moroto district were food secure (Food secure + Marginally food secure categories) whilst 46% were Food Insecure. The findings showed that Moroto district had less food insecure households than their counterparts in the sub-region recorded at average of 57%. There were more food insecure households registered in the sub-counties of Katikekile (56%), Tapac (55%) and Nadunget (51%). On the other hand, lowest proportion of food insecure households were registered in Moroto Municipality (21%), where only 1% of the households got categorized as 'Severely Insecure'.

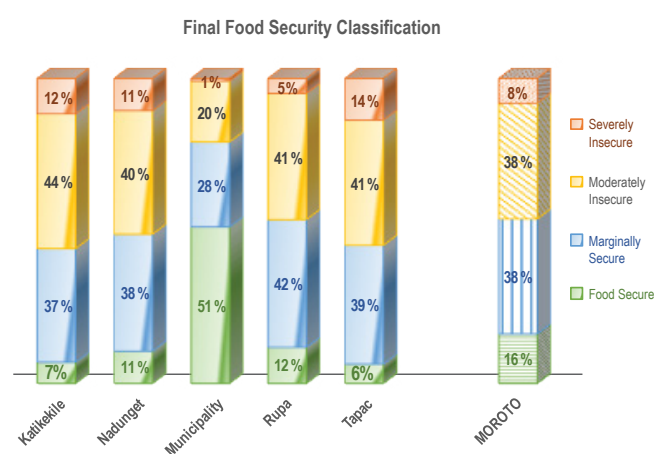


Figure 24: Final Food Security Classification for Moroto, June 2017

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.
-
- ### 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.

7. Recommendations

3. Encourage households to have separate gardens of 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.
4. 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.

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:
 - 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.
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;
6. 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.
7. Educate the community and train VHTs as well as peer mothers on nutrition, sanitation and hygiene, dietary diversification and monitoring of the immunization schedules;
8. 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;

7. Recommendations

9. Increase access to health and nutrition services through mobile clinics and sustainable integrated outreaches to:
 - 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.

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

1. Improve regular school attendance of children by:
 - Advocating for establishment community schools and posting of teachers to such schools;
 - 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.
2. Include nutrition education in the Adult Literacy Classes.

7. Recommendations

Attendance at Moroto FSNA Validation Workshop

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7. Recommendations

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

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