Food Security and Nutrition Assessment in Refugee Settlements

Summary

Data Collected: December 2016

MUK **UNICEF** **WFP** **UNHCR**

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The UN
Refugee Agency

1 Background

1.1 Food Security and Nutrition Situation among Refugees

Uganda has been hosting refugees for several decades now. Large influxes of refugees in Uganda have strained the response capacity of the humanitarian partners, causing poor nutritional status and poor environmental conditions (overcrowding, inadequate water, and lack of sanitation), which promote the transmission of infectious diseases. SOUTH WEST and MID WEST: Congolese refugee operation, receiving settlements are Nakivale, Kyaka II and Rwamwanja and Kiryandongo and Kyangwali. Refugee new arrivals continued entering the country since the beginning of the year. By the end of November 2016 about: 14,610 = Burundians, 33,420 = DR Congolese, 5,883 Somalis were registered in South West and Mid-West while in West Nile about 389561 South Sudanese were registered. The total refugee population by the end of November 2016 was estimated at 742,000 across the refugee settlements.

The mean crude mortality rate for the refugee settlements in Uganda as of end October 2016 was 0.1 deaths per 1000 population per month while that of under 5 years was 0.2 deaths per 1000 population per month. The infant mortality rate was 10.5 deaths per 1000 population per month. Comparing these mortality rates to the emergency thresholds this can be said that mortality rates are under control both in the emergency and care and maintenance settlements. The main leading causes of morbidity- malaria 37%, respiratory tract infections 19%, intestinal worms 6%, skin infection 5%, watery diarrhoea 3%, and eye disease 2%.

The burden of diseases is apparent as an important contributing factor in the current rates of malnutrition across the operation. At the end of 2015 the incidence rates of the top 5 childhood illness was recorded at 48.8% upper respiratory infections, 67.3% malaria, 15.5% watery diarrhoea and 14.1% lower respiratory infection. This survey coincided with the reduction of food ration that started in the month of November 2015 where corn soy blend (CSB), the only major source of essential micronutrients in the food ration refugees receive was not distributed.

The Food Security and Nutrition Assessment in Refugee areas is an annual exercise conducted jointly by the Government of Uganda, UNHCR, UNICEF and UNWFP with the aim to understand the living conditions of refugee households and most of all, the food security and nutrition situation.

1.2 Methodology

The assessment was cross sectional, with systematic random sampling used to identify individual households for the assessment. Interviews were conducted and administered through face-to-face interviews at household level. Sample sizes per settlement were arrived at using the Standardized Monitoring and Assessment of Relief and Transitions (ENA for SMART version July 9, 2015) software while adhering to UNHCR SENS methodology. Analysis was performed using ENA for SMART and Epi Info/ENA software and SPSS.

1.3 Training

The training lasted three days followed by one day of pilot – test in the settlements. The Supervisors were trained in Kampala, at the Makerere University School of Public Health, during the week of November 28, 2016. The training focused on: the purpose and objectives of the survey; roles and responsibilities of each team member, systematic familiarization with the questionnaires by reviewing the purpose for each module and question; interviewing skills and recording of data; interpretation of calendar of events and age determination; how to take anthropometric measurements and haemoglobin measurements. The Supervisors who were trained in Kampala had to train the Enumerators in their respective Settlements.

1.4 Survey Teams and Supervision

A total of 100 enumerators and supervisors conducted the data collection (10 per settlement). Each Settlement had its team of 8 enumerators and 2 supervisors. The supervisors were the team leaders, and were responsible for taking measurements (measurers), i.e. weight and height and haemoglobin. There were also Translator(s) and community mobilisers for each village. In addition, joint supervision and coordination were done daily by the Makerere University School of Public Health, UNICEF, UNWFP and UNHCR in all locations.

Each data collection team constituted of the interviewer, two measurers and the village guide. However, the team would work jointly to sample households, determine eligibility of children, age determination, reading of health cards for the vaccinations, vitamin A and de-worming.

1.5 Data Analysis

Open Data Kit (ODK) electronic platform using smart phones was used to collect quantitative data. The electronic tool permitted use of data checks and skip patterns to minimize spurious entries by data collectors. Key variables that are prone to error like age were carefully assessed based on child health cards. In the absence of cards, care was taken to discuss with the mother/caregiver using a calendar of local events developed for the assessment. Anthropometric data for children 6-59 months and mortality were entered in ENA for SMART software for conversion into z-scores and analysis. Later all data were aggregated into SPSS, cleaned and analysed. Plausibility Reports were generated for each settlement in order to check the quality of the anthropometric data. A summary of the key quality criteria are annexed to the report.

2 Demographics

Of the total households surveyed in the settlements, 53.4% were female-headed **(Table 1)**. The majority of the household heads – both male and female – had zero years of formal education or had largely attended primary school

Table 1: *Demographic Information for Refugee Settlement, Uganda, December 2016*

	Male	Female
Gender of Household Head	46.6%	53.4%
No Formal Education	39.7%	57.0%
Primary Education	39.3%	32.4%
Secondary Education	10.7%	7.4%
Higher	5.6%	1.9%
Tertiary	4.2%	1.1%

3 Nutrition Status

Table 2: *Classification of malnutrition public health significance level for children under five years*

Prevalence %	Critical	Serious	Poor	Acceptable
Low weight-for-height	≥15	10-14	5-9	<5
Low height-for-age	≥40	30-39	20-29	<20
Low weight-for-age	≥30	20-29	10-19	<10

Source: WHO (1995) Physical Status: The Use and Interpretation of Anthropometry and WHO (2000) The Management of Nutrition in Major Emergencies

3.1 Acute Manutrition (Children 6-59 Months)

The anthropometric findings show that the levels of acute malnutrition vary from settlement to settlement; with Rhino Camp presenting the highest prevalence of Global Acute Malnutrition (GAM) at 14.2% classified as **"serious"** according to WHO classification. The GAM rates for Adjumani at 9.6%, Kiryandongo 8.2%, Bidibidi 7.6% and Lobule 7.5% is classified as **"poo**r". The GAM rates for rest of the settlements is classified as "acceptable" as remained below 5%. The GAM rates for the different settlements are presented in **Figure 1**.

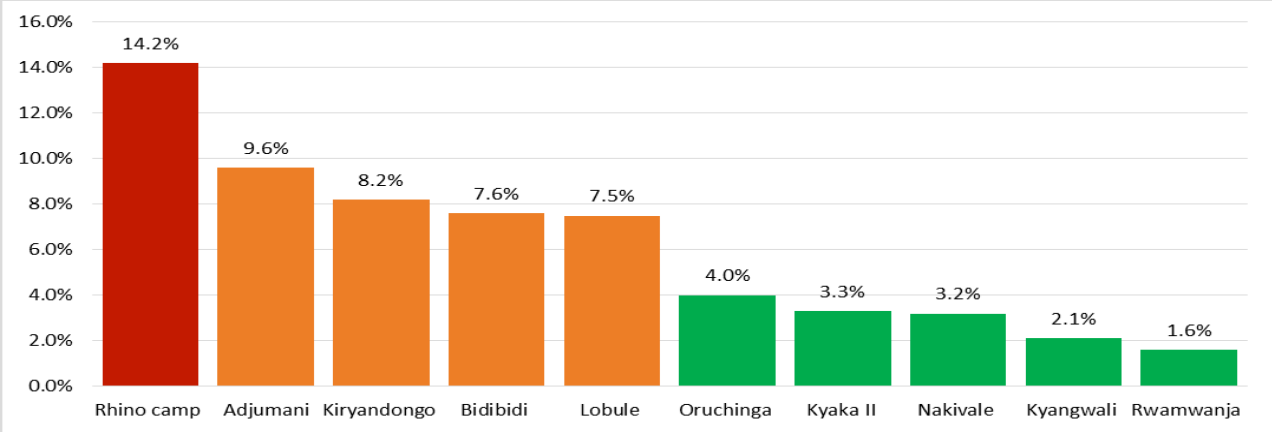

Figure 1: Child nutrition status: Global acute malnutrition in refugee settlements, December 2016

3.2 *Stunting (children 6-59 Months)*

Stunting rate was "serious" among children in Rwamwanja at 39.8%, Kyangwali 39.6%, Kyaka II 35.7%, and Oruchinga 34.2%, while Nakivale 23.0% was classified "poor". The rest of the settlements had below 20% a situation classified as "acceptable" **(Figure 2)**. Some of the factors responsible for high rates of stunting includes; maternal factors, home environment, poor quality of diet, poor feeding practices, contaminated food and water for domestic use, and continued exposure to infections.

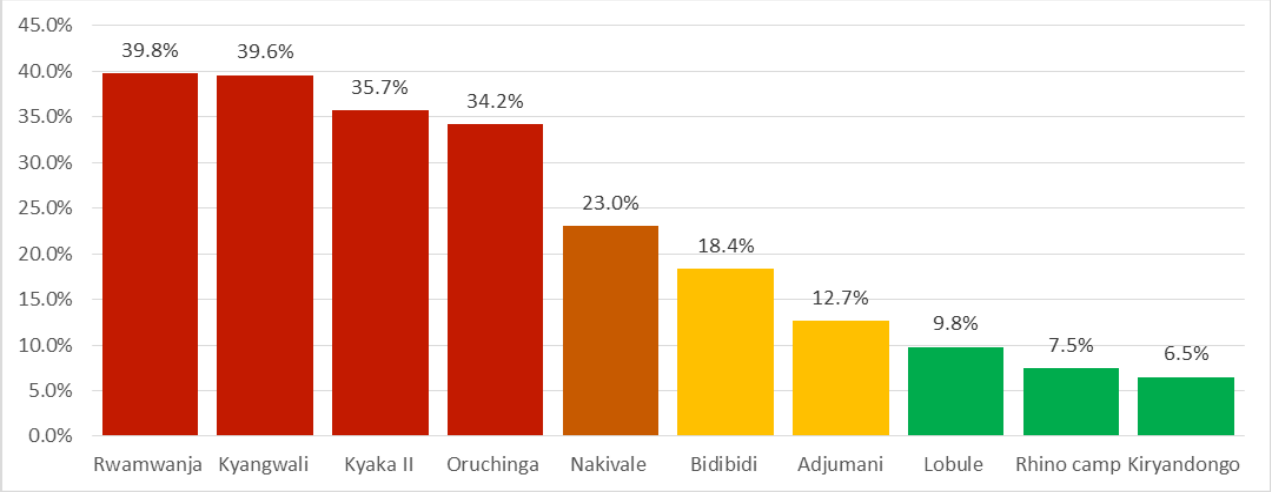

Figure 2: Child nutrition status: Stunting among children 6-59 months of age, December 2016

While there is general improvement in prevalence of stunting in all settlements, the persisting high rates especially in Rwamwanja, Kyangwali and Kyaka II should be investigated.

3.3 Anaemia in children at 6 – 59 months and women at reproductive age, 15 – 49 years

Table 3: Classification of anaemia public health level of signifance

Prevalence %	High	Medium	Low
Anaemia	≥40	20-39	5-19

Source: WHO (2000) The Management of Nutrition in Major Emergencies

The prevalence of anaemia in children aged 6-59 months and in non-pregnant women of reproductive age (15-49 years) in the ten settlements remained above WHO threshold of 40% for defining public health significance problems. With an exception of Oruchinga (39.1%) and Nakivale (26.1%), the rest of the settlements presented

high anaemia prevalence. The highest prevalence of anaemia among refugee children was recorded in Bidibidi at 72.4%. This was followed by Lobule at 72.2% **(Figure 3)**.

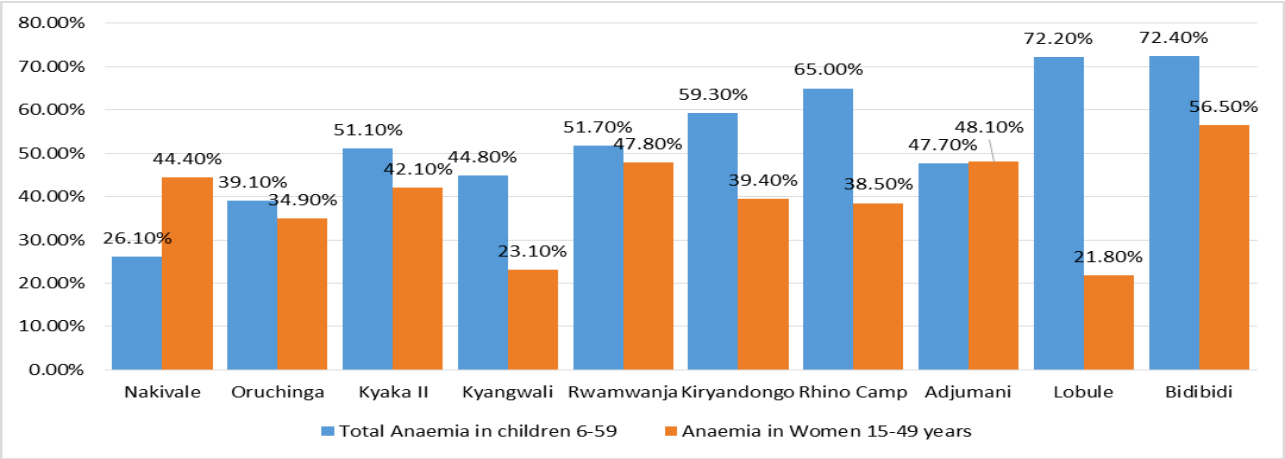

Figure 3: Prevalence of anaemia in children 6-59 months and women at 15-49 years of age, Refugee Settlements, Uganda, December 2016

Anaemia among women at reproductive age was recorded highest in Bidbidi at 56.5%, and Adjumani at 48.1% **(Figure 3)**. Of the 10 refugee settlements assessed for anaemia 50% of them had higher than 40% prevalence of anemia among women at reproductive age.

Some of the most important factors that contribute to high rates of anaemia in the settlements are: frequent exposure to malaria, poor food and dietary diversity, inadequate water for domestics use, infestations of intestinal hook worms, and poor livelihood opportunities.

3.4 Infant and Young Child Feeding, IYCF (Children 0-23 months)

Timely initiation of breast feeding 0-23 months: Early initiation of breastfeeding within one hour post-delivery was at 94.3% Nakivale, 95.7% Oruchinga, 91.3% Kayaka II, 74.6% Kyangwali, 85.8% Rwamwanja, 97.6% Kiryandongo, 97.1% Rhinocamp, 87.2% Adjumani, 81.5% Lobule and 68.2% Bidibidi. The average IYCF indicators are presented in **Figure 4.**

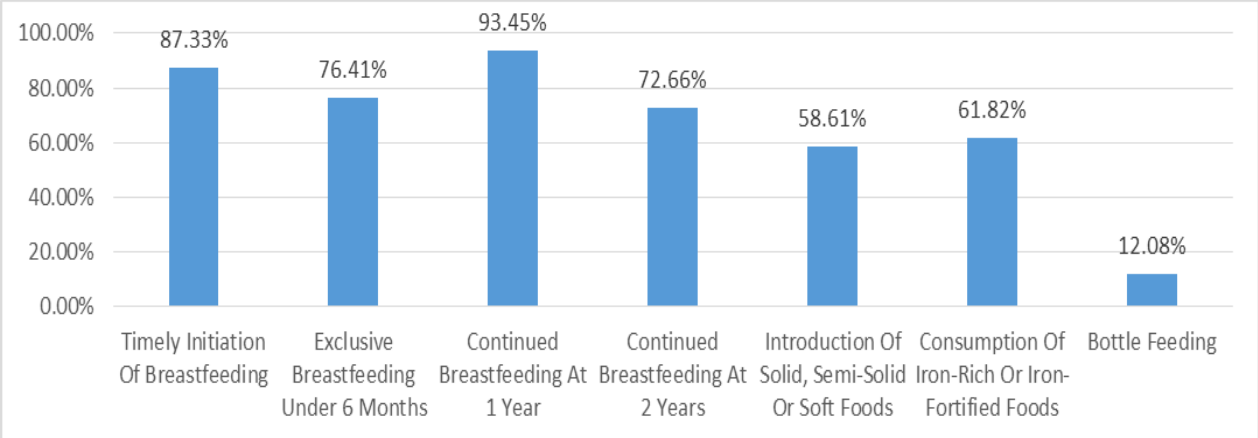

Figure 4: Average infant and young child feeding indicators for refugees - December 2016

3.5 Maternal Child Health (MCH) Programme for Pregnant Women

Access to quality Antenatal Care (ANC) is important in order to screen for the pregnancy related complications and provide appropriate interventions that result in positive birth outcomes for both the mother and baby. Women at reproductive age (15-49 years) were asked if they were enrolled in the MCH programme. And if were enrolled, an additional question was asked to find out if they had received iron folic acid during their attendance to the programme: 93.0% of the women in Rwamwanja were enrolled in the ANC, and 81.7% of them had

received Iron folic acid; 89.1% in Adjumani were enrolled and 89.1% had received iron folic acid, 87.9% in Kiryandongo were enrolled in the ANC and 87.9% of them had received iron folic acid **(Figure 5).** Pregnancy leads to increased demands and exposes the woman to higher risk of micronutrient deficiency anaemia and hence the recommendation for supplementation with iron and folic acid.

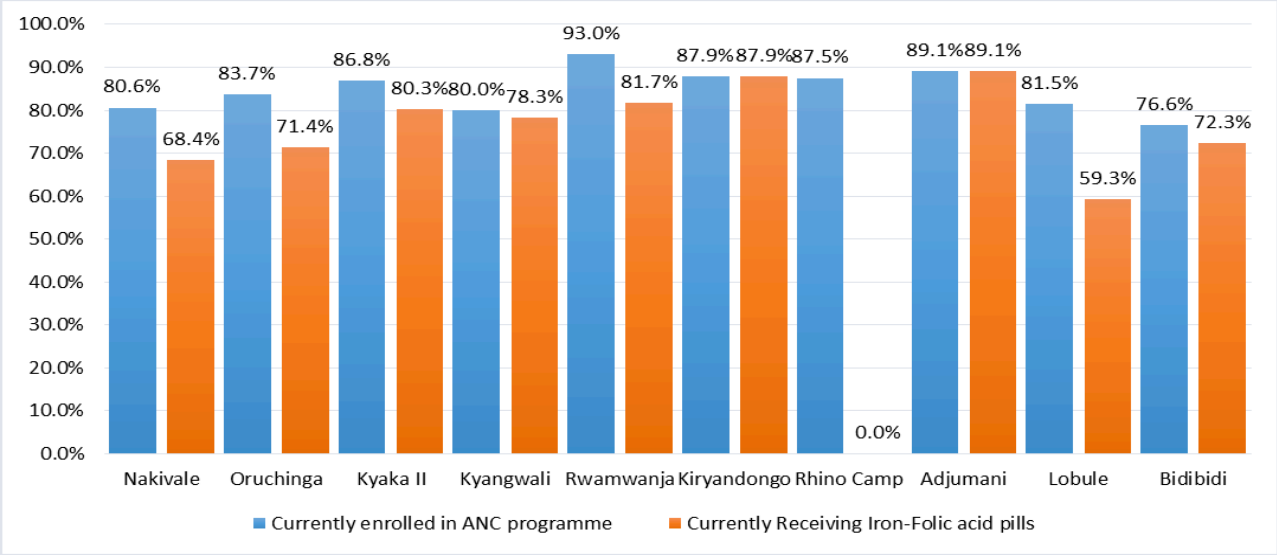

Figure 5: ANC enrolment and iron-folic acid pills coverage among pregnant women (15-49 years), Refugee Settlements, Uganda, December 2016
(Rhino Camp question on women taking IFA was not properly updated on tablets during data collection).

4 Food Availability

4.1 Access to Agricultural Land

Overall, 55% of the refugee households across the settlements had access to arable land **(Figure 6).** Only 2% of the households in Bidibidi, 6.7% in Rhino Camp and 39.9% in Nakivale accessed agricultural land. Access to land allows households to farm, harvest and finally consume the food at household levels.

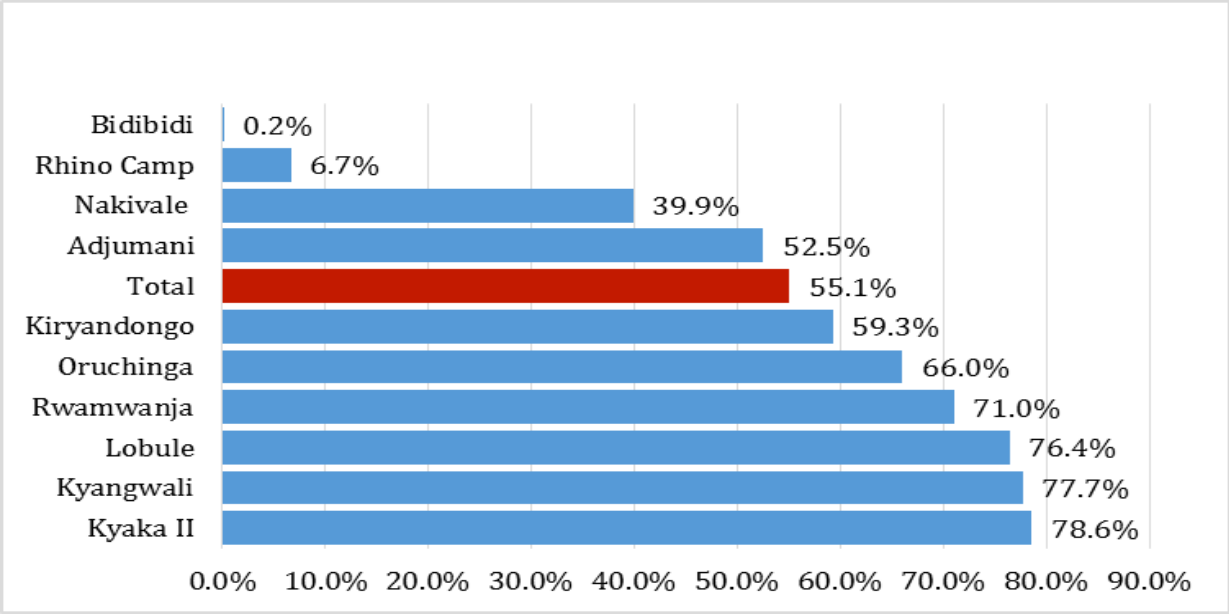

Figure 6: Refugee households access to agricultural land – arable land for cultivation, December 2016

4.2 Crop Production

Refugee households (47.9%) engaged in agriculture reported to have harvested much less compared to a similar season the previous year in 2015. In the year 2015, similar results were reported when comparing to the year 2014. About 87% of the refugee households in Oruchinga, 69% Nakivale, 54.7% Adjumani, and 50.0% Rhino Camp reportedly have harvested much less compared to a similar season the previous year in 2015. This is not surprising since less than usual rainfall was reported in most of Uganda in 2016. Only about 8.1% had produced much greater than the amount of food produced last year **(Figure 7)**.

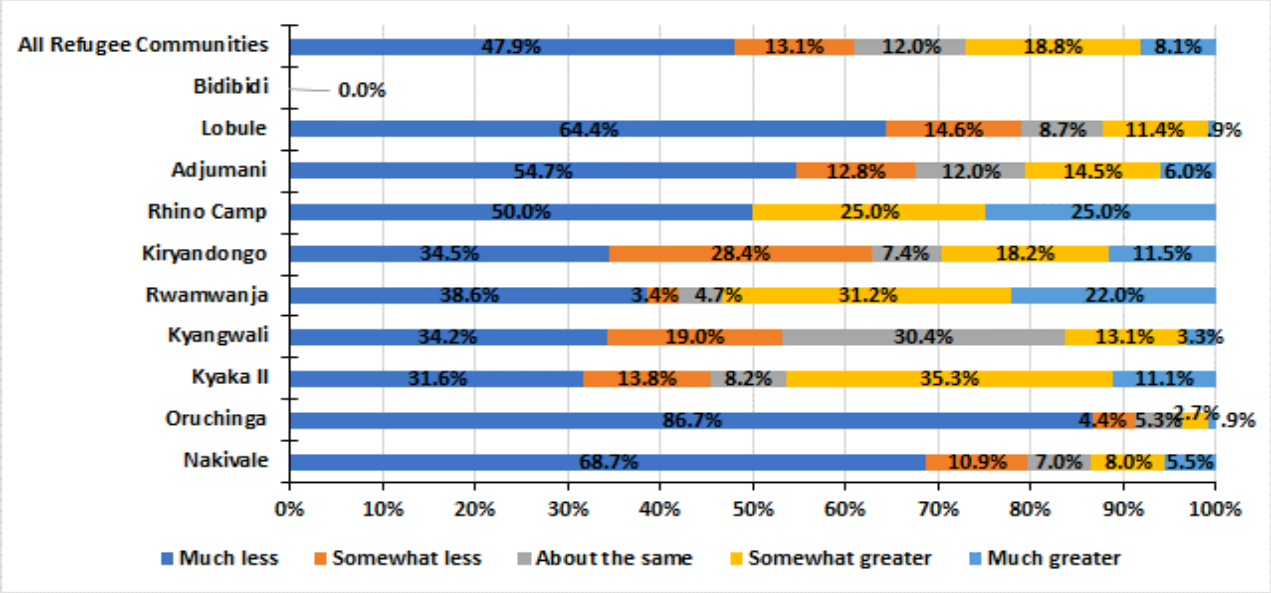

Figure 7: Comparing amount of food produced this year to the same season last year, December 2016

The refugees reported drought/low rainfall as the main constraint to agricultural production at 65.5%, followed by infertile/marginal land at 12.1% **(Figure 8)**. Only 5.5% reported insufficient land as a constraint to crop production.

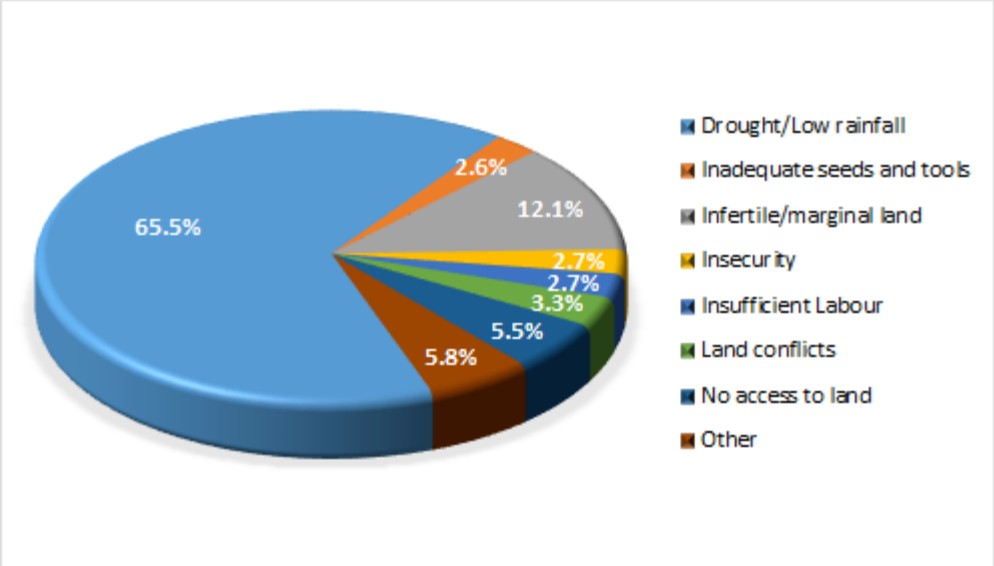

Figure 8: Constraints to Crop Production

4.3 Livestock Production

Refugee household ownership of livestock and poultry was low. Poultry was the most common (25%) for all settlements followed by goats (15.6%), **Table 4**. Cattle, goats and donkey are not widely kept by refugees. Refugee households should be encouraged to own some livestock and poultry as a source of protein and haem iron.

Table 4 : *Livestock and poultry ownership, December 2016*

Settlement	Cattle	Sheep	Goat	Pig	Poultry	Donkey	No Livestock
Nakivale (N = 572)	2.6%	0.3%	10.7%	7.3%	15.2%	0.0%	63.9%
Oruchinga (N = 362)	1.9%	0.6%	27.6%	5.2%	28.5%	0.0%	36.2%
Kyaka II (N = 556)	2.3%	2.2%	15.5%	6.5%	23.4%	0.2%	50.1%
Kyangwali (N = 582)	0.5%	0.7%	18.0%	10.3%	30.8%	0.0%	39.7%
Rwamwanja (N = 435)	5.3%	1.4%	23.2%	12.4%	29.7%	0.2%	28.0%
Kiryandongo (N = 369)	2.2%	0.0%	9.8%	4.1%	22.8%	0.0%	61.1%
Rhino Camp (N = 180)	0.6%	1.7%	13.3%	1.7%	25.6%	0.0%	57.1%
Adjumani (N = 486)	0.4%	0.4%	14.6%	.6%	18.1%	0.2%	65.9%
Lobule (N = 313)	1.3%	6.7%	27.8%	0.0%	64.2%	0.0%	0.0%
Bidibidi (N = 483)	0.2%	0.0%	1.2%	0.0%	7.0%	0.0%	91.6%
All Settlements (N = 4,338)	1.8%	1.2%	15.6%	5.3%	25.2%	0.1%	50.9%

4.4 Main income sources

The Settlements in Southwest and in the Midwest were more likely to have a member of their households earning some income as compared to those in West Nile Region, except Lobule, **Figures 9**. Settlements with lower proportions of household with at least one income earners were: 2.5% Bidibidi, 5.6% Rhino camp and 28.0% Adjumani. Lobule (56.5%) and Oruchinga (66.9%) reported to have higher proportions of households with at least one-income earners. This suggests a relatively higher economic access to food in Southwest and in the Midwest refugee settlements.

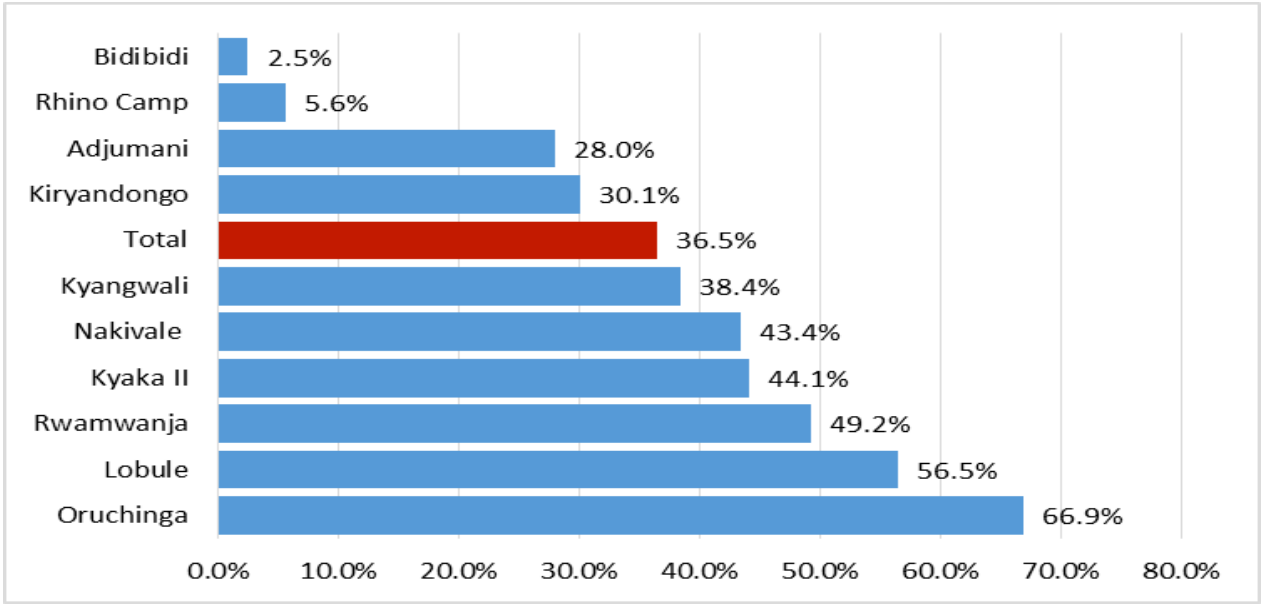

Figure 9: At least one-income earners at household level

The most important livelihood sources for the refugee households were: 10.6% small businesses, 8.0% sale of food crops, 8.0% food assistance, and 8.0% agricultural wage labour and 5.5% sale of food assistance.

4.5 Expenditure and Debt

Almost 35.9% of the households in the refugee settlements had a debt to repay at the time of the survey **(Figure 10)**. The proportions of households among refugee communities with the debt to repay were highest in Rwamwanja at 66.4%, followed by Lobule at 62.3%, and Nakivale at 52.8% and 9.9% Bidibidi. While debt is not necessarily bad for households (as 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.

The vulnerabilities of refugees in Uganda have been compounded by additional basic requirements to meet their households' needs. Various reasons motivated refugees to enter into debts. Up to 47.3% of the refugees were motivated by the need to buy food, 19.1% to cover health expenses and 10.8% to pay for school and education related costs, these were the most commonly factors pushed refugees to debts. The least common reason for new debt was to buy animal feed, fodder or veterinary services.

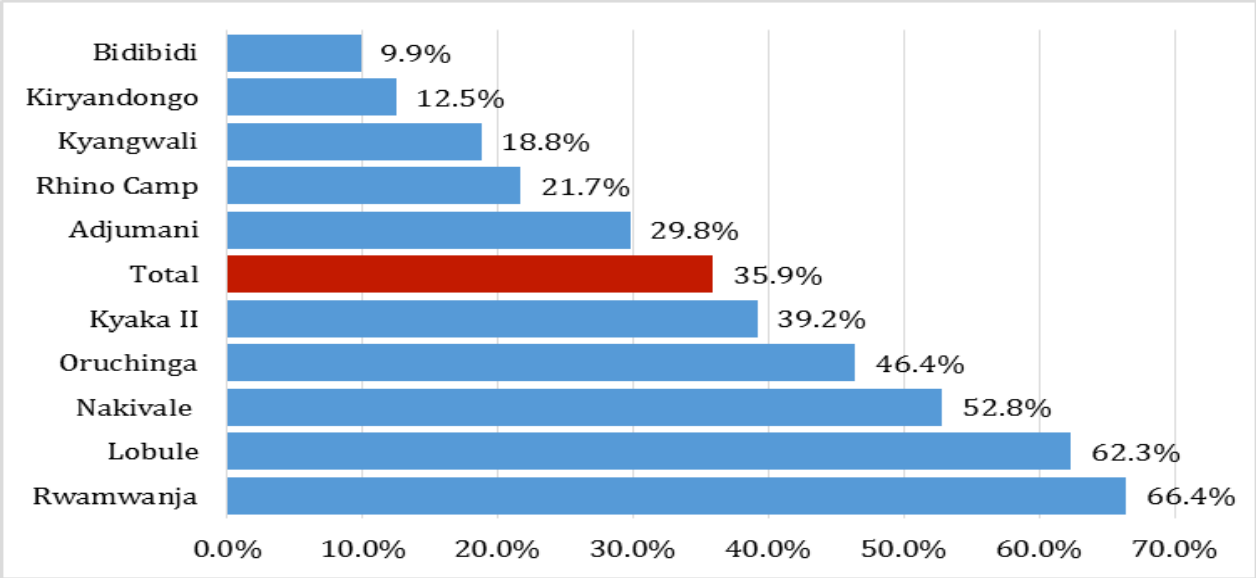

Figure 10: Proportions of households with debt to repay among Refugee Settlements, December 2016

5 Food Utilization

5.1 Household Dietary Diversity (HDDS)

This indicator referred to the number of different food groups consumed over a 24 hour period. A more diversified diet is expected to improve outcomes in areas such as birth weight, child anthropometric status, and improved hemoglobin concentrations, and is highly correlated with such factors as caloric and protein adequacy, percentage of protein from animal sources (high quality protein), and household income. Even in very poor households, increased food expenditure resulting from additional income is associated with increased quantity and quality of the diet. From the survey, most of the households in the settlements had medium levels of dietary diversity. However, on average the proportions of households that did not consume any vegetables, fruits, meat, eggs, fish/sea foods and milk/milk products in the seven days before the survey was high across the settlements with an average of 31.1% (**Table 5**).

On average proportion of households consuming either a plant or animal source of vitamin A was 45% in the settlements. The refugees in Oruchinga (64.6%), Adjumani (50.9%) and Kyangwali (50.8%) were more likely to consume plant or animal sources of vitamin A compared to other settlements.

Table 5: *Household Dietary Diversity*

Settlement	Dietary Diversity Score (Mean)	Proportion of households *not consuming any* vegetables, fruits, meat, eggs, fish/seafood, and milk/milk products	Proportion of households consuming either a plant or animal source of vitamin A	Proportion of households consuming organ meat/flesh meat, or fish/seafood (food sources of haem iron)
Nakivale	3.8	22.5%	53.6%	14.5%
Oruchinga	3.3	23.5%	64.6%	8.6%
Kyaka II	3.7	24.6%	47.3%	9.7%
Kyangwali	3.6	21.8%	50.8%	19.2%
Rwamwanja	3.7	14.4%	40.8%	9.4%
Kiryandongo	3.9	33%	38.1%	13.2%
Rhino Camp	3.4	42.2%	39.4%	7.8%
Adjumani	4.1	29%	50.9%	15.6%
Lobule	4.2	25.6%	49.5%	20.1%
Bidibidi	2.2	74.6%	14.5%	7%

5.2 Food Consumption Scores

Food consumption scores, which is an indicator used to assess primarily the intake of food nutrients and energy, was measured in this survey. It is a composite indicator that measures dietary diversity, food frequency and the relative nutritional importance of food groups based on a seven-day recall of food consumed at household level. Based on the findings, over 80% of the households in all the settlements except Oruchinga (76%) and Bidibidi (45%) had acceptable food consumption scores **(Figure 11).**

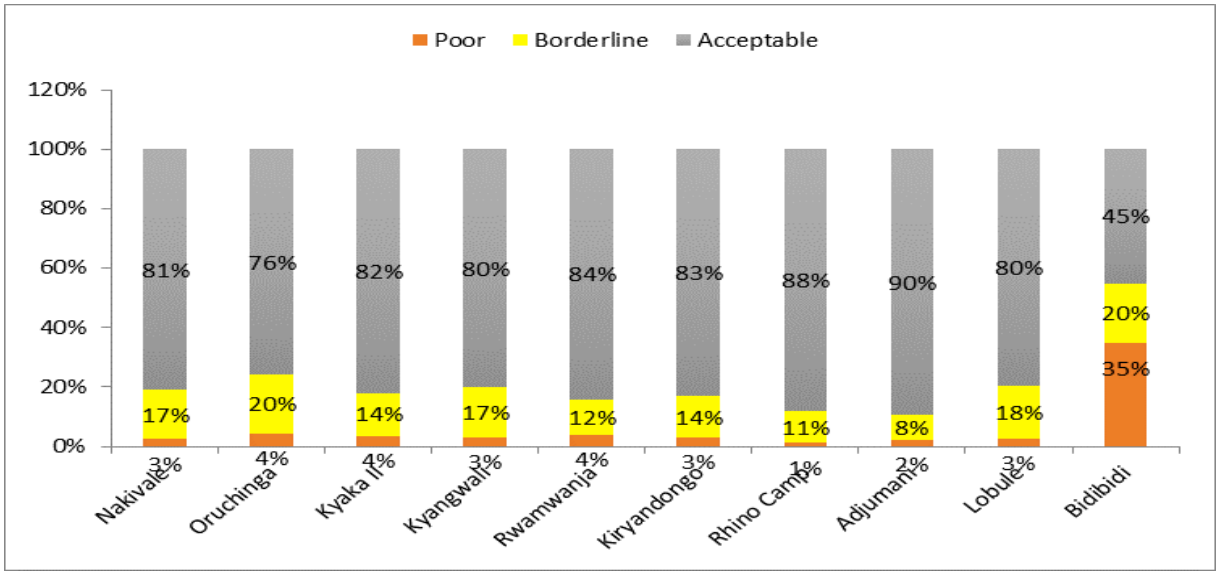

Figure 11*: Refugees Food Consumption Scores based on 7 days / week*

6 Stability (of food security)

6.1 Food Consumption Coping Strategies

The acquisition of food and the provision of adequate nutrition to one's children are among the most basic of human endeavours. People generally respond to conditions under which they do not have enough to eat, using various means of "coping". People start to change their consumption habits when they anticipate a problem. Findings showed that the most commonly applied food consumption coping strategies were the reliance on less preferred, less expensive food (highest in Oruchinga at 91%), reduction in number of meals per day (highest in Rwamwanja at 72%), borrowing of food (highest in Oruchinga at 62.7%) and reduction in the quantities

consumed by adults/mothers for young children was the most preferred option in Kiryandongo at 60.3% **(Table 6).**

Table 6: *Application of food consumption coping strategies in the 7 days prior to the survey, Refugee communities, Uganda, December 2015*

Settlement	Relied on less preferred, less expensive food	Borrowed food or relied on help from friends or relatives	Reduced the number of meals eaten per day	Reduced portion size of meals	Reduction in the quantities consumed by adults/mothers for young children
Nakivale (n = 573)	83.8%	57.2%	70.5%	58.1%	48.7%
Oruchinga (n = 362)	90.9%	62.7%	87%	75.7%	58%
Kyaka II (n = 556)	69.4%	43.7%	53.6%	49.1%	32%
Kyangwali (n = 583)	38.3%	28.8%	38.8%	30.7%	17.8%
Rwamwanja (n = 436)	84.6%	41.3%	72%	70.6%	51.1%
Kiryandongo (n = 370)	79.7%	58.1%	73.2%	68.4%	60.3%
Rhino Camp (n = 180)	66.1%	56.7%	66.7%	72.8%	57.2%
Adjumani (n = 487)	83%	50.9%	69.4%	68%	55.4%
Lobule (n = 313)	81.8%	59.1%	69.3%	73.5%	45.4%
Bidibidi (n = 484)	48.6%	41.7%	50%	51.4%	48.1%

7 Water, Sanitation and Hygiene (WASH)

7.1 Satisfaction of Water Supply

Good household level water, sanitation and hygiene practices contribute towards improved health of mothers and children. Refugees were asked if they were satisfied with the supply of water in each settlement. The level of satisfactions differed from one settlement to another. Findings indicated that refugees in Lobule and Kyaka II were more satisfied compared when compared with other settlements at 81.2% and 80.9% respectively. Other settlements recorded high satisfactions at: 77.7% Kyangwali and 66.4% Rwamwanja, **(Figure 12).**

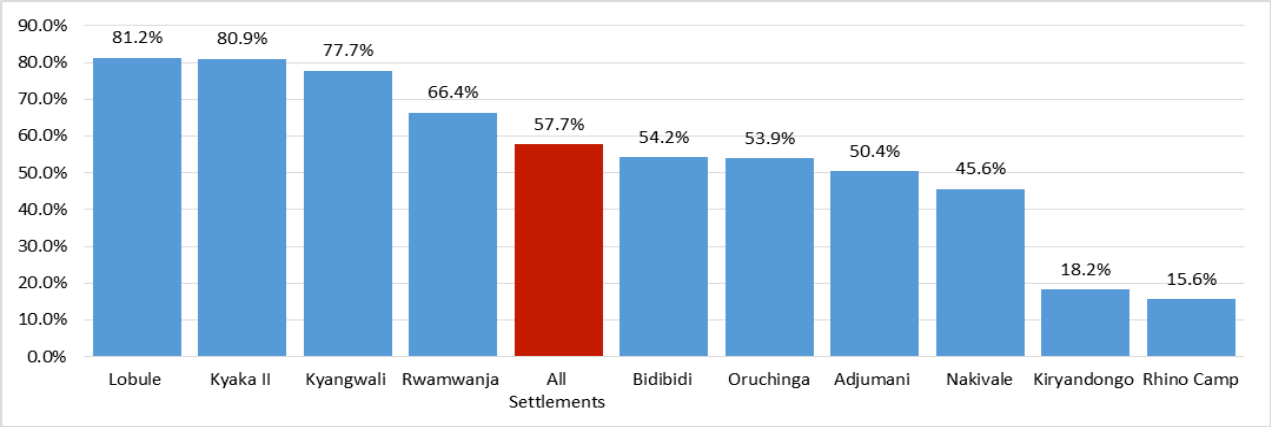

Figure 12: Satisfaction with water supply, Refugee Communities, Uganda, December 2016

7.2 Access and Utilization of Safe Water

The estimated daily water use by refugees varied among settlements **(Figure 13)**. Up to 35.9% of households in Bidibidi settlement reported to use less than the Sphere recommendation of 15 litres/person/day of safe water. Refugees in West Nile region were more likely to use less than 15 litres of water/person/day: 46.5% Adjumani, and 43.9% in Lobule.

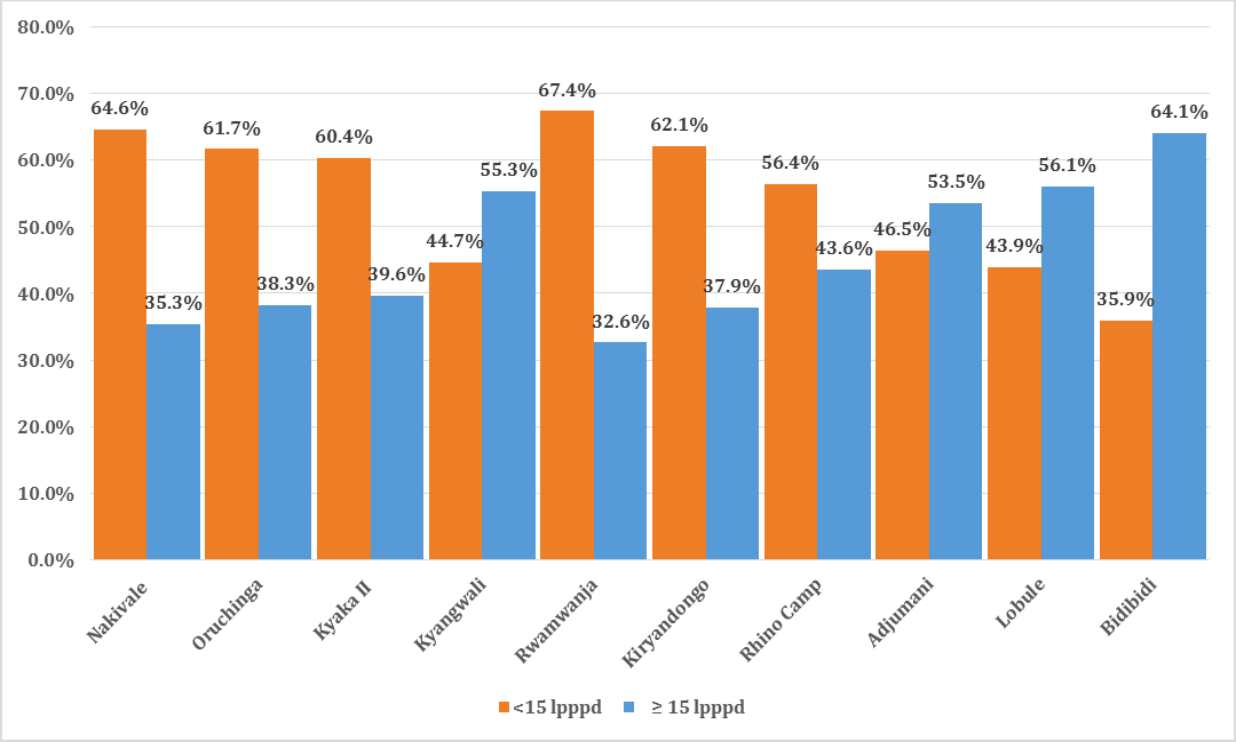

Figure 13: Access to and utilization of safe water in Refugee Settlements, Uganda, December 2015

7.3 Household Latrine Coverage and Ownership

Lobule refugee settlement had the highest coverage of refugee households using improved latrines with 86.9% (improved toilet facility, 1 household), this was followed by Oruchinga with 67.7% and 49.7% Nakivale. Use of unimproved toilet or public toilets was more apparent in the following settlements with: 72.7% Kyangwali, 57.1% Rhino-camp, 45.8% Kiryandongo, and 36% Kyaka II and 32.9% Nakivale.

The highest use of unimproved toilet by households was recorded at: 72.7% Kyangwali, 57.1% Rhino Camp and 45.8% Kiryandongo. In these settlements a significant number of households reported not owning an improved household latrine **(Figure 14).**

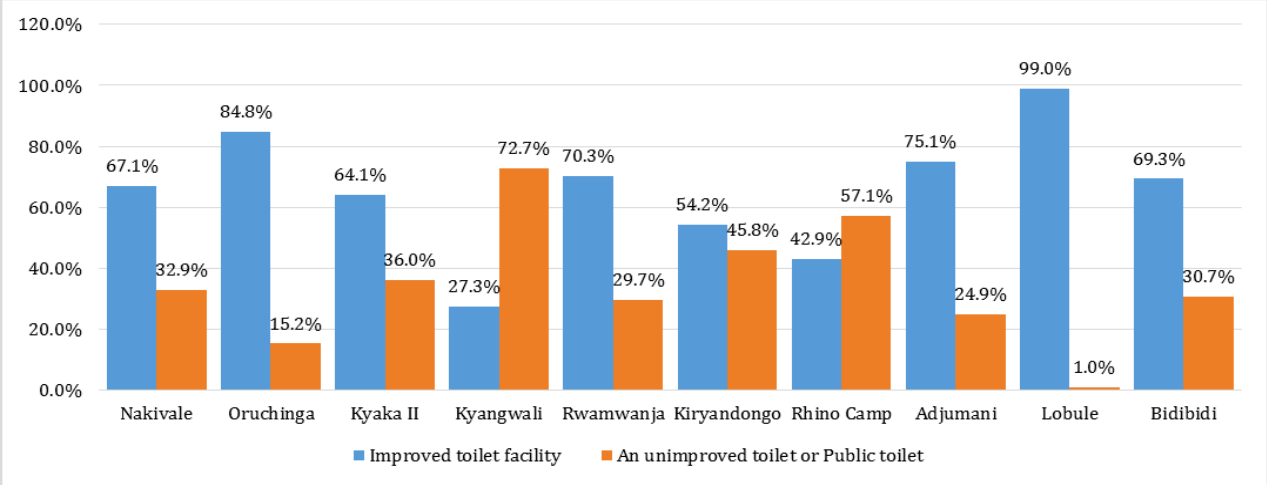

Figure 14: Safe Excreta disposal, Refugee Settlements, Uganda, December 2016

The proportion of households that report to use communal improved toilet facility with 3 households or more sharing was highest in Bidibidi (58.1%). This high rate could be due to the fact that at the time of the survey Bidibidi settlement was still new so refugees had not constructed their households' latrines.

8. Mosquito net utilization

In the refugee settlements long-lasting insecticidal nets are an effective and efficacious preventive and control measures in reducing both malaria morbidity and mortality. The refugees were asked if they had slept under a LLITN the previous night superseded the survey. The findings indicated that 88.1% of the total population (all ages) had slept under LLITN on the previous night before the survey whereas the proportion of children that slept under LLITN was 87.6% and that of pregnant women was 95.9%.

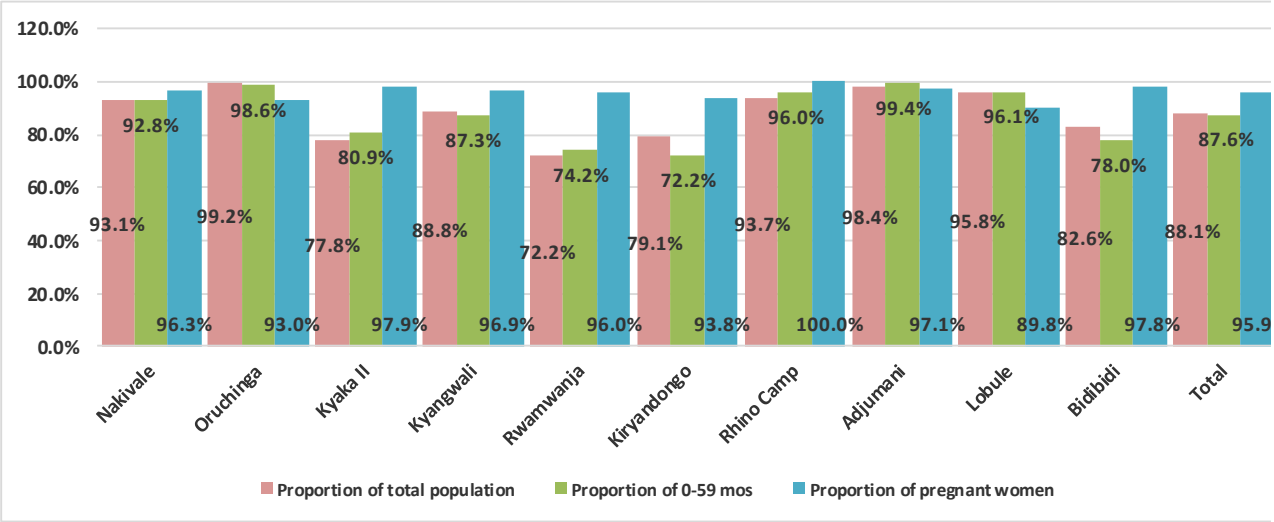

Figure 15: Mosquito net use, Refugee Settlements, Uganda, December 2016

9. Mortality

Both crude mortality rate (CMR) and under-five child mortality rate (U5MR) was under control in all the Settlements **(Tabl 7)**.

Table 7: *Crude and underfive mortality rate in refugee settlements*

	Nakivale	Oruchinga	Kyaka II	Kyangwali	Rwamwanja	Kiryandongo	Rhino Camp	Adjumani	Lobule	Bidibidi
CMR [Death/10,000 people/day]	0.10 (0.03 – 0.32)	0.20 (0.06-0.60)	0.04 (0.00-0.28)	0.16 (0.07-0.37)	0.29 (0.13-0.65)	0.14 (0.04-0.44)	0.09 (0.01-0.67)	0.17 (0.09-0.35)	0.06 (0.01-0.53)	0.23 (0.01-0.45)
U5MR [death in under five children/10,000/ day]	0.10 (0.02-0.43)	0.00 (0.00-0.00)	0.00 (0.00-0.00)	0.11 (0.01-0.83)	0.06 (0.01-0.48)	0.20 (0.03-1.46)	0.00 (0.00-0.00)	0.06 (0.01-0.44)	0.00 (0.00-0.00)	0.13 (0.02-0.24)

10. Conclusions

The survey results indicate that the public health and nutrition situation in refugee settlements in Uganda mirrors two different levels of malnutrition between West Nile and South West settlements. While the nutritional status in South West settlements progressively stabilise, the West Nile side have either medium or high prevalence of malnutrition. The levels of the refugees in West Nile have un-proportionally increased since the last quarter of 2016 to date. The programmers have to critically review the planning, implementation and monitoring of the nutrition programme in each location. Technical emphasis on the management of acute malnutrition in the settlements should focus on better improving the community management of acute malnutrition. The systematic screening of children and coordinated referral mechanisms through community outreach will increase the coverage of both out-patient therapeutic and supplementary feeding programme.

High levels of anaemia among children have been reported across the refugee settlements. The rates are significantly higher than 40% the WHO benchmark. Strengthening of the curative and preventive interventions in the control of anaemia will reduce the negative side effects to the population. Interventions such as: distribution of fortified foods, micronutrient supplementation programs, deworming and intensifications of infant and young child feeding programme would reduce the high rates of anaemia.

The food consumption scores indicate that majority of the refugees are within the "acceptable" ranges, however, the household dietary diversity scores shows that majority of the refugees are within the "medium" category. Due to resource constraints refugees have been on reduced food assistance since August 2016. As the programme pursue to further expand cash transfer for food, efforts should also be placed to end food reductions and restore back the general food assistance to normal. This is important as majority of the refugees relied on less preferred and less expensive food to cope with the reduced food assistance.

Deliberate efforts should be directed in addressing challenges associated with WASH indicators holistically. Majority of the refugees in the settlements continue to receive less than 20 litres of water per person per day and households depend on shared, communal or public latrines. Addressing water supply challenges will improve the personal hygiene, preparations of food conditions at household level and will support hand-washing practices, in turn this will reduce morbidity due to water related diseases and the nutritional status of refugees will be improved.

The mortality rates have remained within acceptable ranges according to the findings. This augurs well with the health information system reports which are shared by the partners on a monthly basis. However, a significant number of refugees' children were reported to have suffered from diarrhoea, also increased morbidity on malaria and respiratory tract infections were reported in the health information system reports. It is essential that clinical management of water born related diseases, fever of all types including malaria and respiratory tract infections are improved in terms of diagnostics, care and referrals where necessary to reduce the current high burden of diseases. Distribution of long lasting insecticides treated mosquito nets should be followed with close hang up campaigns, health education and monitoring of the LLINT.

11. Recommendations

Immediate:

- The status of refugees in Uganda is under control and the current efforts need to be sustained. In the immediate term there is need to restore full food ration to refugees according to the agreement and recommendations in the 2014 Joint Assessment Mission. Refugee new arrivals should be prioritized to receive 100% full ration (2100 kilocalories/day). This is important because children suffering from stunting are more vulnerable to acute malnutrition during food shortages and are likely to increase mortality due acute malnutrition.

Mid-term to long-term:

- Ensure sustained and improved identification process from the entry points/collection points of refugee new arrivals, and in the settlements, of children with severe and moderate acute malnutrition in the settlements. Children with MAM should be timely linked and enrolled to TSFP. SAM children with medical complications should be admitted to Inpatient Therapeutic Care (stabilization center), and SAM children without medical complications should be enrolled to Out Patient Therapeutic Feeding Programme.
    - The maternal and child health nutrition programme should continue targeting children 6 – 23 months, as well as pregnant and breastfeeding women until 6 months post-delivery, consistently and systematic to receive super cereal plus, coupled with health education. Selective feeding programs should be evaluated to ascertain its performance and impacts in reducing acute malnutrition and anaemia.
    - Ensure sustained iron and folic acid supplements and intermittent preventive treatment for malaria in pregnancy, and that children receive Vitamin A and deworming tablets. Ensure 100% coverage so as to reduce high levels of micronutrient deficiencies particularly anaemia.
    - Consider the provision of nutritional support to cases with chronic diseases that have negative consequences to their nutritional status, particularly HIV positive and tuberculosis cases, who are on treatments to improve care and adherences to medications.
    - Emphasize the implementation of the comprehensive safe motherhood, targeting women at reproductive age (15-49 years), in order to ensure that adolescent females receive reproductive health support before pregnancy to improve future pregnancy outcomes. This will contribute to reducing future cases of chronic malnutrition, low birth weight cases and under 5 year's mortality rates.
    - Consider provision of nutritional support to cases with chronic diseases that have negative consequences to their nutritional status particularly HIV positive and tuberculosis cases who are treatments to improve care and adherences to medications.
    - To provide fortified complementary feed (super cereals ++) targeting children 6-23 months of age, pregnant and breastfeeding women up to 6 months post-delivery. This is important because it contributes in reducing rates of severe and moderate acute malnutrition, stunting and anaemia.
    - Sustain implementation of comprehensive child health programme. Children should receive, timely, all antigens stated by MoH according to their age schedules in order to prevent all forms of preventable and treatable child disease. Available evidence suggests that children suffering from acute malnutrition are more likely to contract preventable and treatable diseases, which may lead to their deaths.
    - Improve food basket monitoring during general food distributions and post distribution monitoring with monthly in the settlements so that refugees are ensured of their food ration entitlements.
    - Implement infant and young child feeding programme comprehensively. Formulate and implement anaemia strategy in order to reduce high rates of anaemia. Work with research

institutes in order to address prevention, control and treatment of anaemia among children and stunting in the refugee programme.

- Prioritize comprehensive primary health care during refugee influxes. The burden of maternal and childhood mortality and morbidity is apparent during refugee influxes. At this time, access to healthcare is minimal, and community outreach systems are still not organized and developed.
- The programme should aim to reach a universal coverage of 80% of LLITN as recommended by WHO among refugees in the settlements as represents the individuals in populations at risk. Door to door distribution will allow community volunteers to demonstrate on how to hang a net and dialogue with household members on the importance of sleeping under LLITNs.
- With close collaborations with NMCP, Donors, Researchers and other partners, implement a comprehensive behavior change communication to increase LLITN ownership, use and retention among refugee households. This is necessary because appropriate and consistent use of LLITN involves change of behavior and practices around the use of LLITNs among individuals and communities.
- Ensure early referrals to the health facilities of all types of fever, malaria testing to be confirmed prior issuance of malaria medicines.
- Improve the coverage and use of improved household latrines for each family: Promote hygiene at household level to reduce food and water contaminations; Provide soap systematically to ensure hand washing is achieved and health and hygiene education as it is recommended. Hand-washing with soap after visiting the toilet and before eating is crucial in reducing the high prevalence of diarrhoea.
- Address challenges associated with distribution of adequate, safe and clean water among refugees and host communities so as to improve on the health and nutritional status of the general population.