WFP & UNICEF
FOOD SECURITY AND
NUTRITION ASSESSMENT

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ACKNOLEDGEMENTS

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EXECUTIVE SUMMARY

Key Findings:

As has been found in previous food security assessments, there continues to be widespread household food insecurity across Karamoja. The low agricultural productivity across Karmoja is a well-documented fact.

In summary, the main causes of household food insecurity across the region can be attributed to a reduced access to food (in particular non-staples), a result of (1) lack of sufficient livelihood and income generating options at the household level (2) high food prices which are a result of supply – demand imbalances which is further exacerbated by the lack of sufficient food being produced (availability) in the area. The above factors naturally result in inadequate food consumption and poor dietary diversity for large sections of the population. Poor nutritional status amongst children is a result of (a) a combination of high incidence of fever, malaria, diarrhoea, poor sanitation facilities, lack of Vitamin A supplementation and (b) poor dietary diversity (rather than a lack of food per se).

Food Access: The lack of employment opportunities and the inability of most Households (HH) to generate sufficient income:

 (a) Across the sample it was seen that approximately 21% of households were headed by women. This is an extremely high figure and implies that close to one fourth of the households depend on women to simultaneously source incomes and run the household.

 (b) The average size of the household was 6, with only one income earner; and a high percentage of dependents (children and the elderly)

 (c) In Kaabong, Nakapiririt and amongst the Extremely Vulnerable House (EVH) group nearly half the households rely on borrowing and / or food assistance; both are unsustainable activities and can be regarded as coping mechanisms rather than income generating activities.

 (d) Furthermore 22% of households reported no income earner – this is unsurprising given the number of female headed households as well as the high dependency ratio. The highest percentage of these households was seen in Kaabong, Nakapiripirit, and Amudat; and amongst the EVH group.

 (e) On average, food accounted for over 70% of a household's expense; the remaining 30% of a household's expenses covering health, education, inputs for farming and basic necessities.

 (f) Approximately half the sample (49%) reported currently being in debt and needing to repay their loan.

 (g) Seventy percent of these households undertake debt mainly to meet food needs (by definition a short term objective) and not to achieve longer term

goals such as to help start a business or be used as an investment (buying land, livestock). There is a very high risk of the majority of household being trapped in a debt cycle since expenditure on food is a constant.

Food Availability: The inability of landowners to increase the low agricultural productivity:

(a) Farming, as currently practiced, is largely unproductive both in terms of providing food and incomes to households. The result is that households are unable to increase food availability.

(b) The low agricultural productivity is largely a result of drought/low rainfall. For more than 60% of farmers across Karamoja this is the single biggest factor adversely affecting agriculture followed by lack of access to key agricultural inputs.

(c) The fact that only 13% of households are able to meet their cereal, tuber and vegetable needs from cultivation underlines the fact that agriculture productivity remains a concern.

Food Consumption, Utilization & Nutritional Status:

(a) Forty percent (40%) of the sample can be classified as being 'Borderline' and 26% as 'Poor'. In other words, two-thirds of the households across Karamoja region depict inadequate food consumption.

(b) A clear deterioration of food consumption patterns across Karamoja is seen in the period February to June 2014. In this time, the percentage of households with Adequate or Acceptable food consumption has decreased by more than 10%; and there has been a proportional increase in households depicting Borderline food consumption. If the problem is not addressed, there will be a further worsening of the situation resulting in the percentage of households with Poor food consumption gradually increasing as households slide from Acceptable to Borderline to Poor.

(c) Between 40 – 50% of the sampled households resort to practicing coping strategies such as resorting to spending their savings, borrowing money, begging and consuming seed stock meant for the next season. More crucially a sizeable percentage of households report practicing extreme coping strategies such as consuming seed stock and begging.

Note: The design of the questionnaire did not permit more information related to the consumption of seed stock to be collected; and it is recommended that WFP field offices look further at this aspect.

(d) The wasting prevalence in most of the districts is serious (>10%) and Moroto has the highest prevalence of wasting (22.2%), categorized as critical. Indeed the prevalence of wasting is nearly triple that of the national average.

(e) The highest prevalence of underweight (severely wasted and wasted) among mothers is seen in Amudat, Napak and Kaabong districts.

(f) The fact that 10% of the sample obtains their drinking water from unprotected sources combined with the fact that 65% of the households have no latrines facilities has severe potential health risks. Particularly in Amudat, Moroto and Napak.

SUMMARY OF ANALYSIS: EXTREMELY VULNERABLE HOUSEHOLDS

WFP defines EVH as those households headed by children, elderly, chronically and / or disabled people with no labor capacity.

WFP over the past years has provided food transfers to the EVHs to meet a food gap and hence provide a safety net against deterioration of the food security and nutrition situation of the most vulnerable population in Karamoja region. This component of the study therefore seeks to follow up on the food security situation of the EVH households.

The 2013 EVH baseline assessment indicated that 36% of the EVH households in Karamoja had poor food consumption which was worse than the overall Karamoja population that had 18%. The present study therefore seeks to follow up on the food security situation of the EVH households. Approximately 11% of the sample were EVH households.

There has not been any significant change in the proportion of EVHs depicting Poor food consumption which is still at 36% in June 2014. However this is an expected finding given the overall deterioration of household food security in the period February to June 2014 (see sections on Food Access, Availability and Consumption).

Analyzing the data, certain key differences are seen between EVH households and non-EVH households.

a) A key factor contributing to vulnerability seems to be the high percentage of households headed by women. On average 39% of EVH households are headed by women as compared to the average across the region of 21%.

b) Furthermore, on average EVH households are bigger (7 members) than non – EVH households (6).

c) Access to land was slightly lower at 82% for the EVH group. EVH households in Moroto, Napak and Amudat are markedly worse off; with the lowest plot sizes per household when compared to the rest of the sample.

d) Amongst households reporting livestock ownership, it is seen that the EVH group generally owned 1 or 2 animals (cattle, sheep, goats, and pigs) less than non-EVH households. Such a difference, especially for cattle, can be marked and have a notable impact on the household's food security and income generating options.

e) The reliance on "borrowing as a source of income was highest amongst this group: 30% of these households cited borrowing as one of their 3 main sources of income.

f) To further underline the lack of income generating options amongst EVHs is the fact that this group also depicts one of the highest percentage of household's depending on food assistance as a main source of income.

g) Sickness and the opportunity cost of ill health on household food security is a critical factor. Expenses related to health are an obstacle for this group as it diverts critical and scarce resources. Twenty percent (20%) of EVH households in Abim reported sickness and the physical inability as an obstacle to farming.

h) The food consumption patterns of the EVH group is markedly worse-off than that seen in households in all other districts. This group depicts the highest percentage of households with Poor food consumption.

SUMMARY OF ANALYSIS BY DISTRICT

NAPAK

➢ Poor food availability the main driver of household food insecurity.
➢ Households in this district access smaller plots of land as compared to the other districts. This factor, coupled with highest percentage of families reporting inability to access seeds, agricultural inputs results in low agricultural productivity and subsistence farming.
➢ A result of the low production is higher food prices relative to rest of Karamoja; further limiting a household's ability to access food.
➢ District has one of the highest percentage of households undertaking loans in order to buy food – underlining the severity of the problem.
➢ Apart from the EVH group, this district has one of the highest percentage of households with Poor food consumption.
➢ High prevalence of underweight (severely wasted and wasted) among mothers

KOTIDO

➢ The highest number of female headed households was reported across the sample – 43% of households are female headed. An extremely high percentage.
➢ Overall, households in this district do slightly better with respect to agriculture / food availability when compared to rest of Karamoja.
➢ Main problem affecting this district seems to be health related; with the highest percentage of households forced to take loans in order to meet health expenses.

MOROTO

➢ While food consumption patterns are markedly better (as compared to rest of the region); this is probably a result of dependency on loans.
➢ However access to food is a problem with the highest percentage of households (73%) reporting the undertaking of loans and / or being in debt. More critically, this district depicts one of the highest percentages of households undertaking loans in order to buy food.
➢ Households are also more vulnerable given that the second highest percentage of female headed households are in Moroto – 29% of households.
➢ Depicts the worst nutrition levels for children

➢ Relatively low coverage of Vitamin A supplementation and deworming

NAKAPIRIPIRIT

➢ Food access is a serious problem underlined by the following findings:
➢ In this district, amongst households reporting being in debt, more than 80% cited needing to buy food as the reason.
➢ High proportion (over 45% of families) reporting (a) "borrowing" as a source of income and (b) depending on food assistance as a main source of income.
➢ One of the highest percentage of households (37%) reporting only one income earner.
➢ The data points to widespread problems related to health and sickness.
➢ Child nutrition at critical level in particular GAM levels amongst children 6 – 59 months

ABIM

➢ Agriculture seems to be a more practical and profitable livelihood option – relative to other districts. On average, these families have access to larger sized plots.
➢ The district has the second highest percentage (31%) of households reporting agricultural sales as one of their main (first, second or third) sources of income.
➢ The main obstacle to food security is related to health.
➢ Twenty percent (20%) of EVH households in Abim reported sickness and the physical inability as an obstacle to farming.

AMUDAT

➢ Livestock is the most common livelihood option for approximately 87% of the sample.
➢ Partly due to this, it is seen that the dietary diversity of households in Amudat are much better than the rest and reflected in the Food Consumption Score breakdown; 73% with Acceptable food consumption
➢ Drought and lowered rainfall was the single biggest factor adversely affecting households in this district.
➢ Safe water access, latrine access and sanitation issues are a serious concern in this district – reflected in the fact that the district depicts highest proportion of household health expenditure.
➢ Highest percentage of households relying on drinking water from streams, lakes etc. rather than boreholes.
➢ Over 90% of households have no access to a private latrine.
➢ High prevalence of underweight (severely wasted and wasted) among mothers

KAABONG

➢ Lack of access to adequate seeds, agricultural inputs and tools a common constraint
➢ This district sees 46% of households reporting agricultural sales as one of their main (first, second or third) sources of income – by far the highest across all districts.

➢ While food availability is better off than in other districts; the main threat to food security is reduced food access.
- Highest percentage of household's reporting borrowing as a main source of income.
- Highest percentage of household's reporting food assistance as a main source of income.
- Number of households with only one income earner greater than in any other district

➢ Apart from the EVH group, this district has the highest percentage of households with Poor food consumption.

➢ High prevalence of underweight (severely wasted and wasted) among mothers

➢ Child health and nutritional status is a serious problem

RECOMMENDATIONS

Any assistance initiative will necessarily have to *simultaneously* target three main facts of household food security across Karamoja

Increase Food Availability by reducing farming input costs and increasing productivity.

Intensification is the major way to achieve a significant boost to crop production and farm incomes while also increasing demand for farm labour and thus contributing to the improvement in incomes of landless households and small farmers. Such interventions would include:

a) Introduction and / or expansion of WFP's Food-for-Assets interventions that can encourage communities to build and rehabilitate agriculture related community infrastructure

b) Following the completion of WFP's Post-harvest storage pilot in Northern Uganda; review the feasibility of introducing a similar project in Karamoja beginning with Abim, Napak and Kaabong; beginning with discussions with the district leadership in order to ensure the government's support and input from the planning stage.

c) It is recommended that the concerned development communities (in particular FAO) scale up extension activities that help propagate better practices and advise farmers on managing pests & pathogen outbreaks; soil & water conservation and minimizing post-harvest losses.

d) Assist farmers in gaining access to key agricultural inputs.

e) Explore the feasibility of introducing community seed banks

Increase Access to Food

a) The Introduction of Cash-related programmes such as Cash Transfer schemes will be highly beneficial as they will reduce debt as well as provide households with income earning opportunities. It is thus recommended that WFP expand and / or

introduce cash transfer related-initiatives particularly in areas where food access is severely constrained; for example Kaabong, Nakapiripirit and Moroto.

b) Significant expansion of WFP's Food-for-Assets program in areas with high unemployment and under-employment

c) It is recommended that concerned agencies introduce initiatives that increase income generating options at the household level; such as initiatives concerned
- ✓ with the non-food sector,
- ✓ with replenishment of livestock; (particularly swine & cattle)
- ✓ with increasing formal and semi-formal access to credit.

Increase Household Food Consumption & Nutritional Status

a) UNICEF to look into feasibility of expanding activities related to child health in Moroto and Nakapiripirit.

b) UNICEF and other concerned agencies to address the problem of extremely high incidences of fever, malaria and diarrhea in Kaabong.

c) A clear need to address the challenges of complimentary feeding for children aged 6 – 23 months.

d) WFP maintain current levels of assistance to EVH households across Karamoja; and expand EVH assistance, for the short term, in Nakapiripirit, Napak and Moroto – in that order of priority.

e) WFP review and revise the school-meals programs to continue to encourage households to send children to school. For example, inputs (particularly planting materials, ox plough) and extension services to be made available to communities to enable them to open land and manage the crops. Post-harvest and storage facilities can also be considered

f) Both WFP and UNICEF continue to ensure that nutrition programs (for e.g. MCHN) targeted at mothers and young children cover areas which depict highest prevalence of malnutrition. If feasible MCHN or related programs to be scaled up in Kaabong, Moroto and Abim – in that order of priority. The biggest obstacles to scaling up MCHN programs seems to be:

- ➢ Lack of sufficient staff –currently, the MCHN services are restricted to Health center III & IV/hospitals with skilled health workers including mid-wives.

- ➢ Lack of awareness of ongoing MCHN programs – hence urgent need for sensitization of communities.

g) Programmes that target children under two should also address strengthen education and counselling of mothers on appropriate infant and young child feeding. Ensuring regular counseling of mothers in facilities and communities therefore is critical and needs to be maintained and strengthened; possibly via community based promotive, preventive and treatment interventions (Infant and Young Child Feeding, Integrated Community Case Management, Child Health Days for vaccination, Vitamin A supplementation and deworming of children).

h) Interventions related to reproductive health necessarily include Kotido, Nakapiripirit and Amudat.

i) Despite the high bed net usage, prevalence of malaria is still high; hence the need to strengthen other preventive measures including destruction of mosquito breeding areas and sensitization of communities on the same.

BACKGROUND

Karamoja sub-region has always suffered from recurrent food insecurity and high levels of malnutrition influenced by several factors including unpredictable climatic conditions, insecurity, crop and livestock pest, parasite and disease incidences, poor sanitation and feeding practices and poor social and economic capital among others. This has resulted into the need for frequent surveys and studies by government, UNWFP, UNICEF and other stakeholders in order to understand the situation, and make appropriate and timely interventions.

Recent assessments of the Nutrition and Food Security in Karamoja indicate a deteriorating situation; the prevalence of malnutrition above alert level, high levels of food insecurity with households employing the entire spectrum of coping strategies. Crop performance in 2013 was below normal in many areas in the sub region and was feared to aggravate the food security situation of the Karimojong in 2014. The lean period was predicted to have started in February and will go on longer than usual. A recent rapid post-harvest assessment indicates that household stocks have dwindled; similar assessment conducted in December estimated that household stocks would last no longer than the first quarter of 2014.

In addition, morbidity levels have also remained high across the region with more than half of the children having suffered at least one illness in the two weeks prior to the assessment. Also, non-optimal Infant and Young Child Feeding Practices as well as appalling water and sanitation conditions continue to be recurrent problems in Karamoja. These factors negatively impact the food security and nutrition situation in Karamoja.

Despite the various interventions in place to counter the deteriorating food security situation and nutrition, Karamoja still remains vulnerable to food insecurity and malnutrition. With the reported high levels of malnutrition, it is critical to assess the food security and nutrition status and the possible causal factors on a regular basis.

In addition to understanding the general food security status of the entire population it was deemed necessary to incorporate a special analysis for the extremely vulnerable households in Karamoja sub-region. The food security and nutrition situation of the EVH households in Karamoja is fragile owing to their lack of productivity. EVH households have low ability to cope and lack resilience to recurrent shock. The 2013 EVH baseline assessment indicated that 36% of the EVH households in Karamoja had poor food consumption which is worse than the overall Karamoja population that had 18% having poor food consumption. Although there was an improvement from previous studies that indicated that all EVH households were food insecure, the EVH food security situation is generally worse than that of the general population and given that the general Karamoja population food security situation is also poor, it is important to follow up on the status of the EVHs.

METHODOLOGY

The sampling methodology was a two-stage cluster survey that enabled independent as well as combined reporting of results for the seven districts of Karamoja (Abim, Kotido, Kaabong, Moroto, Napak, Amudat and Nakapiripirit). A highly representative sample of approximately 3,700 households were sampled, with Extremely Vulnerable Households (EVH) making up 10% of the sample. For the Extremely Vulnerable Household (EVH), region wide estimates for food security indicators were generated using a sample size of 350 households across Karamoja region.

Data collection was contracted to the International Baby Food Action Network (IBFAN) while data analysis and writing of the report was conducted in-house by the Analysis, Monitoring and Evaluation unit (AME) of the WFP.

District level consultation and planning	Finalization of implementation guide and data screens	National level training	Travel to the filed	District training followed by Data collection	Data cleaning and coding and complete dataset submitted to AME	Analysis
27th May to 3rd June	27th May to 3rd June	4th June to 5th June	9th June	10th June to 27th June	28th June to 1st – 2nd July	3rd July onwards

HOUSEHOLD DEMOGRAPHY

Across the sample it was seen that approximately 21% of households were headed by women. This is an extremely high figure and implies that close to one fourth of the sampled households across Karamoja depend on a woman to source incomes and run the household. Based on the data collected, it seems that the main reason for the high percentage of female headed households is illness amongst male heads - a finding underlined when data related to expenditure and debt is analyzed. It is also clear from data collected that remittances are not being reported as a key source of income (see Income Section), thus negating the possibility that many men have left the area to source work and / or incomes elsewhere.

In conclusion, the fact that one-fourth of all households in a representative sample (across the state) report being headed by women points to serious anomalies related to lack of employment or security.

The highest number of female headed households was reported in Kotido (43%) and Moroto (29%). Incidentally Moroto also has the highest percentage of households reporting the undertaking of loans and / or being in debt.

With respect to EVH, on average 39% of households are headed by woman as compared to the average across the region of 21%.

Regarding household size, the average figure for the sample was six members per household with little difference between the districts. Across the EVH group the average household size was 7. By contrast, Napak with 5 members reported the smallest average household size. Furthermore, it is seen that across the region average number of members between the ages of 15 – 64 in a household was 2. Furthermore, the average number of income earners in a family was one (see section on Income). The relatively low number

per household implies that two members need to source sufficient food (thru agriculture) and income for the remaining members (on average 4) who are children and / or the aged. Given that 21% of households are female headed (and as high as 43% of households in Kotido and 39% amongst EVH); this strongly underlines the fact that obtaining household food security is more of a challenge given the higher percentage of dependents in a household.

EDUCATION

Households having one or more children in the primary-school age-group were asked if their child attended school regularly and the reasons for non-regular attendance and frequent absenteeism of their children from school.

Disaggregating the results it is seen that the most common reasons for regular absenteeism amongst boys and girls were:

Most Common Reasons Offered for Lack of Regular Attendance to Primary School

Girls	Boys
1. HH cannot afford to pay uniforms, textbooks	1. HH cannot afford to pay uniforms, textbooks
2. Child needed for domestic household chores	2. Child needed for domestic household chores
3. Sickness (of child)	3. Child not interested
4. Child has to work (for cash or food)	4. Child has to work (for cash or food)

Table 1: Primary School Absenteeism reasons

While there is slight difference in the most common reasons for absenteeism amongst girls and boys; the common factor is that a sizeable percentage of households, approximately 36%, are unable to afford the cost of sending children to school. The costs – direct (cost of books, uniform, transportation) and opportunity (child needed for work or household chores) result in households (who have a child in primary school) being unable to send their child to school regularly. This also strongly implies that for these households, food security is the main concern and in order to source food or incomes, they are forced to save money by cutting on education expenses or are forced to maximize the household's earning potential by relying on children.

FOOD AVAILABILITY

AGRICULTURE

Land Access

Approximately 87% of the sample had some access to agricultural land; access to land was slightly lower at 82% for the EVH group.

Land Holdings and Size

Flatland: This was the most common type of land-holding reported by 80% of all farmers. The average size of flatland plot per household across the region was approximately two acres. Almost all households in Amudat, Kotido, Moroto and Napak report only access to flatland.

Upland: This type of land holding was reported by 20% of all farmers. The average size of wet paddy plot accessed by a household was three acres. Seventy percent (70%) of households in Abim report a reliance on Upland plots for farming.
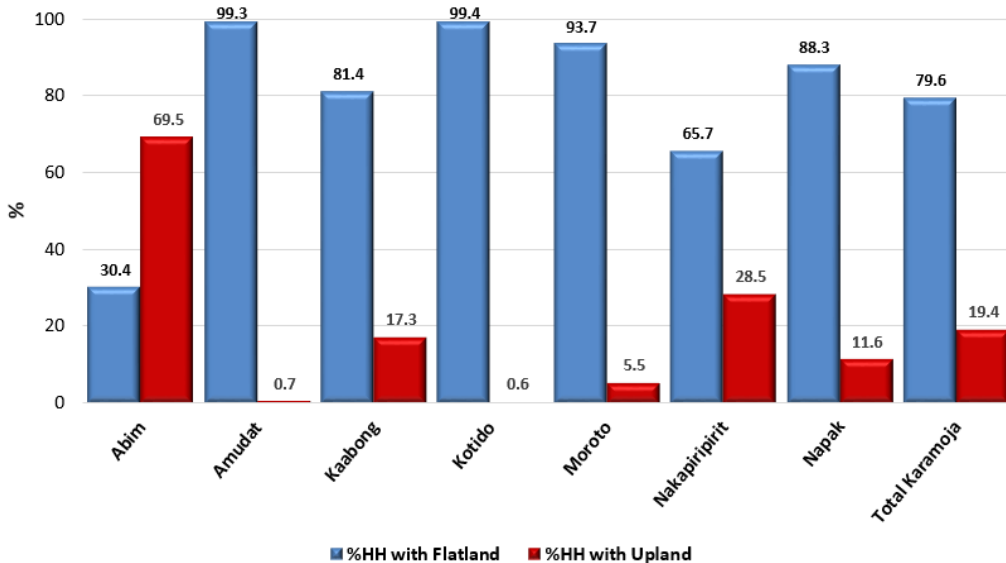
Figure 1: Access to Land and type, by District.

The above data is for the overall sample. When disaggregating the data by district it can be seen that:
  a) As reported above, the average size of a plot of flatland and upland was 2 and 3 acres respectfully. However marked differences in average land size per household is seen across districts. Households in Amudat, Napak and Nakapiripirit had smaller plots of land as compared to the other districts.

b) By contrast households in Abim, Kotido and Moroto have, on average, access to larger sized plots.

c) EVH Group: While access to land was similar for the EVH group, when data for this group was disaggregated by district, it is seen that:

   i. EVH households in Moroto, Napak and Amudat are markedly worse off; with the lowest plot sizes per household when compared to the rest of the sample.

   ii. EVH households in Abim enjoy an above average access to land (particularly Upland plots).

However, it's important to note that a household's access to land or even larger plots of land should not necessarily be taken to mean a corresponding increase in food availability or improved food security. The primary reason for this being the low productivity of agriculture in Karamoja. Low soil and agricultural productivity, low rainfall / drought, high post-harvest losses are all crucial factors that adversely affect food availability at the household level (irrespective of land access) across the region. A more detailed analysis of agricultural productivity in Karamoja can be found in the recently completed FAO, WFP and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) food security assessment of March 2014.

Constraints to Agriculture
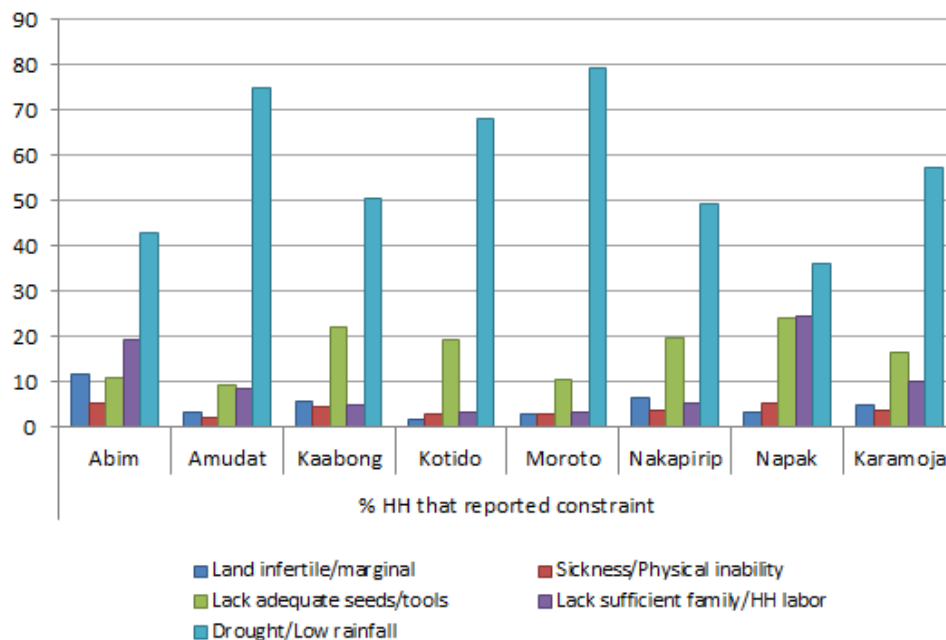
Figure 2: Constraints to Agriculture, by District

Farmers across Karamoja reported the below as the major constraints affecting agriculture over the past 6 months:

(a) **Drought and / or low rainfall** – For more than 60% of farmers across Karamoja (including the EVH group), drought and lowered rainfall was the single biggest factor adversely affecting agriculture. Furthermore, approximately 80% of farmers in Amudat, Kotido and Moroto cited this as the biggest constraint they faced.

(b) **Lack of access to adequate seeds, agricultural inputs and tools** – This was the second most commonly cited constraint; especially by farmers in Kaabong and Napak. It is crucial to note that apart from inclement weather conditions, the main constraint is the lack of income to obtain key inputs that would enable agriculture to become productive. This is directly related to the most common cited constraint – due to lack of rainfall / water, farming does not provide the households with any income. The lack of utilization of inputs means that for most households, farming is largely a subsistence activity.

(c) **Lack of sufficient labor / Inability to afford labor** – The inability to generate income from agriculture means that households are unable to afford labor. Given the high percentage of dependents per average household (4 in a household of 6), this means that most households are unable to maximize their access to land and nor are they able to rely on farming to produce food and rely on other activities for some income. This constraint was most commonly cited by farmers in Abim, Amudat and Napak.

Note: Apart from the above, there seems to be a serious constraint on agriculture due to illness amongst the EVH group in Abim. Twenty percent (20%) of EVH households in Abim reported sickness and the physical inability as an obstacle to farming.

Farming, as currently practiced, is unproductive both in terms of providing sufficient food and incomes to households. The result is that households are thus unable to increase food availability.

LIVESTOCK

Thirty eight percent (38%) of the sample reported owning some livestock. However upon disaggregating the data it is seen that Amudat had by far the highest percent of households owning cattle at 85%, followed by Kotido (39%) and Nakapiripirit (33%).
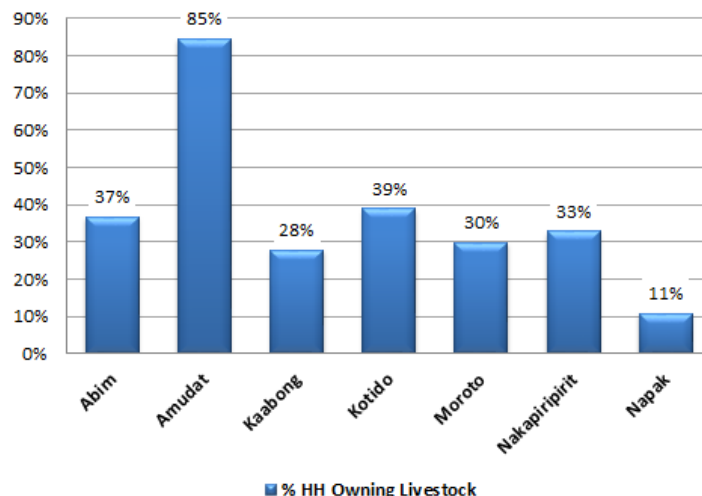
Figure 3: Livestock Ownership, by District

For households reporting livestock ownership, it is seen that cattle, goats and poultry were the most commonly owned forms of livestock. Amudat, Nakapiripirit and Kotido depict the highest ownership of cattle and goats.

Amongst households reporting livestock ownership, approximately 64% of households reported owning poultry. It can be reasonably assumed that most of these households own small quantities of poultry (average of three to four chickens) and this is mainly to complement the household's food access in terms of providing eggs and meat.

Very little variation is seen in livestock ownership patterns between the EVH and the non-EVH groups – with one notable exception. While 36% of EVH households reported owning some livestock (as compared to 38% of non EVH households) and patterns across districts were similar to that described above; there was a notable difference when it came to average number of livestock owned per household. Across the region it is seen that generally EVH had 1-2 animals (cattle, sheep, goats, and pigs) less than non-EVH households. Such a difference, especially for cattle, can be marked and have a notable impact on the household's food security and income generating options.

Main Constraints to Livestock Production

Households owning any livestock were asked the main constraints they faced with respect to livestock production and the following were the four most commonly cited problems across Karamoja region:

a) Parasites and outbreak of diseases affecting health of livestock, particularly cattle
b) Lack of veterinary services and medicines; which has serious implications given that approximately 75% of households with livestock report parasites and diseases as their main constraint to production.
c) Shortage of pasture / feed; particularly in Napak, Kotido and Moroto.
d) Theft of cattle; particularly in Napak, Kotido, Abim and Moroto.

FOOD ACCESS

SOURCE OF STAPLE FOOD

Households were asked the source of food consumed during the prior week. The most common means by which household sourced food for household consumption was by purchasing (through cash and on credit) roughly 80% of all households relied primarily on purchase.
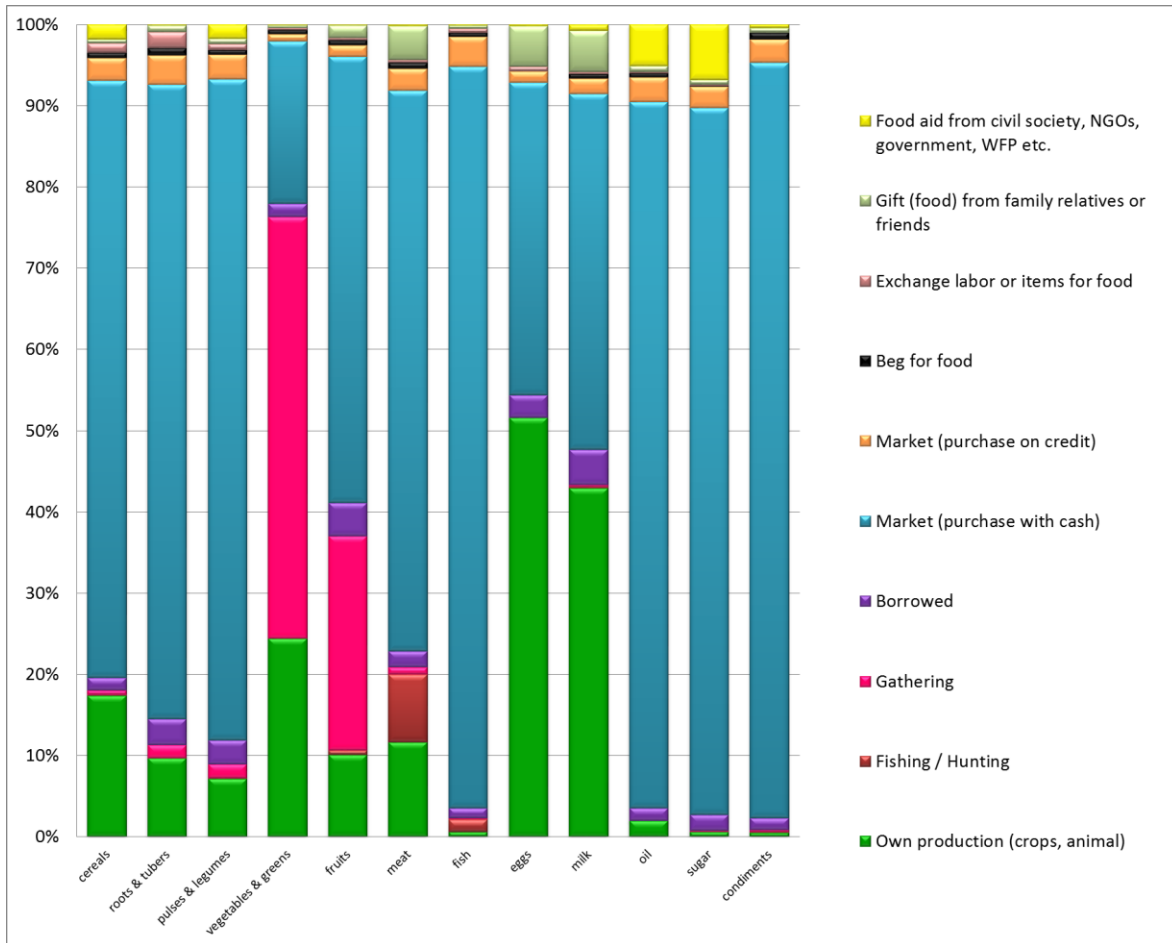
Figure 4: Source of Household Food in the Past 7 days

While 40 – 50% of households relied on "Own Production" for milk and eggs, less than 15% of households cited own production as the main source of cereals, tubers, vegetables or fruits. Once again underlining the lack household food stocks and the low dependency on agriculture. *The fact that nearly 80% of the sample relies on purchase combined with the fact that only 13% of households are able to meet their cereal, tuber and vegetable needs from cultivation underlines the fact that agriculture is unproductive.*

	Food Item	Across all districts / groups:	
		Main Source	Second Source
1	*Cereals & Grains*	Purchase (77%)	Own Production
2	*Tubers / Roots*	Purchase (82%)	Own Production
3	*Legumes, Beans, Nuts*	Purchase (84%)	Own Production
4	*Vegetables*	Gathering / Foraging (52%)	Purchase
5	*Fruits*	Purchase (58%)	Gathering / Foraging
6	*Meat*	Purchase (72%)	Own Production
7	*Eggs*	Own Production (52%)	Purchase
8	*Milk*	Purchase (48%)	Own Production
9	*Oil*	Purchase (88%)	Food Aid
10	*Sugar*	Purchase (87%)	Food Aid

Table 2: Main Source of Food, By Food Group

Note: The percentage figures in the table above refer to households citing a main source of food.

SOURCES OF INCOME

Households were asked to list their sources of income and it is seen that the most common source for households was income derived from petty trade. Over half the sample (56%) cited petty trade as being one of their main sources of income.

Despite nearly 90% of the households having access to arable land, only 17 % of households across districts (with the exception of Kaabong and Abim) reported income from sale of agricultural produce as a main source of income – underlining the inability of households in Karamoja to depend on agriculture as a source of income (see below table). Approximately 46% of households in Kaabong and 31% of households in Abim reported agricultural sales as one of their main (first, second or third) sources of income – by far the highest across all districts.

Households typically generate income (& food) from a combination of activities. More often than not, a combination of specific activities is utilized by households to meet one or more household priorities (e.g., food, income, access to services). The greater the number of income generating activities generated by a household the easier the ability of the household to cope with shocks and stress.

The relatively high percentage of households (13%) depending on other sources for incomes indicates that for these households income earning is a combination of varied activities practiced on an as-and-when basis.

Disaggregating the data, the three most common sources of income for each district is depicted in the below table:

	1st	2nd	3rd
Abim	Agricultural Wage Labor	Petty Trade	Sale of crops
Amudat	Petty Trade	Livestock sales	Agricultural Wage Labor
Kaabong	Petty Trade	Sale of crops	Borrowing
Kotido	Petty Trade	Agricultural Wage Labor	Sale of crops
Moroto	Petty Trade	Small Business	Non - Agricultural Wage Labor
Nakapiripirit	Petty Trade	Agricultural Wage Labor	Borrowing
Napak	Petty Trade	Agricultural Wage Labor	Non - Agricultural Wage Labor
Extremely Vulnerable Households (EVH)	Petty Trade	Agricultural Wage Labor	Borrowing

Table 3: Most Common Sources of Income; by District plus EVH

Kaabong, Nakapiririt and the EVH group had the highest percentage of households reporting "borrowing" as a source of income. On average 30% of these households cited borrowing as one of their 3 main sources of income. This is a worrying factor as borrowing is not an income generating activity *per se*. Borrowing money and / or food is a coping mechanism; however a sizeable portion of EVH households; and households in Kaabong and Nakapiripirit regard it as the main source of income generation. Borrowing generates temporary capital for the household and in the long run can cause more problems to the household.

To further underline the severity of the problem (lack of income generating options) amongst EVHs and households in Kaabong and Nakapiripirit, is the fact that this group also depicts the highest percentage of household's depending on food assistance as a main source of income. One fourth of all households sampled in Kaabong reported food assistance as their fourth most common source of income; and 13% of EVH households.

In summary, nearly half the households depend on borrowing and / or food assistance to generate income; both are unsustainable activities and can be regarded as coping mechanisms rather than income generating activities.

The average number of income earners per family was only one. Approximately half the sample (including EVH group) report only one income earner and this is a telling statistic keeping in mind the average household size is 6. This implies that in case of any shock, these households will be unable to adapt or cope easily by sourcing income from a secondary source. Thus a household dependent on only casual labor for income will, in the event of a member's unemployment, be unable to source income and be forced to rely on food assistance and borrowing.

Furthermore 22% of households reported no income earner – this is unsurprising given the number of female headed households as well as the high dependency ratio. The highest percentage of these households was seen in Kaabong, Nakapiripirit. Amudat and amongst the EVH group – which is related to the above finding of high dependence on borrowing and food assistance.

Nearly 65% of households in Kaabong reported having no income earner. This is a startling statistic and it is strongly recommended that further verification be done; and if this pattern is found to be accurate, urgent livelihood and cash / food for work interventions need to be introduced or scaled up in the above areas.
Note: WFP and World Vision will be commencing on a verification exercise in Kaabong from the 28th of July and the above will be addressed during this field exercise.

SOURCES OF EXPENDITURE

Data on expenditure for food and non-food items, such as education, health, shelter transport, etc. were collected to better understand household resource allocation.

Approximately 90% of households reported food to be their *primary* expenditure; with the exception of Abim. In this district, households reporting food as a primary expenditure was less at 70%.

After food the second most commonly reported expenditure was on health with 40% of households reporting expenditure on medicines and / or health services. Thus despite the opportunity cost of non-food expenses being high, expenditure on health is the second most common expenditure. Lack of access to quality and affordable health care can result over time in widespread health problems across the area and also result in households being forced to divert scarce incomes on medicines and doctor's fees. The highest percentage of households reporting some expenditure on health was in Nakapiripirit, Kotido and Amudat.

Most common expenditures	
1	Food
2	Health
3	Education
4	Farm Input / Investment
5	Clothing, Shelter

Table 4: Households Most Commonly Reported Expenditures

It's important to note that on average food accounted for 70% of a household's expense. Keeping in mind Engel's Law (i.e. the greater the share of total expenditure on food, the more food insecure the household), it is clear that households are mainly concerned with trying to meet food needs. A factor underlined by the findings related to debt, shocks, agricultural sector constraints and household incomes. Thus the remaining 30% of a household's expenses was to cover health, expenditure, education, inputs for farming and even basic necessities. Hence any shock or even sickness in a household can have serious ramifications to the household's food access and availability.

Expenditure patterns are similar across districts and groups.

ACCESS TO CREDIT / DEBIT
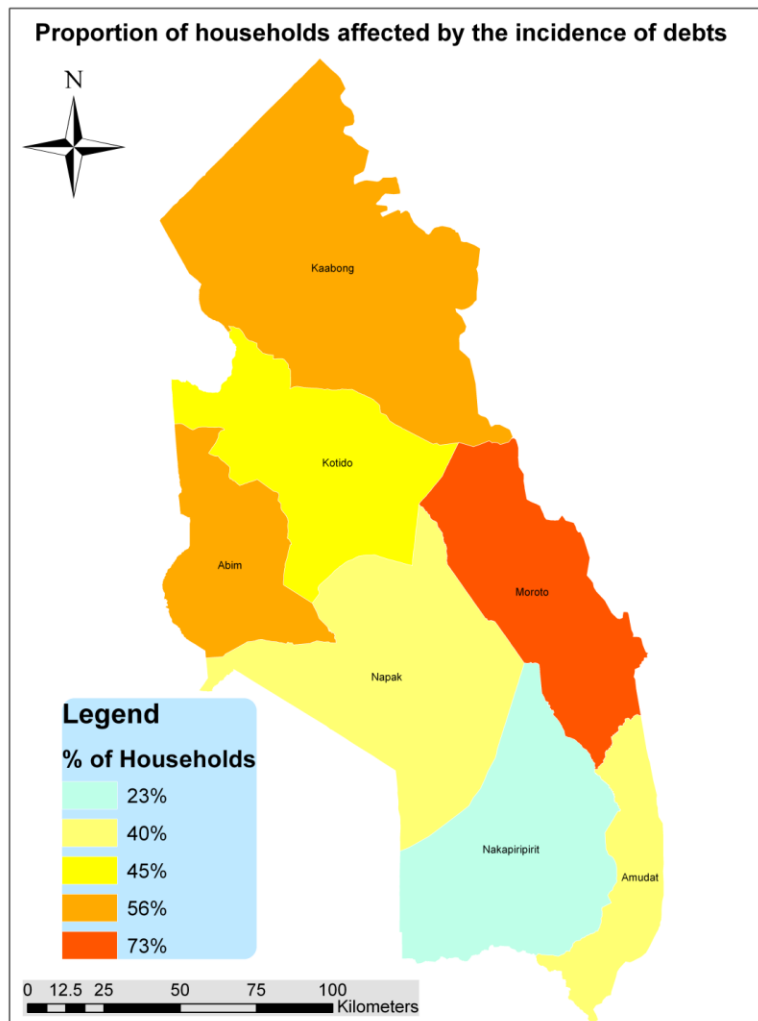
Figure 5: Percentage of household reporting being in debt, by district

Approximately half the sample (49%) reported currently being in debt and needing to repay their loan. Moroto (73%), Kaabong (56%) and Abim were the districts with the highest percentage of families reporting being in debt. By contrast Nakapiripirit had the lowest percentage at 28%. However given the severe food access and availability problems affecting this district, the relatively low percentage of households with debt is probably a function of lack of access to credits / finance.

The main reasons for sampled households obtaining loans can be seen in the below figure.
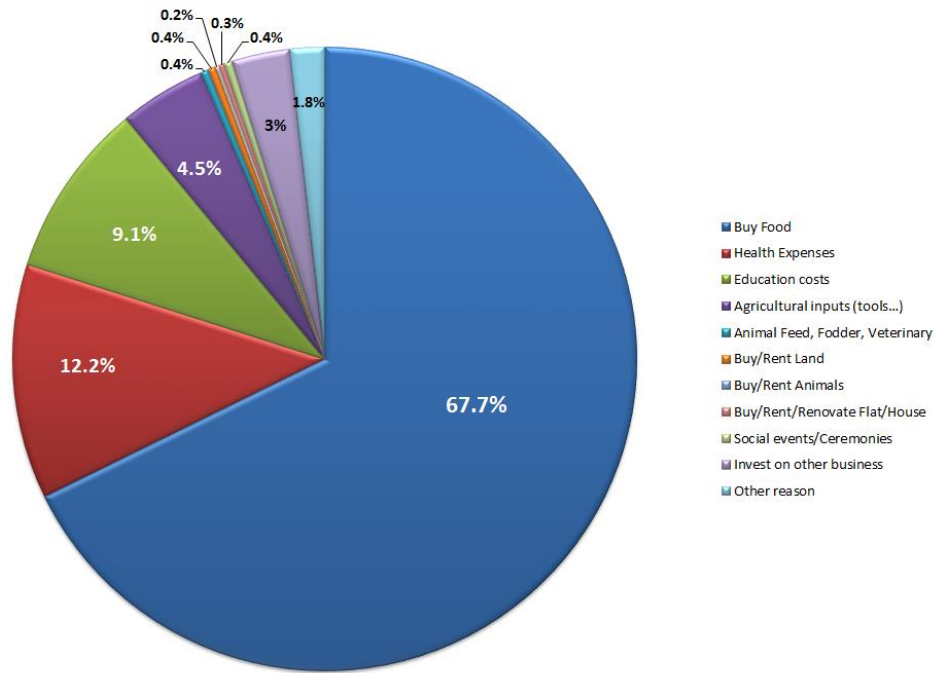
Figure 6: Main Reasons for Household Debt

Main Reason for a Household Being in Debt	Highest percentage of Households found in:
To buy food	Moroto
	Nakapiripirit
	Napak
To cover health expenses	Kotido
	Abim
	EVH Group
To pay costs related to education, school fees	Abim
	Kaabong
In order to buy agricultural inputs	Abim
	Amudat

Table 5: Analysis of Debt Patterns

Upon analyzing the data, the following patterns can be seen:

- Amongst households reporting being in debt, 70% of households across the sample, reported the reason being to buy food. Undertaking a loan is thus seen as a "continuous coping strategy" and not a mechanism that a household will resort to only occasionally.
- Amongst households reporting being in debt in Moroto, Napak and Nakapiripirit, 75% - 80% of households cited buying food as the reason to take a loan.
- Households undertake debt mainly to meet food needs (by definition a short term objective) and not to achieve longer term goals such as to help start a business or be used as an investment (buying land, livestock).
- There is a very high risk of the majority of households being trapped in a debt cycle since expenditure on food is a constant.
- Twelve percent of the sample reported being in debt in order to meet health expenses; most prominently in Kotido (26%) and Abim (17%) – further underlining the fact that there are probable serious health issues in these districts.
- Loans undertaken for livestock, investment and even social expenses (weddings, funerals) constitute less than 5% of all households reporting debt.
- Data on debit patterns offers further proof that agricultural productivity is very low – given that over 90% of the households had access to arable land.

Regarding source of credit amongst households with debt; 82% of households reported obtaining money from informal sources. Keeping in mind the dearth of formal lending institutions, this is to be expected. The most common source for loans were from relatives (52%), traders / shopkeepers (19%) and money lenders (6%). Loans obtained from the latter two sources would almost certainly mean a higher than normal rate of interest thus increasing the burden of households dependent on these sources for loans.

What is certain is that there is an urgent need to increase formal and semi-formal access to credit across the region. Approximately 10% of households reporting debt stated obtaining their loan from a bank or micro-credit institution; with the exception of Abim. In this district, nearly 60% of households reporting debt stated they obtained a loan from a bank or micro-credit institution i.e. a formal source of credit. It is most likely that a development agency or the government has introduced a credit scheme or intervention and such an intervention is also needed in other parts of Karamoja.

■ Relatives
■ Traders/shop-keeper
■ Bank/Credit institution/Micro-credit project
■ Money lender
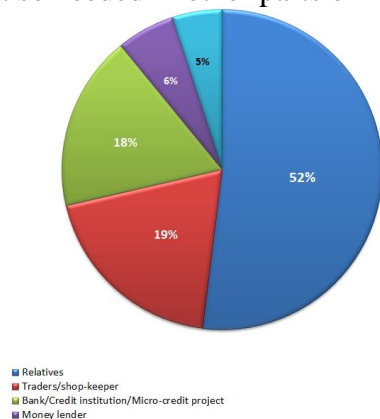
Figure 7: Sources of Credit

FOOD CONSUMPTION

FOOD CONSUMPTION SCORE (FCS)

Information was collected on the dietary diversity of the household with respondents being asked to list the number of days a particular food item was consumed by the household in the seven days prior to the interview. Thus a '0' for fruits would indicate that a household did not consume any fruit in the previous seven days while a '4' would indicate consumption four days out of seven etc. The mean food consumption score for a seven day period for the sample was then calculated.

Food Consumption Groups were formulated and it is seen that with the exception of Amudat (see below) approximately 34% of the sample can be classified under the 'Acceptable' food consumption group. Forty percent (40%) of the sample can be classified as being 'Borderline' and 26% as 'Poor'. *In other words, two-thirds of the households across Karamoja region depict inadequate food consumption.*

FOOD CONSUMPTION PATTERNS:

1. The food consumption patterns of the EVH group is markedly worse-off than that seen in households in all other districts. This group depicts the highest percentage of households with Poor food consumption. This group has less access to vegetables, tubers and eggs, milk when compared to the sample average.
2. Apart from the EVH group, households with highest Poor food consumption is seen in Kaabong and Napak districts.
3. Between 70 – 75% of households amongst the EVH group and in Napak, Kotido, Abim and Kaabong districts depict inadequate food consumption i.e. Poor + Borderline.
4. By contrast, approximately 75% of households in Amudat and nearly 60% of households in Moroto exhibit Acceptable food consumption. However the following needs to be kept in mind:
   a) The dietary diversity of households in Amudat are much better than the rest of sample due to the extent of livestock ownership in this district. These households thus have a considerably higher access to milk, dairy products and meat; this factor skews the dietary diversity results on which the FCS are based with the result that 75% of households here can now be classified as having Acceptable food consumption. In reality, consumption of cereal, tubers, vegetables, fruits are similar or even lower for households in Amudat when compared to other districts.
   b) The main reason for the high percentage of Acceptable food consumption in Moroto is probably a result of dependency on loans. In Moroto access to food is a problem with the highest percentage of households reporting the undertaking of loans and / or being in debt. More critically, this

district depicts one of the highest percentages of households undertaking loans in order to buy food.

c) This also underlines the relevance and need to increase livelihood and income generating interventions across the region.
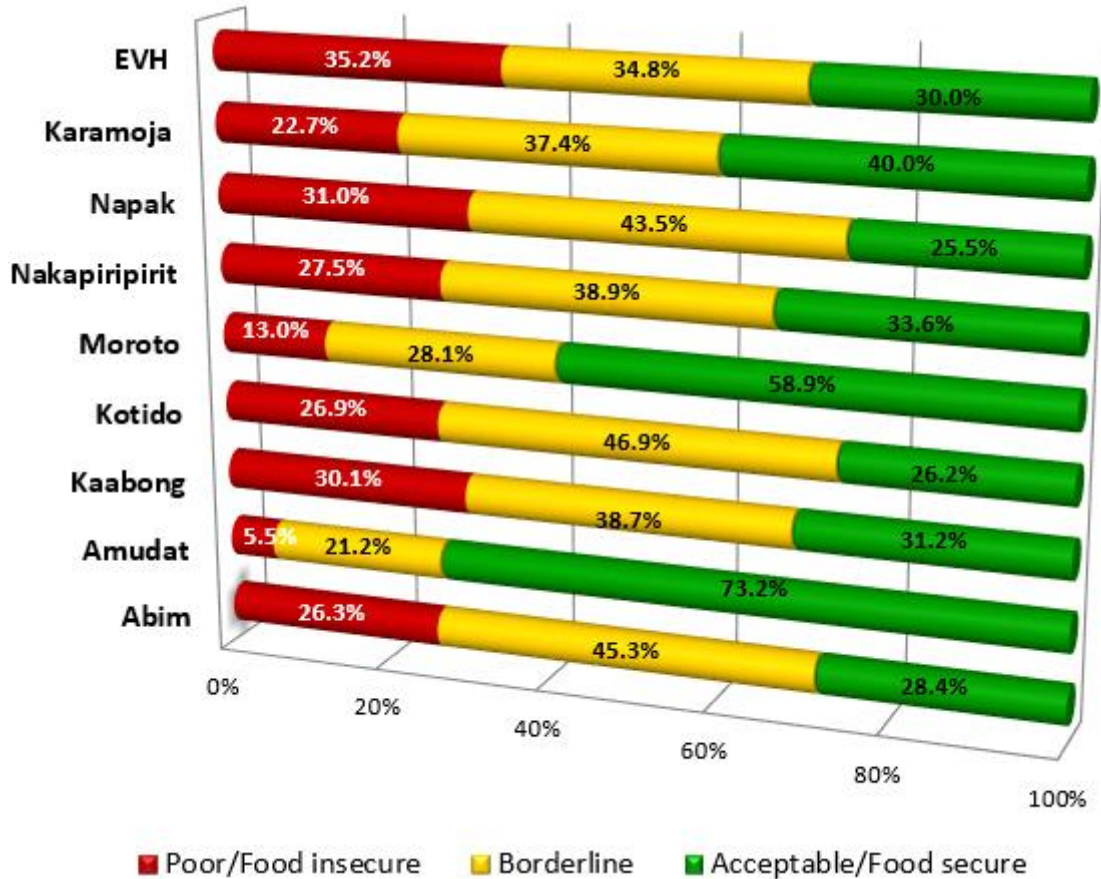
Figure 8: Food Consumption Scores, by District and by Group

To get a better idea of the state of food security , the Food Consumption Scores can be compared to results obtained from the earlier FSA conducted in Feb 2014 (FAO, WFP & MAAIF) as well as FCS from the Dec 2013 Northern Uganda Refugee

Percentage of Sample (%)			
	Poor	Borderline	Acceptable
FSA – Karamoja (excluding Amudat) (February 2014)	28	26	47
FSNA – Karamoja (excluding Amudat) (June 2014)	26	40	34
Refugee Assessment, Northern Uganda (Dec 2013)	22	24	54

Table 6: Comparison of Food Consumption Scores Source: WFP AME

The difference in the performance of the indicators taken from a sample in an emergency area and Karamoja region is striking.

Furthermore, a clear deterioration of food consumption patterns across Karamoja is seen in the period Feb – June 2014. In this time, the percentage of household with Adequate or Acceptable food consumption has decreased by more than 10%; and there has been a proportional increase in households depicting Borderline food consumption. If the problem is not addressed, there will be a further worsening of the situation resulting in the percentage of households with Poor food consumption gradually increasing as households slide from Acceptable to Borderline to Poor.
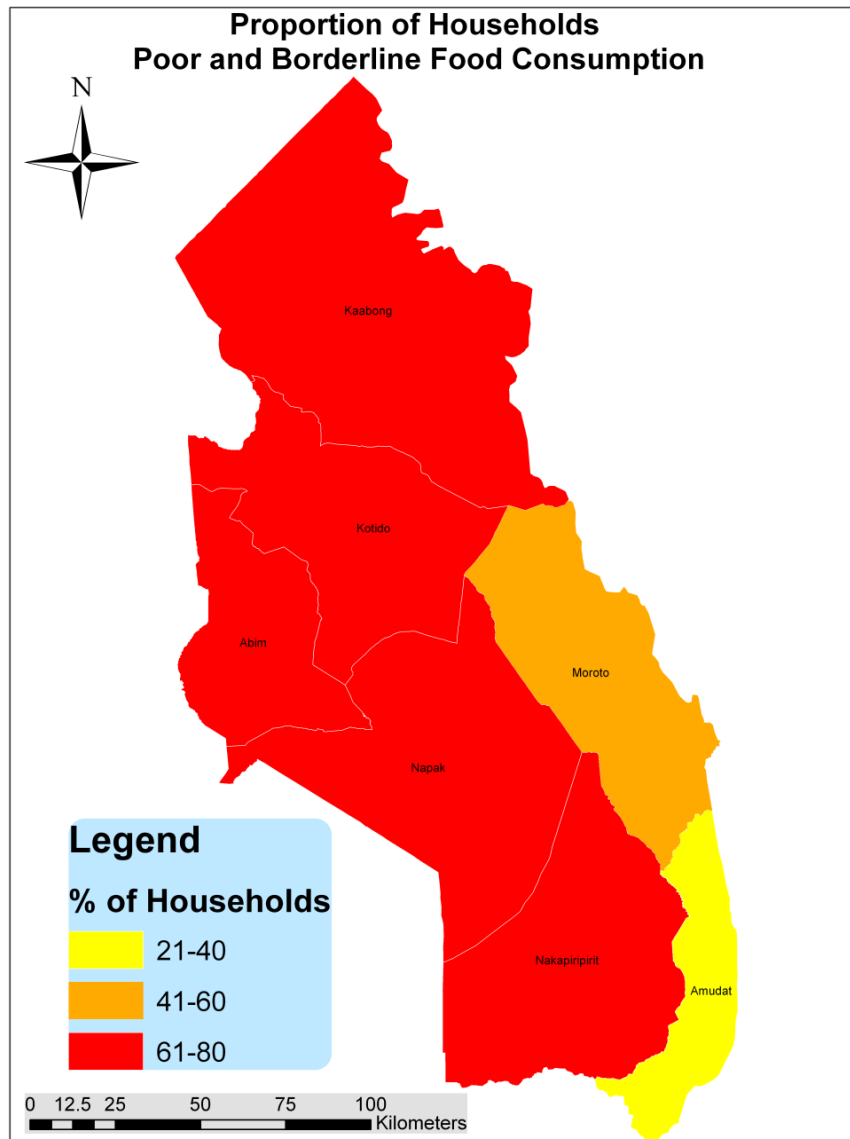
Figure 9: Poor & Borderline Food Consumption by District

SHOCKS AND COPING MECHANISMS

SHOCKS

Respondents were asked to list the two main shocks or difficulties faced by their household in the past month. Once the respondent had listed the shocks he or she was then requested to list the shocks in order of severity from 1 (most severe) to 3 (less severe). Based on all the responses, the following patterns were seen with respect to main shocks:

	Shock	%age
1	High food prices	67 %
2	Adverse weather conditions (drought, low / heavy rainfall)	40 %
3	Sickness / Health expenditure	19 %
4	Debt to repay	11 %
5	Crop loss due to pests, pathogens, rodents	9 %

Table 7: Main shocks faced by Households

Note: Figures exceed 100% as figures are cumulative based on multiple responses.

The most common obstacle to food security is high food prices (with over 75% of households in Amudat, Kaabong and Napak reporting it as their biggest difficulty / shock). The five most widely reported shocks are all closely related to each other. For example adverse weather conditions, the second most widely cited shock is closely related to the first. The situation is further exacerbated by the crop loss due to pests forcing households to obtain loans to cover even basic expenses or to meet health expenses.

Note: The questionnaire was not designed to obtain further information on type of sickness, duration etc but there is an urgent need to obtain more relevant details. Irrespective of the sickness the widespread prevalence means that these households are adversely affected since (a) the household's income generating potential is reduced, and (b) Households need to divert scarce resources on health expenses.

Analysis of Shocks by District and Group

Nature of Household Shock	Highest percentage of Households found in:
High food prices	Amudat
	Kaabong
	Napak
Adverse weather conditions	Kotido
	Amudat
	Nakapiripirit
	EVH Group
Sickness / Health expenditure	Napak
	Moroto
	EVH Group
Debt to repay	Moroto
	Kaabong
Crop loss due to pests, pathogens, rodents	Moroto
	Kaabong

Table 8: Analysis of Shocks

COPING STRATEGY

Respondents were asked to list any coping strategies that their households was forced to rely on and the frequency of this reliance. *The data on coping strategies clearly shows that between 40 – 50% of the sampled households resort to practicing coping strategies such as resorting to spending their savings, borrowing money, begging and consuming seed stock meant for the next season. More crucially a sizeable percentage of households report practicing extreme coping strategies such as consuming seed stock and begging.*

Among households that reported the use of coping strategies; the most common strategies were:

- Borrowing money: This was the most common coping strategy reported by nearly 50% of households who reported reliance on coping mechanisms. Kaabong and Moroto had the highest percentage of households (above 60%) who relied on borrowing. This clearly indicates that a sizeable percentage of households are unable to source enough food or income to meet their food requirements.
- Begging – This is an extreme coping mechanism and what is striking is that 38% of households depending on any coping mechanism cite begging as a strategy; especially in Moroto and Napak.
- Consumption of seed stock – Kaabong, Kotido, Amudat and Moroto report the highest reliance on this strategy. This practice has severe implications for household food security in the near future as these households will now be unable to rely on agriculture in the coming season (unless they source seed stock).
- Spending savings: Approximately 20% of the households reported resorting to this coping strategy; mainly in Moroto, Napak and Amudat.

Note: The selling of productive assets was a rarely reported coping strategy; with the exception of Amudat. Here 32% of all households who relied on coping strategies, cited this strategy. Given the reliance and importance of cattle in this district, it can be assumed that these households were forced to sell livestock in order to meet food and essential non-food needs.

Overall, highest reliance on coping mechanisms were seen in the districts of Napak, Amudat and Moroto. No variations in coping strategy reliance was seen between EVH group and the rest of the sample.
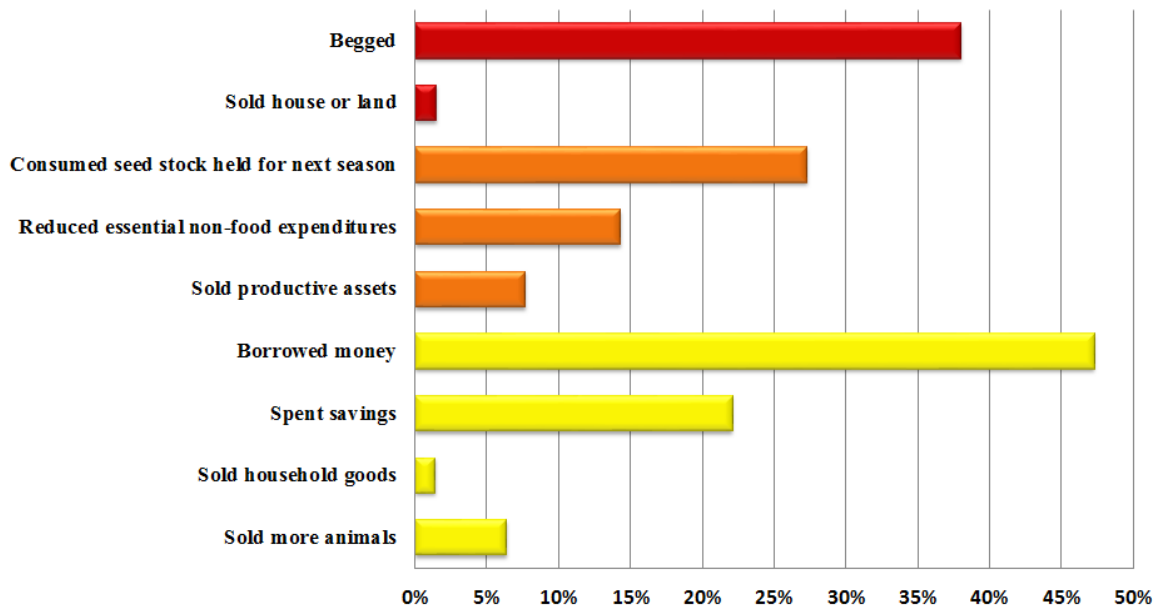
Figure 10: Prevalence of Coping Mechanisms across Karamoja Region

The Coping Strategies Index (CSI) measures behavioral responses to food insecurity, such as reducing the frequency of meals, reducing the portions of food consumed during meals or shifting reliance to cheaper foodstuffs, shifting reliance to less preferred or cheaper food types and other food consumption-related coping strategies.

Based on the number, frequency and the level of difficulty perceived by the population in using a specific strategy, a numeric reduced coping strategy index (CSI) was calculated. The higher CSI indicates a higher level of vulnerability. It should be noted that the value thus calculated by itself is unhelpful. However the values when compared to each other tell us about the overall severity.

From the above CSI score, it is seen that there is very little difference in CSI score between districts; however the CSI scores for the EVH group are markedly higher indicating a higher level of vulnerability.

WATER, SANITATION & HEALTH SERVICES

Accesses to water – Households were asked about their main source of drinking water. Water sourced from a borehole was the most commonly reported source by approximately 84% of the sample, with little difference between districts or amongst the EVH; with the exception of Amudat. In this district less than 65% of households reported accessing water through boreholes, with nearly 30% of households here relying on surface water from rivers, lakes, dam etc. By contrast less than 8% of the households in other districts reported surface water as a main source. A further 4% of households across the region reported being able to access piped water from taps. Thus with the exception of Amudat, about ten percent (10%) of the households reported the utilization of water from unprotected sources. For this group water from unprotected sources poses a serious health risk especially amongst children.

Less than 7% of the sample reported the treatment of water prior to drinking. For the EVH group, the figure was higher at 10%. The most commonly used method of treatment was by boiling.

Latrine Facilities – Only 21% of households reported access to a private latrine. Access to a private latrine for a household was highest in Abim (54%) and Kaabong (48%) and lowest amongst households in Amudat and Moroto. Sixty five percent (65%) of households reported using the bush / open air for a latrine. Nearly 90% of households in Amudat and Moroto, and 80% of households in Nakapiririt and Napak reported using the bush. Across the sample, between 6 to 10% of households also reported relying on a neighbor's latrine.

The fact that 10% of the sample obtains their drinking water from unprotected sources combined with the fact that 65% of the households have no latrines facilities has severe potential health risks. Particularly in Amudat, Moroto and Napak.

Households were asked where they usually go for treatment when sick; across districts it was seen that households most commonly went to either the health centre (on average 85%) or the hospital (13%) when sick.

The most common type of fuel used by households for cooking was firewood (94%) and charcoal (6%).

For the above findings, there was negligible variation between the EVH and non-EVH group.

NUTRITIONAL STATUS

MOTHER & CHILD DEMOGRAPHICS

District	Sex ratio of sampled children			Distribution of sampled children by age					
	Boys	Girls	Boys:Gilrs Ratio	6 to 11	12 to 23	24 to 35	36 to 47	48 to 59	Total
Abim	336	353	1.0	101	199	160	124	105	689
Amudat	227	213	1.1	115	141	97	61	26	440
Kaabong	344	355	1.0	80	229	155	115	120	699
Kotido	350	315	1.1	83	187	156	139	100	665
Moroto	305	310	1.0	116	155	160	108	76	615
Nakapiripirit	257	285	0.9	104	152	118	87	81	542
Napak	364	332	1.1	113	189	195	124	75	698
Karamoja	**2183**	**2163**	**1.0**	**712**	**1252**	**1041**	**758**	**583**	**4348**

Table 9: sex ratio and distribution of sampled children

A total of 4,348 children were included in the anthropometric analysis. Overall, there was an equal representation of male and female children attesting to effective sampling procedures.

The majority of the mothers (>70%) in Karamoja don't have formal education (Figure 11). The education among mothers in Abim district is better than seen in other districts. Kotido, Napak and Amudat districts have the lowest proportion of mothers with formal education (<10%).
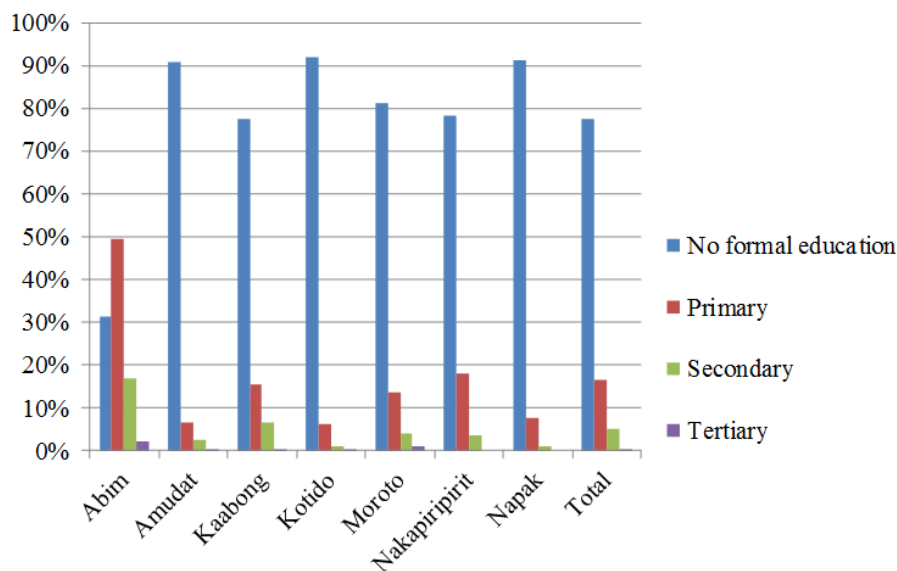
Figure 12: Education status of mothers by district

There is correlation between education of mothers and the nutritional status of their children. According to the 2011 Ugandan Demographic Health Survey (children born to uneducated mothers are two times more likely to be underweight (low weight for age) than to mothers who have at least attained secondary education. Similarly, wasting (low weight for height) is more prevalent amongst children born to uneducated mothers. The need to address education levels of mothers in Karamoja is therefore very critical in order to improve the nutritional situation in Karamoja.

REPRODUCTIVE HEALTH

Majority of mothers interviewed (more than 70%) were either pregnant or breastfeeding (Figure 12). The average age of the mothers interviewed was 30 years while the mean number of live births per mother is 4 children (Table 10). Despite the fact that the Total Fatility Rate (TFR) in Karamoja is lower than the national average, fertility level of women in Karamoja still constrains already food insecure households as they struggle to meet their food needs. Nakapiripirit and Amudat are the districts with the highest proportion of mothers that are pregnant and / or breastfeeding; and Kotido has the highest mean live births as compared to other districts. Thus it is recommended that interventions related to reproductive health necessarily include these districts.

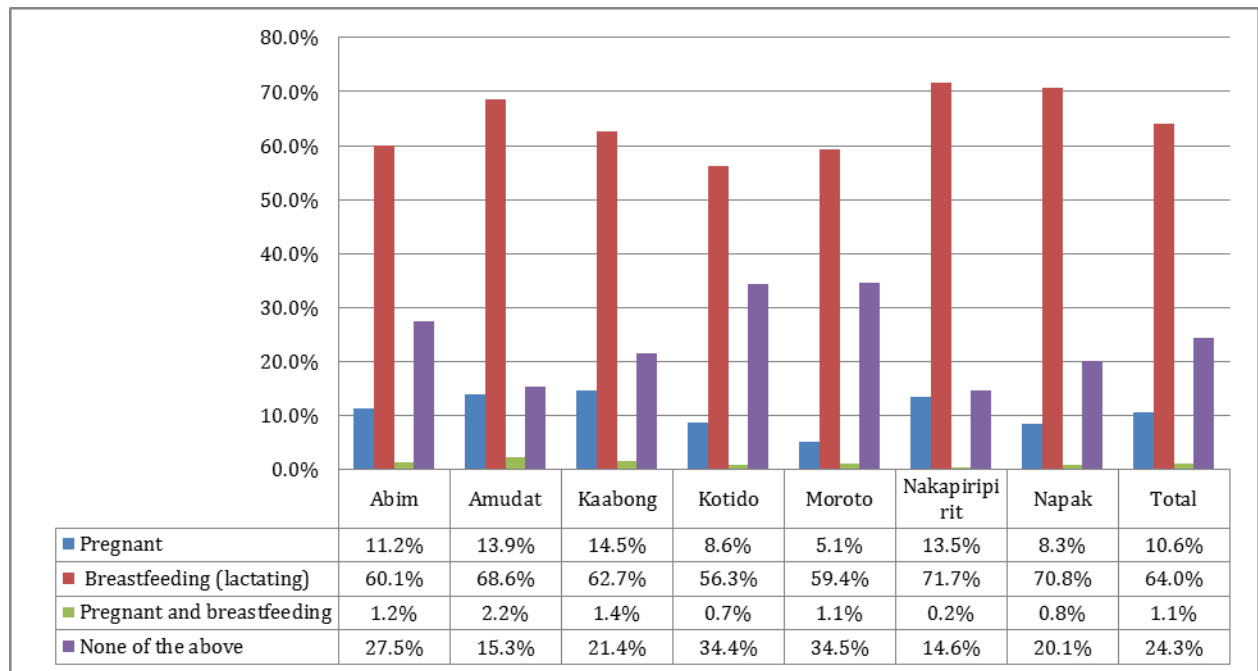|	Abim	Amudat	Kaabong	Kotido	Moroto	Nakapiripirit	Napak	Total
Pregnant	11.2%	13.9%	14.5%	8.6%	5.1%	13.5%	8.3%	10.6%
Breastfeeding (lactating)	60.1%	68.6%	62.7%	56.3%	59.4%	71.7%	70.8%	64.0%
Pregnant and breastfeeding	1.2%	2.2%	1.4%	0.7%	1.1%	0.2%	0.8%	1.1%
None of the above	27.5%	15.3%	21.4%	34.4%	34.5%	14.6%	20.1%	24.3%

Figure 12: Reproductive health status among women 15-45 years according to district

	Age of mother/Caregiver	Number of live births
Abim	30	4.3
Amudat	29.1	4.2
Kaabong	30.4	4.0
Kotido	33.8	5.0
Moroto	30.7	4.1
Nakapiripirit	30.6	4.0
Napak	29.7	3.5
Total	30.6	4.1

Table 10: Average number of live births (fertility) of mothers and mean age of mothers

PREVALENCE OF WASTING, STUNTING AND UNDERWEIGHT

In all the districts, prevalence of wasting, stunting and underweight ranges from poor to critical according to WHO category (Table 13). The overall GAM prevalence among children 6-59 months in Karamoja region was 13.4%, (95% CI 12.1 − 14.7) (Table 11). The wasting prevalence in most of the district is serious (>10%) and Moroto has the highest prevalence of wasting (22.2%), categorized as critical. Wasting/acute malnutrition is characterized by a rapid deterioration in nutritional status over a short period of time, and mostly due to food shortage.

District (6-59 months)	GAM	SAM	Stunting	Underweight
Abim (N=679)	8.4 (5.8 - 12.0)	2.2 (1.1 - 4.2)	23 (19.8 - 26.5)	14.9 (12.1 - 18.2)
Amudat (N=439)	11.2 (8.2 - 15.0)	1.8 (0.9 - 3.5)	25.1 (21.0 - 29.6)	16.9 (12.9 - 21.8)
Kaabong (N=689)	13.5 (10.2 - 17.7)	3.3 (1.9 - 5.7)	27.2 (23.0 - 31.9)	21.6 (18.4 - 25.1)
Kotido (N=657)	11.9 (9.0 - 15.5)	2.4 (1.4 - 4.2)	28.6 (24.0 - 33.8)	21.5 (18.4 - 24.9)
Moroto (N=608)	22.2 (18.3 - 26.7)	5.6 (3.7 - 8.4)	42.2 (36.4 - 48.3)	40.1 (35.2 - 45.2)
Nakapiripirit (N=536)	14.6 (11.4 - 18.4)	3.2 (1.9 - 5.2)	31.6 (27.4 - 36.2)	26.6 (23.0 - 30.5)
Napak (N=682)	13.2 (9.7 - 17.7)	2.3 (1.1 - 4.7)	47.2 (42.0 - 52.2)	33.8 (29.0 - 38.9)
Combined (N=2561)	13.4 (12.1 - 14.7)	2.8 (2.3 - 3.4)	32.3 (30.3 - 34.4)	25.0 (23.3 - 26.8)

Table 11: Prevalence of GAM, SAM, Stunting and Underweight by district. % (95 % CI)

	Acceptable	Poor	Serious	Critical
Stunting	<20%	20 – 30%	30 – 40%	>40%
Wasting	<5%	5 – 10%	10 – 15%	>15%
Underweight	<10%	10 - 20%	20 - 30%	>30%

Table 12 : WHO classification of the prevalence of malnutrition

| District	Wasting	Stunting	Underweight
Abim	Poor	Poor	Poor
Amudat	Serious	Poor	Poor
Kaabong	Serious	Poor	Serious
Kotido	Serious	Poor	Serious
Moroto	Critical	Critical	Critical
Nakapiripirit	Serious	Critical	Critical
Napak	Serious	Serious	Serious
Combined	Serious	Serious	Serious

Table 13 : Classifying prevalence of GAM, stunting and underweight based on WHO classification.

Understanding the factors responsible for the worsening nutrition status in Karamoja is critical to addressing the problem. There were a number of factors that were found to be significantly associated with wasting. Children were more likely to be wasted if they did not use Insecticide Treated Nets (ITNs) or bed nets, had suffered from malaria or diarrhea in two weeks prior to the assessment, were not dewormed or provided Vitamin A supplementation in the last six months, were from households without a private latrine.

Trend of Malnutrition for all districts in Karamoja

An overall increase in GAM has been observed from the findings (Table 14). The GAM in Moroto has been the highest while Abim has continued to have the lowest GAM. Some of the drivers of the high GAM rate in Moroto include the fact that Moroto has the poorest sanitation indicators, has the second highest morbidity, second lowest MCHN coverage and lowest Vitamin A and deworming coverage. It is also important to note that GAM in Karamoja has persisted above the alert threshold of 10%.
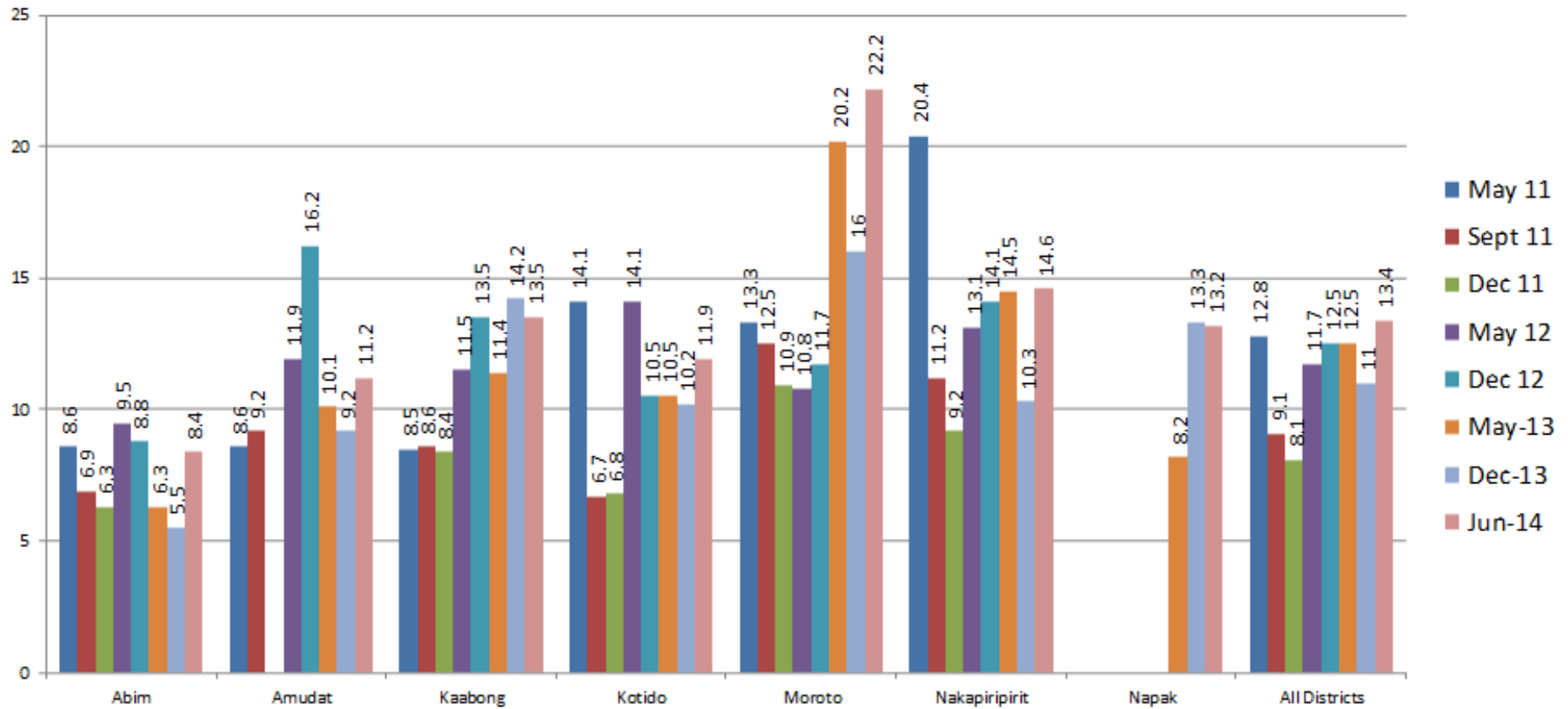
Figure 13: Trend of GAM in Karamoja

Distribution of malnutrition by age

The GAM rates were highest for the 6 – 23 month age cohort (Figure 14). The findings are consistent with what is observed in previous assessments in the region. This period coincides with the time when children are introduced to complimentary foods. Poor quality and inappropriate introduction of complimentary feeding results in significant acute malnutrition among children below two years. Hence the need to address challenges of complementary feeding.
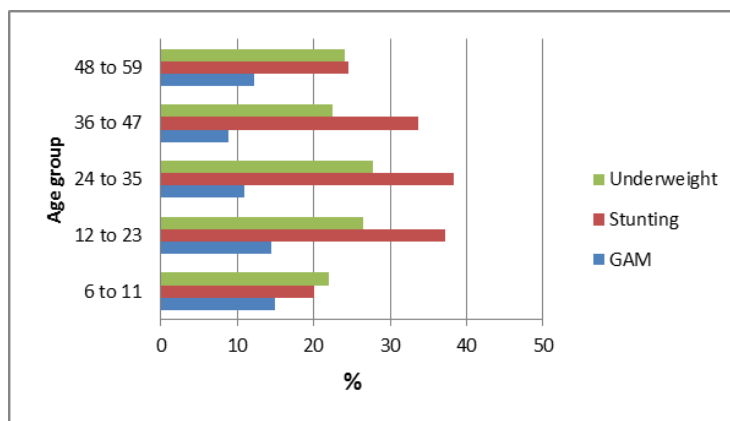
Figure 14: Distribution of GAM and SAM according to age group

The peak age for underweight and stunting was however, 24 to 35 months.

PREVALENCE OF UNDERWEIGHT AMONG MOTHERS

Mothers' nutrition status as measured by Body Mass Index (BMI) was poor. The proportion of underweight mothers in Karamoja has remained constantly high. The prevalence of underweight among mothers has increased from 22.5% in May 2013 to 28.1% in June 2014. The highest prevalence of underweight (severely wasted and wasted) among mothers is seen in Amudat, Napak and Kaabong districts.

District	Severely underweight	Underweight	Normal	Overweight	Obese
	%	%	%	%	%
Abim	2.0	13.2	77.2	4.0	3.6
Amudat	26.2	23.9	44.4	2.1	3.4
Kaabong	8.0	23.5	64.5	3.5	0.5
Kotido	2.8	10.4	73.5	10.4	2.8
Moroto	4.2	14.9	70.1	7.9	2.9
Nakapiripirit	5.3	20.5	68.9	1.3	4.0
Napak	7.2	34.0	56.3	0.6	1.9
Total	7.9	20.2	64.8	4.5	2.6

Table 14: BMI of mothers according to district

Mother's nutrition status is significantly associated with child nutrition status. Findings from further analysis (bivariate) indicate that children of underweight mothers are twice as likely to be wasted as children of non-malnourished mothers. A child of an underweight mother is also more likely to be underweight. Ensuring good maternal nutrition is therefore important in improving child nutrition.

INFANT AND YOUNG CHILD FEEDING PRACTICES

Initiation of breastfeeding

Ministry of Health recommends that children should be put to the breast within the first hour of birth. Findings indicate that in Karamoja, more than 70% of children are initiated to breastfeeding appropriately, which is higher than the national average of 52.5%. This percentage should be maintained and improved.

	Abim	**Amudat**	**Kaabong**	**Kotido**	**Moroto**	**Nakapiripirit**	**Napak**	**Total**
Within 1st hour	81.2	88.7	82.3	69.4	88	68.1	64.6	77.2
After 1 hour	16.8	6.9	15.5	16.6	10.9	30.9	30.2	18.3
Did not breastfeed at all	0.1	0.2	0	2.7	0	0.4	0	0.5
Don't know	1.9	4.3	2.2	11.3	1.2	0.7	5.2	4

Table 15: Initiation of breastfeeding

Exclusive breastfeeding

Exclusive breastfeeding rates among infants less than 6 months was above 80% in most districts in Karamoja. The highest level of exclusive breastfeeding was observed in Kaabong and Napak districts. There has been deterioration in level of exclusive breastfeeding when compared to results from December 2013 survey where more than 90% of sampled children were exclusively breastfed (Figure 15).
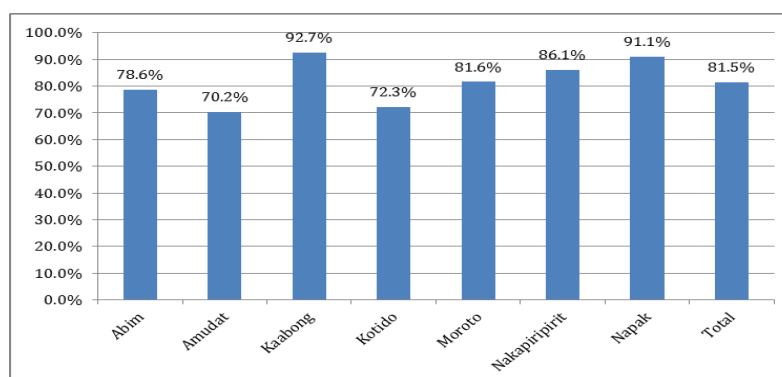

Figure 15: Exclusive breastfeeding rates among children 0-5 months by district

Diversity of complementary foods eaten by children 6-23 months

Using 24-hour recall, Individual Dietary Diversity Score (IDDS) was assessed based on seven food groups. The assessment was done only for children 6-23 months. Minimum dietary diversity has been defined as the proportion of children who received foods from at least 4 food groups the previous day. A negligible proportion of children (1.5%) receive the recommended minimum dietary diversity, reflecting the poor quality of complimentary foods provided to children less than two years. The WHO guidelines recommend that breastfed children receive complimentary feeds two to three times while for non-breast fed children, they should receive complimentary feeds four times.

	% Met	% Not Met
Minimum meal frequency (MMF)	42	58
Minimum Dietary Diversity (MDD)	1.5	98.5
Minimum Acceptable Diet (MAD)	0.7	99.3

Table 16: Complimentary feeding of children 6 to 23 months in Karamoja.

The findings are comparable to the UDHS 2011 findings that indicate that 44% of children 6 to 23 months meet the minimum meal frequency, 11% meet the minimum dietary diversity while only 5.7% of the 6 to 23 months receive the minimum acceptable diet. The situation of complimentary feeding in Karamoja is poor and needs to be addressed urgently.

COVERAGE OF MCHN PROGRAMME

	Abim		Amudat		Kaabong		Kotido		Moroto		Nakapiripirit		Napak		Combined	
	n	%	n	%	n	%	N	%	n	%	n	%	n	%	n	%
Yes	58	20.3	201	60.4	55	17.7	89	30.7	63	22.7	184	68.4	89	28.7	739	35.6

Table 17: Children 6 to 23 months enrolled on the MCHN Programme

About a third of eligible children in Karamoja are currently enrolled on the MCHN programme. The highest proportion enrolled is in Nakapiripirit and Amudat districts. Majority of mothers of eligible children not on the programme indicated that they do not know about the programme.

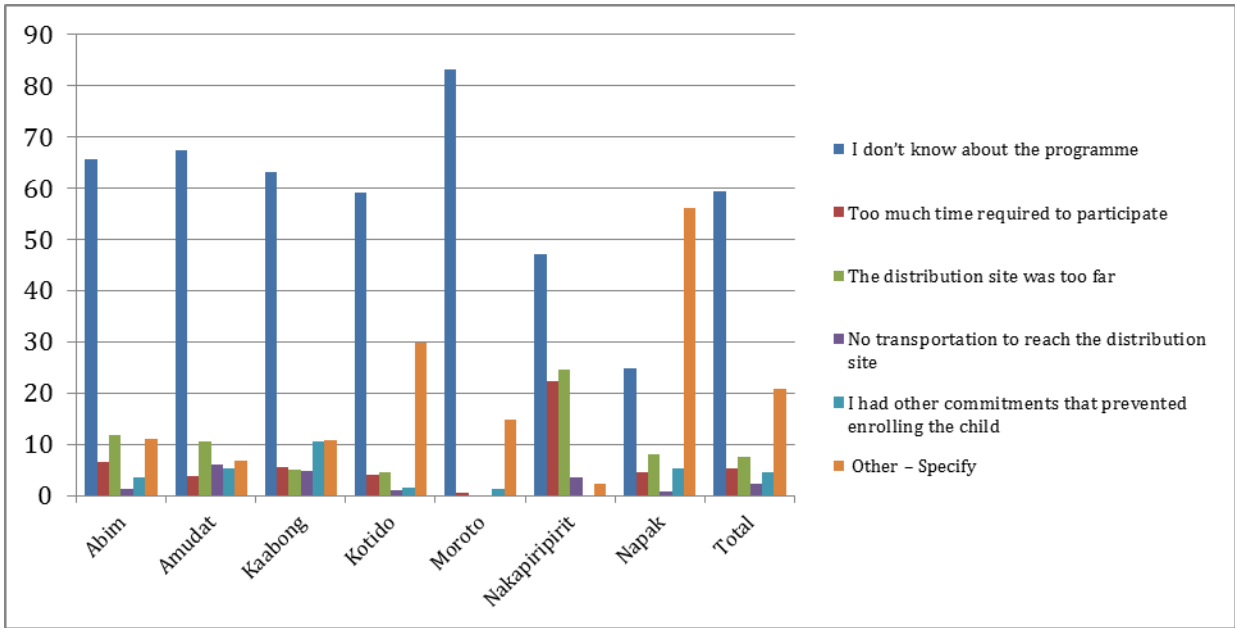*Figure 16: Reasons why children 6 t0 23 months in Karamoja are not enrolled on the MCHN programme*

About 20% of children on the MCHN programme do not have MCHN cards. Reasons given for lacking the MCHN card included; card got lost/misplaced (45.1%), were not given cards (29%), or did not know they needed a card (9.3%).
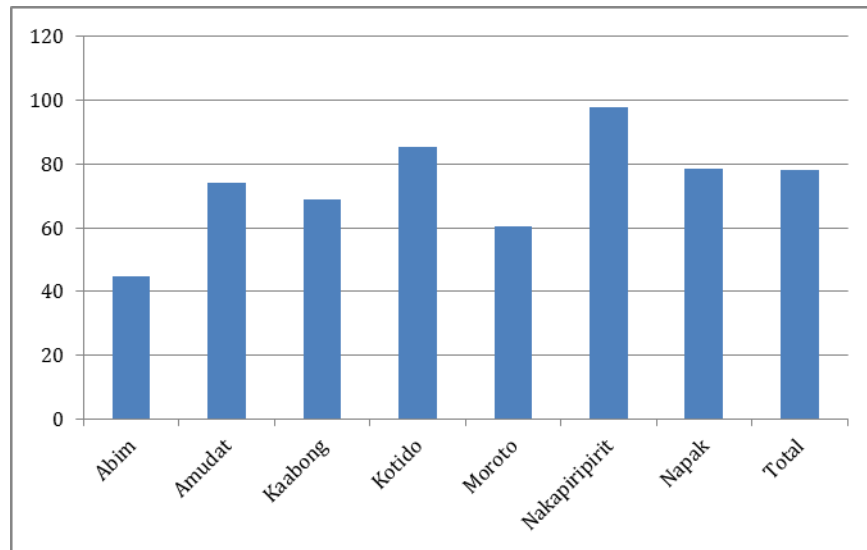

Figure 17: Proportion of children on MCHN programme that have an MCHN card

IMMUNIZATION, VITAMIN A SUPPLEMENTATION AND DEWORMING COVERAGE

The coverage of immunization, supplementation and deworming were above 90% among children in the 12 – 23 month age cohort. The coverage and presence of child health cards were particularly commendable in the districts of Kotido and Napak. The level of immunization and supplementation meets the national targets and should be sustained.

District	Yes with card	Yes without card	No with card	No without card
	%	%	%	%
Abim (N=605)	61.8	34.7	2.1	1.3
Amudat (N=395)	47.3	45.3	5.1	2.3
Kaabong (N=662)	61.5	37.0	0.6	0.9
Kotido (N=628)	88.5	10.2	1.0	0.3
Moroto (N=510)	57.8	37.5	3.1	1.6
Nakapirit (N=428)	78.0	21.7	0.2	0.0
Napak (N=597)	83.9	14.7	0.8	0.5
Combined (N=3825)	69.4	28.0	1.7	0.9

Table 18: Measles immunization coverage among children 12 to 59 months according to district

District	Yes with card	Yes without card	No with card	No without card
	%	%	%	%
Abim	63.0	35.7	0.8	0.5
Amudat	51.9	46.8	0.5	0.8
Kaabong	61.6	36.6	1.1	0.8
Kotido	88.4	10.0	1.0	0.6
Moroto	58.4	38.0	2.7	0.8
Nakapirit	77.3	22.2	0.2	0.2
Napak	83.9	15.1	0.5	0.5
Combined	70.0	28.4	1.0	0.6

Table 19: DPT3 immunization coverage among children 12-23 months, by district

District	Yes with card	Yes without card	No with card	No without card
	%	%	%	%
Abim (N=605)	62.1	35.4	1.8	0.7
Amudat (N=395)	48.4	45.3	3.3	3.0
Kaabong (N=662)	61.5	37.0	0.8	0.8
Kotido (N=628)	88.2	10.2	0.6	1.0
Moroto (N=510)	46.3	38.8	13.9	1.0
Nakapirit (N=428)	77.6	22.4	0.0	0.0
Napak (N=597)	70.5	28.3	0.5	0.7
Combined (N=3825)	**65.8**	**30.4**	**2.8**	**0.9**

Table 20: Deworming coverage among children 12-59 months, by district

District	Yes with card	Yes without card	No with card	No without card
	%	%	%	%
Abim (N=605)	62.8	35.9	0.8	0.5
Amudat (N=395)	49.1	44.8	3.3	2.8
Kaabong (N=662)	60.0	36.3	2.7	0.9
Kotido (N=628)	87.7	10.2	1.4	0.6
Moroto (N=510)	47.3	38.2	13.1	1.4
Nakapirit (N=428)	77.6	22.4	0.0	0.0
Napak (N=597)	70.9	28.5	0.2	0.5
Combined (N=3825)	**65.8**	**30.3**	**3.0**	**0.9**

Table 21: Vitamin A supplementation among children 12 to 59 months, by district

However, it is important to note that about 15% of children did not receive deworming or Vitamin A supplementation in Moroto district. Deworming and Vitamin A supplementation have been found to be significantly associated with wasting; hence the need to ensure that all children deworming and Vitamin A status is updated.

PREVALENCE OF COMMON CHILDHOOD ILLNESSES AND BED NET USE

Similar to previous assessments, the most prevalent childhood illness was malaria (58.1%) followed by ARI (39.5%). Kaabong and Moroto have the highest prevalence of retrospective morbidity among children with only 10% of the children (in Moroto) and 5% of the children (in Kaabong) having suffered from no illness in the two weeks prior to the survey.

	Abim %	Amudat %	Kaabong %	Kotido %	Moroto %	Nakapiripirit %	Napak %	Combined %
Fever/malaria	56.5	54.5	82.6	53.5	65.7	43	51.2	58.1
Measles	0.5	0.5	1.6	3.5	1	1.1	0.2	1.2
Diarrhea	23.9	16.2	55.4	38.3	42.8	14.2	27.7	31.2
ARI/cough	39.6	50.4	51.3	29.9	43.7	22.8	38.9	39.5
Skin diseases	6.2	7.4	25.5	10.5	10.9	4.4	5.9	10.1
Eye disease	5	6.7	14.9	10.6	9.8	3.3	5.6	8.0
Other	1.1	1.5	0.8	1.1	2.2	1.2	2.5	1.5
No Illness	24.7	22.1	5.1	24.4	10	28.2	23.2	19.7

Table 22: Two-week prevalence of common childhood illness according to district

High morbidity contributes significantly to under nutrition and therefore disease prevention measures must be instituted to address the problem of disease in Karamoja. The findings show that history of suffering from malaria was associated with increased prevalence of GAM and underweight while history of diarrhea was associated with increased prevalence of GAM, stunting and underweight (Table 23). The prevalence of under nutrition among children with diarrhea or malaria was higher than that seen in children not suffering from these diseases (Table 23).

	Wasted	Underweight	Stunted
Diarrhea	15.4	28.9	34.1
No Diarrhea	11.9	23.1	31
Malaria	13.9	26.1	
No Malaria	11.7	23.3	

Table 23: Cross tabulation of nutrition status and malaria/diarrhea

USE OF INSECTICIDE TREATED NETS/BED NETS

There has been a tremendous improvement in the proportion of children that slept under a bed net the night preceding the assessment from 33.4% in December 2013 to 91.4% currently (Figure 9). However, it is important to note that despite the high bed net usage, prevalence of malaria is still high, notably in Kaabong and Moroto hence the need to strengthen other preventive measures including destruction of mosquito breeding areas and sensitization of communities on the same.
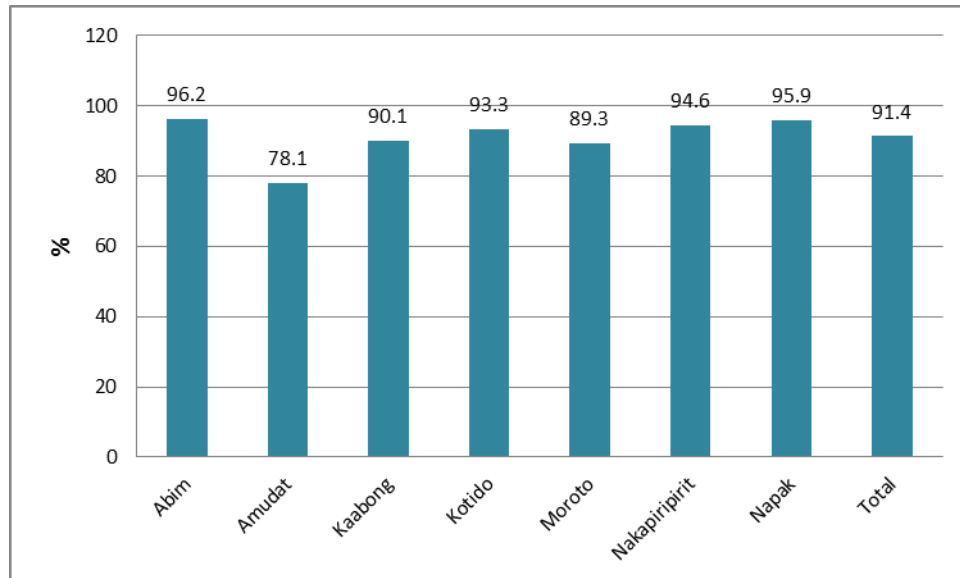
Figure 18: Proportion of children who slept under a bed net during the night preceding the survey according to district

OTHER FACTORS ASSOCIATED WITH MALNUTRITION

Under nutrition and private toilet ownership

Wasting, stunting and underweight are more prevalent among children from households without private latrine compared to children from households that own private latrines (Figure 19). It is therefore important to improve private toilet ownership by households in order to improve nutrition situation in Karamoja.
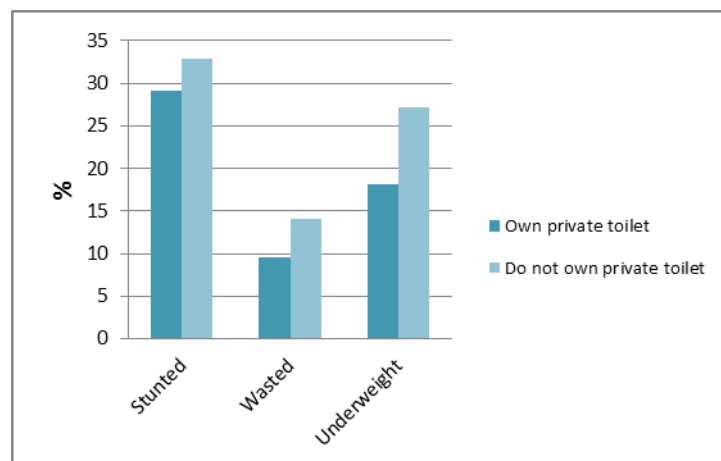

Figure 19: Association between nutrition status and household owning private toilet

Under nutrition and livestock ownership

Children from households that owned livestock were less likely to be wasted, stunted and underweight. On average a 5 -7% increase in wasting or stunting was seen amongst

children from households not reporting any livestock ownership. Consumption of animal protein among infants and young children is critical to growth and prevention of nutrient deficiencies. Households in Karamoja should therefore be encouraged to rear animals to provide animal source protein for children in order to improve nutrition status of children.

NUTRITION. CONCLUSIONS AND RECOMENDATIONS

Overall GAM prevalence is concerning as it has persisted above the alert threshold and in some districts is at or approaching critical levels. Districts of Moroto, Nakapiripirit, Kaabong and Napak depict the worst prevalence. Some of the causal factors include low Insecticide Treated Net (ITN) use, household owning private toilet, maternal nutrition, child suffering from malaria/diarrhea, livestock ownership, deworming, vitamin A supplementation, and household having debt.

Disease prevention strategies are critical given a very high proportion of children that suffered from illnesses (fever, malaria, diarrhea, ARI) two weeks prior to the survey.

The region is performing well regarding the initiation of breastfeeding and exclusive breastfeeding among children less than 6 months.

While a fair proportion of children 6 to 23 months are receiving the minimum meal frequency, almost all children are not receiving the minimum dietary diversity; hence nearly all children do not receive the minimum acceptable diet. In other words, it is not so much the lack of quantity of food that is a primary concern but rather than lack of quality of food and the low dietary diversity. Thus programmes that target children under two should strengthen education and counselling of mothers on appropriate infant and young child feeding.

Ensuring regular counseling of mothers in facilities and communities therefore is critical and needs to be maintained and strengthened. In addition, there is a need to increase the efficiency and effectiveness of health and nutrition education. Such interventions should necessarily aim at convincing mothers to consistently apply nutrition-related practices. Exercises including role plays through which participants practice and begin to master these skills should also be provided.

Nutrition status of children in households with livestock being better points to the need for increased consumption of animal protein in order to effectively boost nutrition status of children in Karamoja. Households should therefore be urged and supported to keep livestock to provide animal source protein for children.

Coverage of the MCHN programme in Karamoja needs to be boosted since only a third of the eligible children are accessing the programme. In addition, sensitization of the communities about the programme is essential in order to increase the demand for and access to the programme.

The coverage of vaccination, deworming and Vitamin A supplementation of children is commendable and needs to be maintained. A significant proportion of mothers also have child health cards, although this needs to be improved. Accuracy in completion of the cards also needs to be improved.

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