SENS REPORT

(Yida & Ajuong Thok, Unity State, South Sudan)

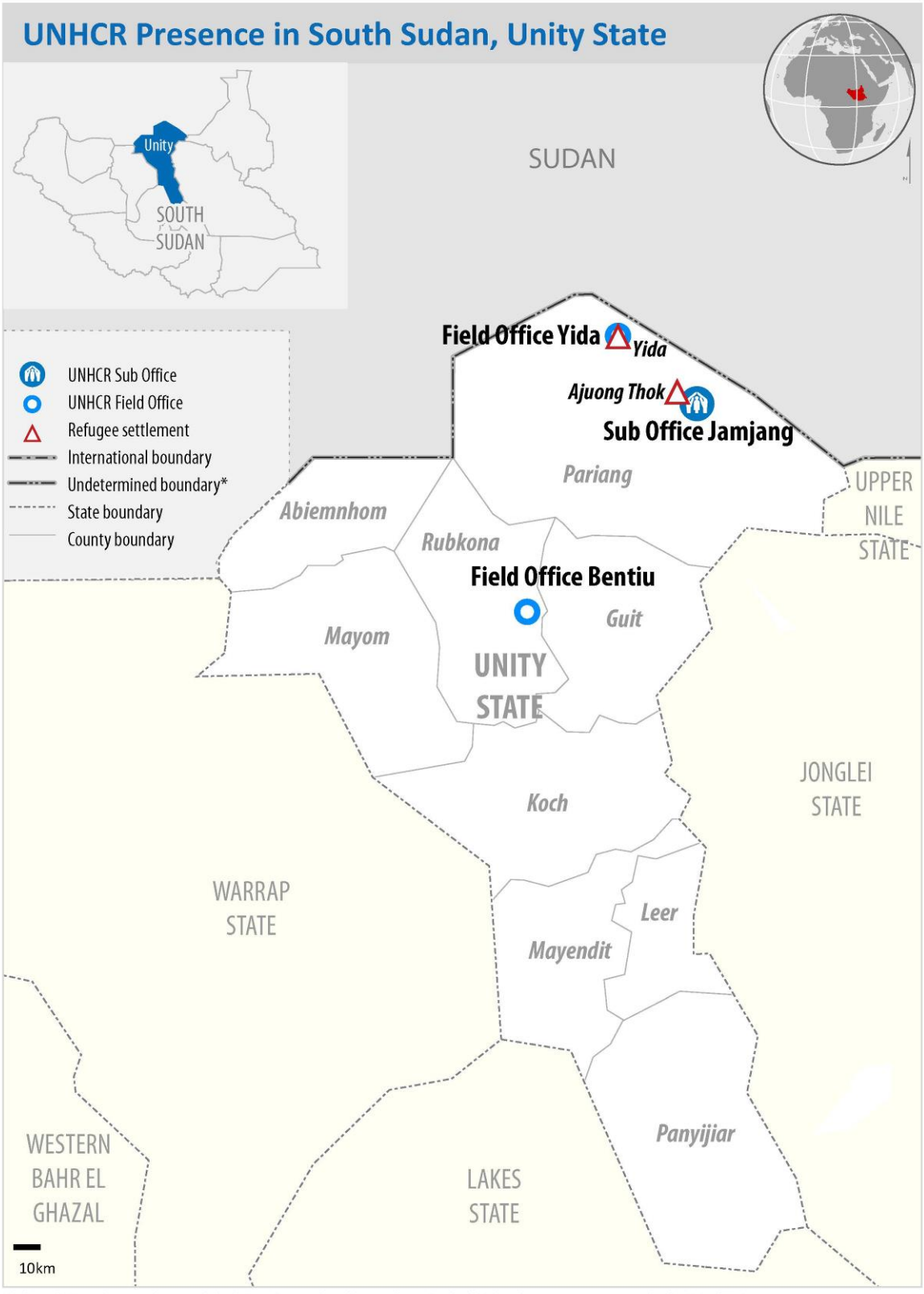
Survey conducted: (November 2014)

Report finalised: (February 2015)

UNHCR

IN COLLABORATION WITH

(WFP, AHA, SP, MSF-F)



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
** Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.* Sources: UNCS, UNHCR, UNDP

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ACRONYMS AND ABBREVIATIONS

AHA	Africa Humanitarian Action
ANC	Ante Natal Clinic
AWD	Acute Watery Diarrhoea
BSFP	Blanket Supplementary Feeding Programme
CDR	Crude Death Rate
CI	Confidence Interval
CSB+	Corn-Soya Blend Plus
CSB++	Corn-Soya Blend Plus Plus
ENA	Emergency Nutrition Assessment
EPI	Expanded Programme on Immunization
Epi Info	Name of CDC software for epidemiological investigations
GAM	Global Acute Malnutrition
GFD	General Food Distribution
GFR	General Food Ration
HAZ	Height-for-Age z-score
Hb	Haemoglobin
HH	Household
HIS	Health Information System
IYCF	Infant and Young Child Feeding
IRC	International Rescue Committee
LLIN	Long-lasting insecticidal net
Lpppd	Litres per Person per Day
LRTI	Lower Respiratory Tract Infection
MAM	Moderate Acute Malnutrition
MUAC	Middle Upper Arm Circumference
MSFF	Medecins Sans Frontires France
NCHS	National Centre for Health Statistics
OTP	Out-patient Therapeutic Programme
PDM	Post Distribution Monitoring
PPS	Probability Proportional to Size
ProGres	Registration database for refugee population data
SAM	Severe Acute Malnutrition
SC	Stabilization Centre
SD	Standard Deviation
SFP	Supplementary Feeding Programme
SMART	Standardised Monitoring and Assessment of Relief and Transitions
SP	Samaritan's Purse
SSCRA	South Sudan Commission for Refugee Affairs
TFP	Therapeutic Feeding Programme
TSFP	Targeted Supplementary Feeding Programme
U5	Children under 5 years old
U5CDR	Under-5 Crude Death Rate
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
URTI	Upper Respiratory Tract Infection

WASH	Water, Sanitation and Hygiene
WAZ	Weight-for-Age z-score
WHZ	Weight-for-Height z-score
WFP	World Food Programme
WHO	World Health Organization

EXECUTIVE SUMMARY

Introduction

Yida refugee settlement and Ajuong Thok refugee camp are located in Pariang County of Unity State in South Sudan. The refugees are from South Kordofan State of the neighbouring Sudan where there is fighting between the Sudan People's Liberation Army – North (SPLA-N) and the Sudan government's Sudan Armed Forces (SAF). The population of Yida is around 70000 while Ajuong Thok is still growing camp, which at the time of the survey had a population of 13500. According to the UNHCR ProGres database, 20% of the Yida population is children under 5 years while the same age group accounts for 14% of the Ajuong Thok population.

The nutrition report whose findings are presented in this report was conducted from November 15 to November 29 2014, with the survey report finalised in January 2015. The survey was coordinated by the United Nations High Commissioner for Refugees (UNHCR) with collaboration from the World Food Programme (WFP), Samaritan's Purse (SP) and Africa Humanitarian Action (AHA). Medecins Sans Frontiers - France (MSF-F) provided some logistical support in the form of survey materials.

The survey objectives are as outlined below;

Primary objectives:

1. To measure the prevalence of acute malnutrition in children aged 6-59 months
2. To measure the prevalence of stunting in children aged 6-59 months
3. To determine the coverage of measles vaccination among children aged 9-59 months
4. To determine the coverage of vitamin A supplementation in the last 6 months among children aged 6-59 months
5. To assess the two-week period prevalence of diarrhoea among children aged 6- 59 months
6. To measure the prevalence of anaemia in children aged 6-59 months and in women of reproductive age between 15-49 years (non-pregnant)
7. To investigate IYCF practices among children aged 0-23 months
8. To assess household dietary diversity
9. To determine the population's access to, and use of, improved water, sanitation and hygiene facilities
10. To determine the ownership of mosquito nets (all types and LLINs) in households
11. To determine the utilisation of mosquito nets (all types and LLINs) by the total population, children 0-59 months and pregnant women
12. To establish the crude and under 5 mortality rates
13. To establish recommendations on actions to be taken to address the nutrition situation in Ajuong Thok and Yida refugee locations.

Secondary objectives:

- To determine the coverage of therapeutic feeding and targeted supplementary feeding programmes for children 6-59 months

- To determine enrolment into Antenatal Care clinic and coverage of iron-folic acid supplementation in pregnant women

Methodology

The survey was conducted following the UNHCR Standardised Expanded Nutrition Survey (SENS) version 2, December 2012 guidelines and the Standardised Monitoring and Assessments of Relief and Transitions (SMART) guidelines, see www.sens.unhcr.org. Two stage cluster sampling was used, the first stage involved identifying clusters and the second stage was to identify the households to take part in the survey. The Emergency Nutrition Assessment (ENA) software was used to calculate the sample size. To identify clusters, the Probability Proportion to Sample Size (PPS) method was used. To calculate sample size, the following parameters were used; percentage population under 5 14% Ajuong Thok and 20% Yida, estimated Global Acute Malnutrition (GAM) prevalence 9% Ajuong Thok and 11% Yida, desired precision 4 for both locations, design effect 1.4 in Ajuong Thok and 1.5% in Yida, average household size 4.4 in Ajuong Thok and 4.5 in Yida. The above parameters gave sample size of 569 households and 300 children in Ajuong Thok and 527 households and 384 children in Yida.

The survey had a total of 5 modules, 3 individual level questionnaires and 2 household level questionnaires. The modules are;

- Anthropometry and health; targeting all children (6 to 59 months) in all the sampled household
- Infant and Young Child Feeding (IYCF); targeting all children 0 to 23 months in all the sampled household
- Anaemia; targeting all children 6 to 59 months and all non-pregnant women 15 to 49 years in every other sampled household
- Mosquito net coverage; targeting every other sampled households
- Water Sanitation and Hygiene (WASH); targeting all the other sampled households

Mortality questionnaire was included as part of the SMART survey, and targeting was all sampled households

Data was collected using paper questionnaires by a team of 4 members. There were 6 teams in Yida while Ajuong Thok had 5 teams.

Results

Table 1 below is a summary of the survey results

TABLE 1 SUMMARY OF RESULTS

	Yida		Ajuong Thok		
	Number / total	**% (95% CI)**	**Number / total**	**% (95% CI)**	**Classification of public health significance or target (where applicable)**
CHILDREN 6-59 months					
Acute Malnutrition (WHO 2006 Growth Standards)					
Global Acute Malnutrition (GAM)	47/758	6.2(4.7-8.2)	20/641	3.1(1.9-5.1)	Critical if ≥ 15%
Moderate Acute Malnutrition (MAM)	41/758	5.4(4.0-7.2)	19/641	3.0(1.8-4.9)	
Severe Acute Malnutrition (SAM)	6/758	0.8(0.4-1.7)	1/641	0.2(0.0-1.2)	
Oedema	0/758	0.0(0-0)	0/641	0.0(0-0)	
Mid Upper Arm Circumference (MUAC)					
MUAC <125mm and/or oedema	66/776	8.5(6.6-10.9)	27/655	4.1(2.7-6.3)	
MUAC 115-124 mm	52/776	6.7(5.2-8.7)	22/655	3.4(2.1-5.4)	
MUAC <115 mm and/or oedema	14/776	1.8(0.9-3.6)	5/655	0.8(0.3-4.8)	
Stunting[1] (WHO 2006 Growth Standards)					
Total Stunting	180/752	23.9(20.0-28.4)	130/639	20.5(17.2-24.2)	Critical if ≥ 40%
Severe Stunting	46/752	6.1(4.4-8.5)	33/639	5.3(3.8-7.4)	
Programme coverage					

[1] Note that z-scores for height-for-age require accurate ages to within two weeks (CDC/WFP: A manual: Measuring and Interpreting Mortality and Malnutrition, 2005).

	Yida		Ajuong Thok		
	Number / total	**% (95% CI)**	**Number / total**	**% (95% CI)**	**Classification of public health significance or target (where applicable)**
Measles vaccination with card or recall (9-59 months)	622/737	84.4(79.0-89.7)	573/610	94(91.4-96.4)	Target of ≥ 95%
Vitamin A supplementation within past 6 months with card or recall	614/776	79.1(71.7-86.6)	603/655	92.1(89.5-94.6)	Target of ≥ 90%
Diarrhoea					
Diarrhoea in last 2 weeks	156/775	20.1(15.6-24.7)	174/630	27.6 (22.5-32.7)	
Anaemia					
Total Anaemia (Hb <11 g/dl)	187/482	38.8(33.9-43.7)	204/568	35.9(31.9-39.9)	High if ≥ 40%
Mild (Hb 10-10.9)	121/482	25.1(21.0-29.2)	93/568	16.4(13.3-19.5)	
Moderate (Hb 7-9.9)	62/482	12.9(9.1-16.6)	109/568	19.2(15.6-22.8)	
Severe (Hb <7)	4/482	0.8(0-1.6)	2/568	0.4(0-0.9)	
CHILDREN 0-23 months					
IYCF indicators					
Timely initiation of breastfeeding	308/339	90.6(87.4-94.3)	266/310	85.8(79.0-92.6)	
Exclusive breastfeeding under 6 months	58/114	50.9(37.9-63.8)	55/102	54.0(39.0-68.9)	
Consumption of iron-rich or iron-fortified foods	143/226	63.3(52.9-	105/210	50.0(37.8-	

	Yida		Ajuong Thok		
	Number / total	**% (95% CI)**	**Number / total**	**% (95% CI)**	**Classification of public health significance or target (where applicable)**
		73.7)		62.2)	
Bottle feeding	29/340	8.5(4.4-12.6)	40/315	12.7(7.7-17.7)	
WOMEN 15-49 years					
Anaemia (non-pregnant)					
Total Anaemia (Hb <12 g/dl)	68/301	22.6(18.1-27.1)	73/402	18.2(13.1-23.2)	High if ≥ 40%
Mild (Hb 11-11.9)	45/301	15.0(11.2-18.7)	50/402	12.4(8.6-16.2)	
Moderate (Hb 8-10.9)	22/301	7.3(3.8-10.8)	23/402	5.7(3.0-8.5)	
Severe (Hb <8)	1/301	0.3(0-1.0)	0/402	0(0-0)	
WASH					
Water quality					
Proportion of households using improved drinking water source	506/507	99.8(99.4-100)	542/542	100.0 (100.0-100.0)	
Water quantity					
Proportion of households that use:					Average quantity of water available per person / day ≥ 20 litres
≥ 20 lpppd	252/503	50.1(44.3-56.0)	242/540	44.8 (39.3-50.3)	
15 - <20 lpppd	105/503	20.9 (16.8-24.9)	114/540	21.1 (17.0-25.2)	

	Yida		Ajuong Thok		
	Number / total	**% (95% CI)**	**Number / total**	**% (95% CI)**	**Classification of public health significance or target (where applicable)**
<15 lpppd	146/503	29.0 (23.3-34.8)	184/540	34.1 (27.6-40.5)	
Average water usage in litres/person/day	22.6lpppd		20lpppd		
Satisfaction with drinking water supply					
Proportion of households that say they are satisfied with drinking water supply	380/506	75.1 (67.3-82.9)	229/539	42.5 (31.5-53.5)	
Safe excreta disposal					
Proportion of households that use:					
An improved excreta disposal facility (improved toilet facility, 1 household)	97/467	20.8 (15.3-26.3)	128/534	24.0 (17.0-30.9)	
A shared family toilet (improved toilet facility, 2 households)	51/467	10.9 (7.3-14.5)	42/534	7.9 (5.8-10.0)	
A communal toilet (improved toilet facility, 3 households or more)	118/467	25.3 (19.6-30.9)	116/534	21.7 (15.5-28.0)	
An unimproved toilet (unimproved toilet facility or public toilet)	201/467	43.0 (36.5-49.6)	248/534	46.4 (37.7-55.1)	
MOSQUITO NET COVERAGE					
Mosquito net ownership					
Proportion of households owning at least one LLIN	244/321	76.0(67.2-84.8)	333/440	75.7 (69.3-82.1)	Target of >80%

	Yida		Ajuong Thok		
	Number / total	**% (95% CI)**	**Number / total**	**% (95% CI)**	**Classification of public health significance or target (where applicable)**
Average number of persons per LLIN (mean)	4.0		3.8		2 persons per LLIN
Mosquito net utilisation					
Proportion of household members (all ages) who slept under an LLIN	1229/2070	62.8	1537/2468	62.3	
Proportion of children 0-59 months who slept under an LLIN	386/562	68.7	466/675	69.0	
Proportion of pregnant women who slept under an LLIN	47/100	47.0	60/95	63.2	
MORTALITY					
Mortality Rates					
Crude Mortality Rate	0.14(0.03-0.59 95%CI)		0.04(0.00-0.27 95%CI)		High if ≥ 1.0
Under 5 Mortality Rate	0.23(0.03-1.92 95%CI)		0.13(0.02-1.03 95%CI)		High if ≥ 2.0

Results Interpretation

The GAM rate in both Yida and Ajuong Thok is below the 10% emergency threshold. According to UNHCR standards, stable camps should have GAM rate below 5% while camps in emergency should have GAM below 10%. Ajuong Thok, GAM 3.1%% and Yida, GAM 6.2% can be said to be camps in transition which can be said to be achieving stability. According to the World Health Organisation (WHO) classification, the GAM rate in Yida is medium while in Ajuong Thok it is low.

Stunting levels, just above 20% in both locations are said to be in the medium classification, between 20% and 29% according to classification.

Measles and vitamin A coverage although high, they fall short of the 95% and 90% coverage target respectively, with the exception of vitamin A coverage in Ajuong Thok which is 92.1%.

Total anaemia prevalence in children 6 to 59 months is just below the 40% high threshold in both locations and is said to be of medium public health significance. Anaemia prevalence in women is of medium public health significance in Yida and of low public health significance in Ajuong Thok.

The rate of exclusive breastfeeding is around in both locations, which is still relatively low and can be improved.

Almost all the sampled households have access to improved drinking water sources. The water usage indicator is 22.6 litres per person per day (lpppd) in Yida and exactly 20lpppd in Ajuong Thok, which shows that households have access to safe and adequate water for their daily use. According to UNHCR standards the minimum amount of water a person should have is 20lppppd. There is however issues with the drinking water supply especially in Ajuong Thok where only 42.5% are satisfied with the water source.

A considerable proportion of the population (over 40%) in both locations does not have access to improved toilet facilities, with the majority of this proportion practising open defecation.

The proportion of households that own at least one Long Lasting Insecticide-treated Mosquito Net (LLIN) is below the 80% target. The average number of persons sharing a mosquito net is relatively high; double the less than 2 persons per LLIN target in both locations, and this result in relatively small proportions of the population sleeping under the LLIN.

Mortality rates are below the emergency threshold in both locations. Point prevalence of diarrhoea is on lower side of the medium public health significance.

Recommendations

Immediate Term

1. UNHCR and the nutrition partners; SP and AHA should continue implementing and strengthening the curative nutrition component.

2. As a way of improving the anaemia levels and to provide animal protein in the diet, WFP should consider implementing continuous Blanket Supplementary Feeding (BSFP) using corn soya blend plus plus (CSB++) targeting children 6 to 23 months.

3. The health partners IRC, AHA and MSF-F should come up with ways of improving routine measles immunisation and vitamin A coverage which will be complemented by campaigns.

4. SP and AHA should strengthen the IYCF programmes in order to improve the exclusive breastfeeding rates and other optimum IYCF indicators.

5. IRC as the WASH partner as the WASH partner in Ajuong Thok should consider carrying out further investigations on why people are not satisfied with the drinking water source and improve on the same.

6. UNHCR should consider introducing indoor residual spray as a malaria preventive measure whole at the same time working with the health partners to identify high family size households so as to improve on the ratio of LLIN and the coverage of the same.

Medium Term

7. UNHCR, AHA and SP should carry out an IYCF review to identify factors contributing to the low exclusive breastfeeding rate and come up with ways of identifying the same.

8. UNHCR, IRC and SP should prioritise providing improved family latrines to the refugee population.

9. Nutrition partners to consider implementing proper back yard gardening project coupled with provision of training, seeds and tools as a way of addressing the anaemia situation.

10. UNHCR to pursue the option of refugees in Ajuong Thok having access to agricultural land so that they are able to supplement the General Food Ration (GFR).

11. WFP and UNHCR to consider carrying out a proper food security assessment in Yida and Ajuong Thok as a way of understanding the food security patterns and food utilisation, which may have an effect on the anaemia and stunting levels.

Long Term

12. UNHCR should consider supporting livelihood activities in Ajuong Thok to improve the local economy and increase the disposable income available to the population. Increased disposable income has high chances of having positive nutrition impact through dietary diversification.

13. All partners working in nutrition, health and WASH should strengthen the integrated community health programme so as to have all-rounder community health workers as a way of having sustainable public health interventions.

1 Introduction

Yida and Ajuong Thok refugee locations in Pariang County of South Sudan's Unity State are home to refugees and asylum seekers from the South Kordofan State of the neighbouring Sudan. The two locations are less than 50km away from the northern border of South Sudan with Sudan. The refugees started arriving in Yida in July 2011 following skirmishes between the SPLA-N and the government of Sudan Armed Forces.

Officially, Yida is not recognised as a refugee camp as such only lifesaving assistance is provided to the refugees with no education or livelihood support offered. Refugees settled themselves in Yida with assistance from neither UNHCR nor from the government. Following the establishment of Ajuong Thok refugee camp in March 2013, the government of South Sudan through the South Sudan Commission for Refugee Affairs (SSCRA) issued a directive in April 2013 that refugees should be relocated from Yida to the newly opened camp, Ajuong Thok and that all new arrivals should be registered in Ajuong Thok where they can receive humanitarian assistance which includes education and livelihoods not limited to lifesaving support.

Yida and Ajuong Thok locations are in what can be described as the green belt of Pariang County which is forest with red sandy soils. The area is flat terrain surrounded by black cotton soils with poor drainage which flood during the rainy season. The rain season is between June and October followed by the hot dry season which reaches its peak around March. The survey was conducted in November at the beginning of the harvesting of the main crops which include groundnuts and sorghum. Figure 1 below is a map which shows the location of Yida and Ajuong Thok.

Figure1: Map Showing Location of Yida and Ajuong Thok in South Sudan

1.1 Description of the population

At the time of the survey, Yida had a population of 71913 while Ajuong Thok had 13750 individuals. At its maximum carrying capacity Ajuong Thok is expected to have 24000 refugees. Of the total Yida population; 22%, 15958 are children under 5 years old while the population category was 16% (2209 individuals) of the total Ajuong Thok population (UNHCR PreGres database). There are two major religions among the refugee population, namely Christianity and Islam. In the country of origin, the refugees are mainly agriculturalists but at the same time keeping livestock such as cattle, goats and sheep. The main crops grown are sorghum, groundnuts and sesame. Maize is grown at a very small scale. The surrounding host community are agro-pastoralists, who rely mainly on cattle for their livelihood. There is a small proportion of the population who are of Darfurian origin. These are mainly traders and most of them are not registered as refugees.

1.2 Food security situation

All the registered refugees in Yida and Ajuong Thok are getting the WFP General Food Distribution (GFD).SP is the WFP GFD partner in both Yida and Ajuong Thok. There is a small percentage in Yida however who are not getting food because they arrived in Yida after the April 2013 directive to have all refugees move in Yida. This government directive also stipulated that new arrivals unless they move to Ajuong Thok they can only be registered in Yida but cannot receive a ration card which entitles them to GFD food. The GFD ration comprise sorghum 500g/person/day, lentils or yellow split peas 50g/person/day, fortified vegetable or palm oil 20g/person/day and iodised salt 5g/person/day. The food basket provides slight above the 2100Kcal min daily energy requirements. Post Distribution Monitoring (PDM) conducted by WFP and SP indicated that refugees say the food they get is not enough to take them through the 30 days. The commodities run out at varying points but last between 20 and 26 days. There has not be a proper food security assessment in the refugee locations as such it is not possible to fathom what other food sources are available to the refugees. In addition to the GFD basket, refugees also receive milling vouchers as a way of cushioning against

selling or exchanging the cereal ration to meet milling costs. The milling vouchers were initially for 70% of the cereal but due to funding constraints, WFP has reduced the vouchers to 50% of the cereal ration.

At the time of the survey, refugees who managed to plant some crops in their plot had begun to harvest. The harvest included beans (both leaves and seeds) and groundnuts mostly. Refugees also had access to fish which was available almost everywhere where there was water. The fish is believed to be from the White Nile River which floods during the rainy season bringing fish to the flooding plains of Pariang County.

The food and non-food items (NFI) brought to Unity State is mainly sourced from Juba and comes by road when in the dry season. In 2014 however, it was not possible to take advantage of the dry season when the roads are open due to bring food and non-food items to Unity due to the security crisis in the country. As a result humanitarian agencies resorted to air operations, air lifts and air drops to bring both food and non-food items.

The market in Yida is believed to be currently one of the biggest markets in the entire Unity State as it is serving all the refugees and the entire host community. Besides all the fame associated with the market, the main products are mainly non-food items and dried food items. Rarely does the market have fresh foods.

1.3 Health situation

Health care services in Yida are offered by IRC and MSF-France and in Ajuong Thok AHA is the health partner. The health services in both locations are at primary level with capacity to do blood transfusion. There is a primary health care centre (PHCC) in Pariang, the county headquarters which is being run by CARE. The government with support from UNHCR is planning to upgrade the PHCC to hospital status. As part of the upgrade, with support from UNHCR, the PHCC now has the capacity for minor surgeries including caesarean section. The reason behind this upgrade is to minimise referrals to Juba for services that can be available locally with some minimum investments. It is also seen as a way of building the capacity of the local government.

To improve refugees' health seeking behaviour and to have sustainable community health programmes, UNHCR and health agencies have come up with a comprehensive community health programme. This entails having community health workers (CHW) who are knowledgeable in health, nutrition and WASH.

Mortality trends monitoring show that mortality rates were below the emergency thresholds of 2/10000/day for under death rate (U5DR) and 1/10000/day for crude death rate (CDR). The mortality trends are illustrated in Figures 2 and 3 below. The survey results showed CDR of 0.14/10000/day and 0.04/10000/day in Yida and Ajuong Thok respectively. The U5DR was 0.23/10000/day in Yida and 0.13/10000/day in Ajuong Thok.

Morbidity patterns among children under 5 years are similar in both locations. Upper respiratory tract infections (URTI) followed by lower respiratory tract infections (LRTI) accounted for over 65% of recorded under 5 morbidities. The other common morbidities are acute watery diarrhoea (AWD), malaria and skin infections. Malaria comprises both suspected and confirmed cases. Figures 4 and 5 illustrate the common causes of morbidity among children under 5 years in Yida and Ajuong Thok.

FIGURE 2: CRUDE AND UNDER-5 MORTALITY RATES - YIDA

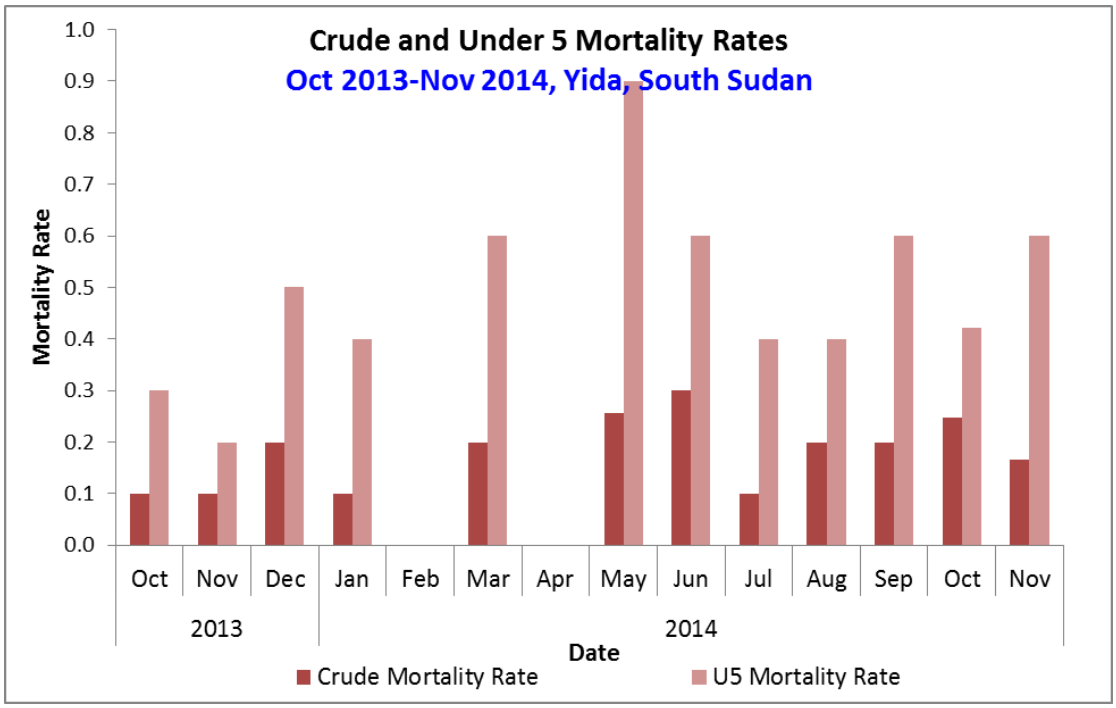


FIGURE 3: CRUDE AND UNDER-5 MORTALITY RATES – AJUONG THOK

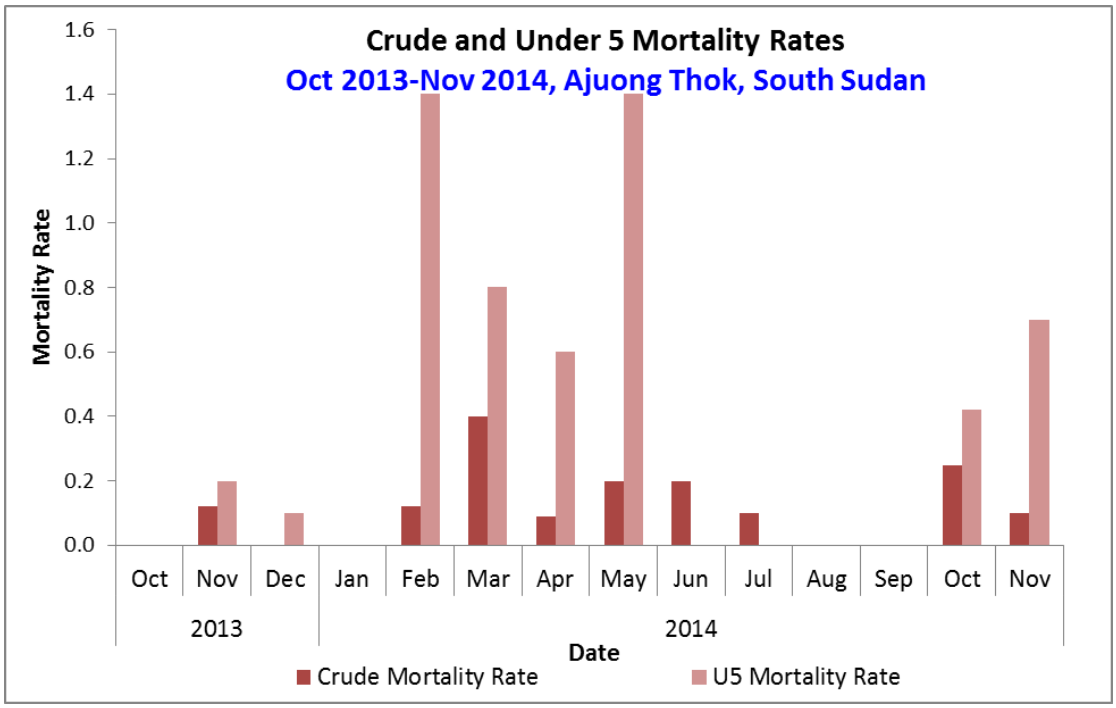


FIGURE 4: TOP FIVE CAUSES OF MORBIDITY IN CHILDREN UNDER-5; YIDA

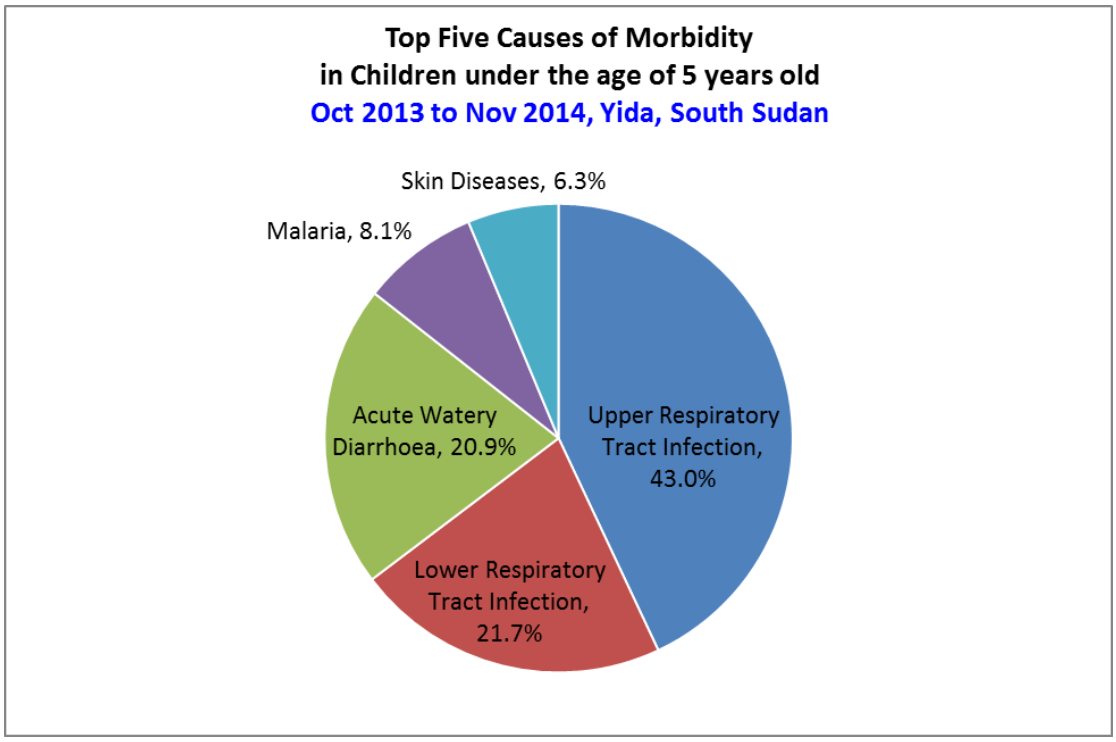
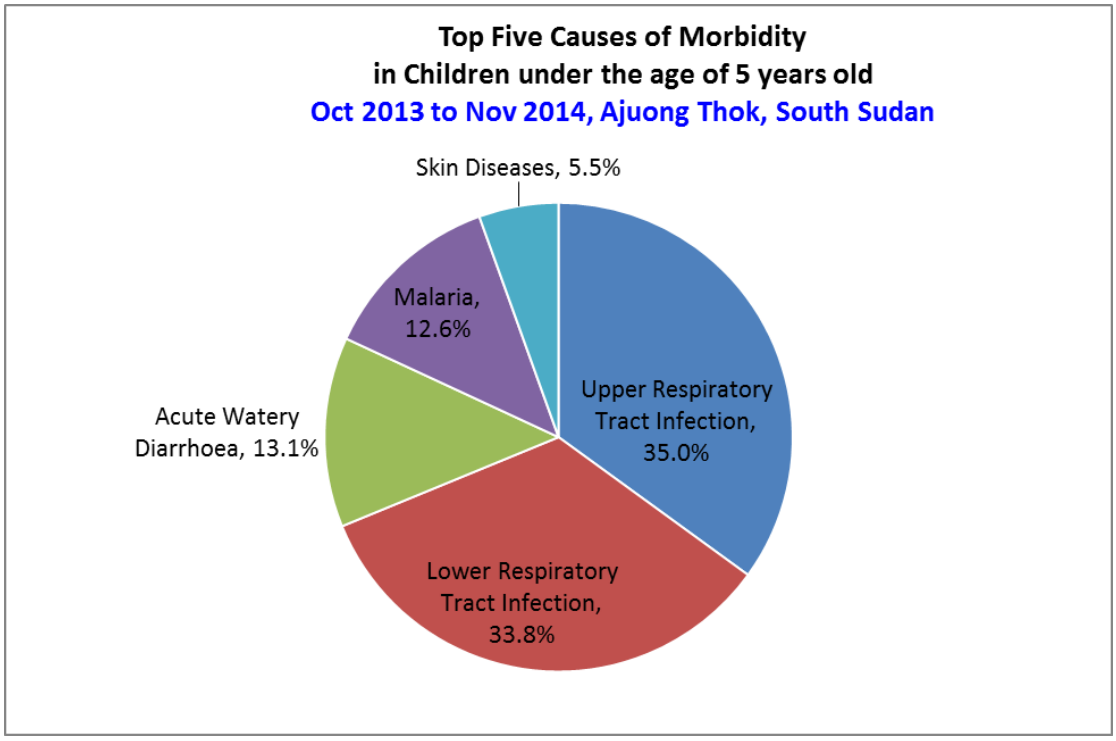


FIGURE 5: TOP FIVE CAUSES OF MORBIDITY IN CHILDREN UNDER-5; AJUONG THOK



1.4 Nutrition situation

Curative Services

Preventive and curative nutrition intervention activities are being offered in both refugee locations. This has resulted in acceptable malnutrition levels among the refugee population. The curative services include comprehensive Community Management of Acute Malnutrition (CMAM) services. The CMAM services comprises the stabilisation centre (SC) for managing SAM cases with medical complications, the Outpatient Therapeutic Programme (OTP) for managing SAM cases without medical complications and the Targeted Supplementary Feeding Programme (TSFP) for managing moderate acute malnutrition MAM) cases. Patients admitted in the SC receive F75 and F100 while those in the OTP receive plumpy nut. The daily ration depends on the patient weight. In the TSFP, patients receive plumpy sup, one 92g sachet per person per day. The South Sudan interim guidelines for management of acute malnutrition together with international guidelines are used in the treatment of acute malnutrition. In Ajuong Thok all the curative components of the nutrition programme are offered by AHA while in Yida MSF-France is responsible for inpatient cases with SP taking responsibility of outpatient cases. Admission trends in the SAM and MAM programmes are illustrated in figures 6 and 7 below.

Preventive Services

Besides curative interventions, nutrition partners with WFP collaboration implemented BSFP targeting children 6 to 59 months or 6 to 23 months depending on commodity availability. The commodity used for this programme is CSB++ (200g/person/day). This activity was however not implemented all year round as the commodity was not available throughout and also there is no understanding with WFP to have continuous BSFP for children 6 to 23 months. For pregnant and lactating women (PLW), BSFP or TSFP was implemented throughout the year depending on commodity availability. The commodity used was 200g/person/day CSB++ but at times 250g/person/day CSB+, 30g person/day sugar and 20g/person/day oil was used.

IYCF programming was implemented in both refugee locations. The main conduit for this intervention was the use of mother to mother support groups and community health workers. Together with the health partners, IYCF counselling was integrated in the ante natal care (ANC) and post natal care (PNC) clinics.

There is no particular programme that seeks to address the anaemia problem. In Ajuong Thok however, AHA piloted a backyard garden project with the help of CARE. Once this is seen to be a success, the project will be expanded and will be part of the anaemia strategy in the camp.

Current Nutrition Trends

The survey results showed malnutrition rates as measured by GAM of 6.2%(4.7-8.2 95% CI)in Yida and SAM of 0.8%(0.4-1.7 95% CI). The malnutrition rates are lower than the2013 survey which showed GAM of 7.3% (5.3 -10.2 95% CI) and SAM of 1.2% (0.6- 2.5 95% CI). Although the 2014 malnutrition seem to be lower compared to the 2013 results, the difference is not statistically significant as the confidence intervals are overlapping. The reason for supposedly lower malnutrition rates in 2014 could be the difference in the timing. The 2013 survey was conducted in February at the peak of the dry season approaching the lean hunger season while the 2014 survey was conducted in November when households had some green harvest and had access to fish, a situation that significantly improved their diet. GAM of 3.1 %(1.9-5.1 95% CI) and SAM of 0.2 %(0.0-2.3 95% CI) in Ajuong Thok is within acceptable limits. This is the first survey in Ajuong Thok, so there are no previous results to compare with.

Stunting prevalence is of medium public health concern with total stunting of 23.9% (20.0-28.4 95% CI) and severe stunting of 6.1% (4.4-8.5 95% CI) in Yida. In Ajuong Thok total, the survey results

showed total stunting of 20.5 %(17.2-24.2 95% CI) and severe stunting of 5.3 %(3.8-7.4 95% CI). Compared to 2013 results, there is not much difference between the Yida stunting results. In 2013, total stunting was 23.3 %(20.0-26.9 95% CI) and severe stunting was 5.8 %(4.1-8.2 95% CI).
Nutrition trends' monitoring using Mid Upper Arm Circumference (MUAC) was conducted in both Yida and locations throughout 2014. The findings show malnutrition prevalence less than 5% in both locations.

The anaemia situation among children 6 to 59 months is of medium public health significance but almost approaching the 40% threshold for high public health significance. Total anaemia prevalence in Yida is 38.8 %(33.9-43.7 95% CI) while in Ajuong Thok it was 35.9 %(31.9-39.9 95% CI). Anaemia prevalence is however alarming in children 6 to 23 months with total anaemia of 55.5 %(47.7-63.0 95% CI) in Yida and 63.4 %(56.6-70.2 95% CI) in Ajuong Thok. The anaemia prevalence among non-pregnant women of child bearing age (15 to 49 years) is 22.6 %(18.1-27.1 95% CI) in Yida and 18.2 %(13.1-23.2 95% CI) in Ajuong Thok. The prevalence of anaemia is of medium public health significance in Yida and of low public health significance in Ajuong Thok (WHO, 1995). Comparison of the Yida anaemia results with the 2013 survey results shows that not much has changed as far as anaemia is concerned in Yida especially in children 6 to 59months. Total anaemia among children 6 to 23 months was 34.0% (29.4-38.6 95% CI) while among children 6 to 23 months the anaemia prevalence was 50.2 %(44.6-55.7 95% CI). The anaemia prevalence among children 6 to 23 months has increased in 2014 if compared to 2013.

FIGURE 6: NUMBER OF ADMISSIONS TO TREATMENT PROGRAMMES FOR MAM AND SAM IN CHILDREN 6-59 MONTHS - YIDA

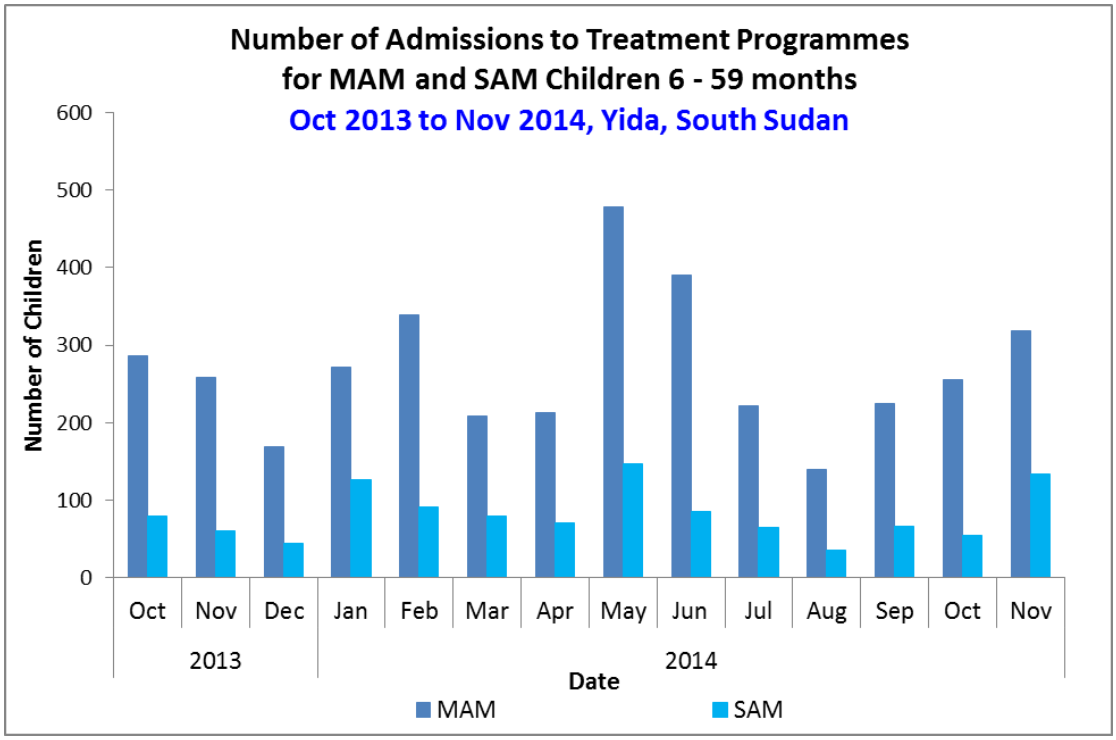
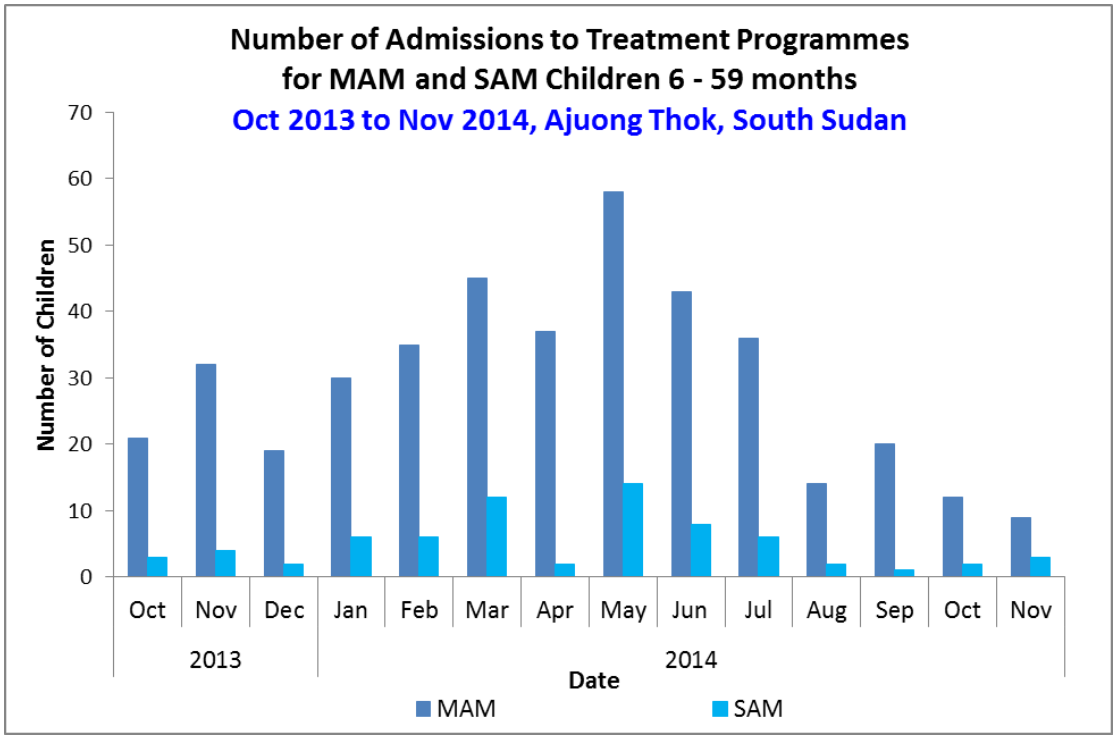


FIGURE 7: NUMBER OF ADMISSIONS TO TREATMENT PROGRAMMES FOR MAM AND SAM IN CHILDREN 6-59 MONTHS – AJUONG THOK



2 Survey Objectives

Primary objectives:

- To measure the prevalence of acute malnutrition in children aged 6-59.
- To measure the prevalence of stunting in children aged 6-59 months.
- To determine the coverage of measles vaccination among children aged 9-59 months (or context-specific target group e.g. 9-23 months).
- To determine the coverage of vitamin A supplementation received during the last 6 months among children aged 6-59 months.
- To assess the two-week period prevalence of diarrhoea among children aged 6- 59 months.
- To measure the prevalence of anaemia in children aged 6-59 months and in women of reproductive age between 15-49 years (non-pregnant).
- To investigate IYCF practices among children aged 0-23 months.
- To determine the population's access to, and use of, improved water, sanitation and hygiene facilities.
- To determine the ownership of mosquito nets (all types and LLINs) in households.
- To determine the utilisation of mosquito nets (all types and LLINs) by the total population, children 0-59 months and pregnant women.

- To determine the crude and under 5 mortality rates.

- To establish recommendations on actions to be taken to address the situation in Ajuong Thok and Yida refugee locations.

Secondary objectives:

- To determine the coverage of therapeutic feeding and targeted supplementary feeding programmes for children 6-59 months.

- To determine enrolment into Antenatal Care clinic and coverage of iron-folic acid supplementation in pregnant women.

3 Methodology

3.1 Sample size

The sample size for anthropometry and health was calculated using the parameters illustrated in table 2 below. The ENA for SMART software was used to calculate the sample size.

Table 2: Anthropometry and Health Sample Size Calculation

Location	% population under 5	Estimated GAM prevalence	Desired Precision	Design Effect	Non response rate	Average household size	Number of households	Number of children
Yida	20%	11%	4	1.5	10%	4.5	527	384
Ajuong Thok	14	9	4	1.4	5%	4	569	300

The sample size for anthropometry and health was used for the other modules namely IYCF and WASH. Half the sample size of anthropometry (every other household) was used as the sample size for anaemia and mosquito net coverage. This was done following SENS recommendations, which say that if there is no anaemia intervention in place then half the anthropometry sample size should be sampled for anaemia.

To calculate the mortality sample size, the parameters illustrated in table 3 below were used. The ENA for SMART software October 2012 version was used to calculate the mortality sample size.

Table 3: Mortality Sample Size Calculation

Location	Estimated CDR (deaths/10000/ day)	Desired Precision	Design Effect	Non response rate	Average household size	Recall period	Number of households	Population to be included
Yida	1	1	2	10%	4.5	90 days	929	229
Ajuong Thok	0.8	0.7	1.8	5%	4.4	90 days	1366	327

Following the SMART recommendations which stipulate that in a combine survey (mortality and anthropometry), the higher sample size of the two is taken as the final sample size; the mortality sample size used in the survey was the same as the anthropometry sample size.

For the purposes of this survey, household size was defined as the number of people who eat from the same pot. The household size used in the survey was obtained from community health worker reports where from their day to day activities. The refugee total population and the proportion of children under the age of 5 years were obtained from the UNHCR ProGres database. A non-response rate of 20% was factored in for the Yida survey because the population is highly mobile between Yida and South Kordofan so it was expected to have a high number of absentees. The mobility is not as much in Ajuong Thok so a non-response rate of 5% was factored in the sample size calculation. The estimated GAM prevalence was obtained from the previous 2013 survey in Yida as well as from nutrition trends monitoring results.

Cluster sampling was used in the survey. The decision was arrived following the unavailability of complete household lists and also the unorganised nature of the settlements especially in Yida. To determine the number of clusters to be included in the survey, consideration on the number of teams, time taken per household as well the available time was put into consideration. With all these factors put into consideration, there were 35 clusters of 15 households per cluster in Yida while Ajuong Thok had 36 clusters of 16 households. At the end 525 households were sampled in Yida while in Ajuong Thok 576 households were sampled.

3.2 Sampling procedure: selecting clusters

The UNHCR ProGres database was used to obtain camp population statistics. The data used was as of October 31 2014. To assign clusters, the probability proportion to sample size (PPS) was employed using the ENA software. Each cluster comprised 15 households in Yida and 16 households in Ajuong Thok. The cluster size was increased following the improved efficiency in data collection by the survey teams.

3.3 Sampling procedure: selecting households and individuals

Once clusters were identified, the next stage was selection of households to participate in the survey. In Yida, community health workers were assigned to identified clusters where they were asked to number the households. Once the households were numbered, systematic random sampling was employed in second stage sampling. The sampling interval varied depending on the number of households in the cluster. The first household was randomly selected from pieces of papers which were numbered.

In Ajuong Thok, a cluster was the equivalence of a block. Each block has 8 compounds and there are 12 plots in each compound, this there implies that a block has 96 plots. A plot is assigned to a household and it was assumed that one household leaves in a plot. The sampling interval in Ajuong Thok was 6, i.e. every sixth household. The first household was randomly selected from pieces of papers which were numbered.

All the eligible household members were included in the survey, that is all children 6 to 59 months and women 15 to 49 years in a sampled were included in the survey as appropriate. The interview was conducted in most cases with the mother in the household or in her absence with an adult member of the household who was knowledgeable with the everyday running of the household.

In the event of an absent household or individual, the team members returned to the household twice during the course of the day. There were not many absentees identified as the survey days coincided with ration card replacement exercise when almost all people were in the camp. If the household or individual was not found after returning twice, the household or individual was counted as an absentee and was not replaced. If an individual or household refused to participate, it was considered a refusal and the individual or household was not replaced with another. If a selected household was abandoned, the household was replaced by another. If a selected child was

disabled with a physical deformity preventing certain anthropometric measurements, the child was still included in the assessment of the other indicators.

3.4 Questionnaire and measurement methods

3.4.1 Questionnaire

The questionnaire was translated from English to Arabic and back translated again to English by a different person to make sure the meaning of the questionnaire was not lost in the translation. The final questionnaire was in both in English and Arabic, please see Appendix 5. Prior to the survey, the questionnaire was pretested. In the course of the interview, the Arabic language was used to conduct the interview. Each team had one member who was dedicated for conducting the interview.

3.4.2 Measurement methods

Household level indicators

- **WASH and Mosquito net:** The questionnaire was based on the standard SENS questionnaires.
- **Mortality:** The standard SMART questionnaire was used.

Individual-level indicators

- **Sex of children:** Gender was recorded as male or female.

- **Birth date or age in months for children 0-59 months:** The exact date of birth (day, month and year) was recorded from either a child health card or birth notification if available. If no reliable proof of age was available, as was with most children age was estimated in months using a local event calendar or by comparing the selected child with a sibling whose age was known, and was recorded in months on the questionnaire. If the child's age could absolutely not be determined by using a local events calendar or by probing, the child's length/height was measured and a cut off between 65.0 and 110.0 cm was used for inclusion. The UNHCR Manifest was not used for recording age.

- **Age of women 15-49 years**: Reported age was recorded in years.

- **Weight of children 6-59 months:** Measurements were taken to the nearest 100 grams using an electronic scale (SECA scale). The scale was placed on firm flat ground before measurements were taken. The double-weighing technique was used to weigh young children unable to stand on their own or unable to understand instructions not to move while on the scale. Clothes were removed during weighing although where necessary, light undergarments were allowed.

- **Height/Length of children 6-59 months:** Children's height or length was taken to the closest millimetre using a wooden height board. Height was used to decide on whether a child should be measured lying down (length) or standing up (height). Children less than 87cm were measured lying down, while children ≥ 87cm were measured standing up.

- **Oedema in children 6-59 months:** The presence of bilateral oedema was assessed by applying gentle thumb pressure on to the tops of both feet of the child for three seconds. If a shallow indent remained in both feet, oedema was recorded as present. The survey

coordinators verified all oedema cases reported by the survey teams. There was no oedema cases recorded in the survey.

- **MUAC of children 6-59 months:** MUAC was measured at the mid-point of the left upper arm between the elbow and the shoulder and taken to the closest millimetre using standard tapes.

- **Child enrolment in selective feeding programme for children 6-59 months:** This was assessed for the outpatient therapeutic programme and for the supplementary feeding programme using card or recall. The programme products were shown when recall was used, plumpy nut for the OTP and plumpy sup for the TSFP.

- **Measles vaccination in children 9-59 months:** Measles vaccination was assessed by checking for the measles vaccine on the Expanded Programme on Immunisation (EPI) card or by carers recall if no EPI card was available. For ease of data collection, all children aged 6-59 months were assessed for measles but analysis was only done on children aged 9-59 months.

- **Vitamin A supplementation in last 6 months in children 6-59 months*:*** Whether the child received a vitamin A capsule over the past six months was recorded from an EPI card or health card if available, or by asking the caregiver to recall if no card was available. A vitamin A capsule was shown to the caregiver when asked to recall.

- **DPT3/PENTA3 vaccination:** DPT3 or PENTA 3 vaccination was assessed by checking for the DPT3/PENTA3 vaccine on the EPI card or by caregiver's recall if no EPI card was available. All children 0 to 59 months were assessed for DPT3/PENTA3 vaccine.

- **Haemoglobin (Hb) concentration in children 6-59 months and women 15-49 years (non-pregnant):** Hb concentration was taken from a capillary blood sample from the fingertip and recorded to the closest gram per decilitre by using the portable HemoCue Hb 301 Analyser. The third drop was collected after wiping the first two drops.

- **Diarrhoea in last 2 weeks in children 6-59 months:** an episode of diarrhoea was defined as three loose stools or more in 24 hours. Caregivers were asked if their child had suffered episodes of diarrhoea in the past two weeks.

- **ANC enrolment and iron and folic acid pills coverage in pregnant women:** Whether the woman was enrolled in the ANC programme and was receiving iron-folic acid pills was assessed by use of the ANC card or by recall. An iron-folic acid pill was shown to the pregnant woman when asked to recall.

- **Infant and young child feeding practices in children 0-23 months**: Infant and young child feeding practices were assessed based on standard WHO recommendations (WHO 2010). Infant formula feeding and bottle use was also assessed.

- **Referrals:** Children aged 6-59 months were referred to the health post for treatment when MUAC was <11.5cm, when oedema was present or when haemoglobin was <7.0g/dL. Women of reproductive age were referred to the hospital for treatment if haemoglobin was < 8.0 g/dL.

- **Mortality:** A recall period of 90 days from the interview date was used to recall if any household member died in the past 3 months.

3.5 Case definitions, inclusion criteria and calculations

In this survey, a household was defined as a group of people who cook and eat together from the same pot.

Table 4 shows the definition and classification of the nutritional indicators used. Main results are reported according the WHO Growth Standards 2006. Results using the NCHS Growth Reference 1977 are reported in **Appendix 3**.

Table 4: Nutritional Status and Anaemia indicators and cut-offs used

Indicator		**Children 6-59 months**	**Women 15-49 years Non-Pregnant**
Acute Malnutrition[1]	Global acute malnutrition	WHZ <-2 and/or oedema	--
	Moderate acute malnutrition	WHZ <-2 and ≥-3	--
	Severe acute malnutrition	WHZ <-3 and/or oedema	--
Stunting[1]	Total stunting	HAZ <-2	--
	Moderate stunting	HAZ <-2 and ≥-3	--
	Severe stunting	HAZ <-3	--
Underweight[1]	Total underweight	WAZ <-2	--
	Moderate underweight	WAZ <-2 and ≥-3	--
	Severe underweight	WAZ <-3	--
Malnutrition (MUAC)	--	<12.5cm and/or oedema	--
	--	≥11.5cm and <12.5cm	--
	--	<11.5cm and/or odema	--
Anaemia	Total anaemia	Hb <11.0 g/dL	Hb <12.0 g/dL
	Mild anaemia	Hb 10.0 - 10.9 g/dL	Hb 11.0 - 11.9 g/dL
	Moderate anaemia	Hb 7.0 - 9.9 g/dL	Hb 8.0 - 10.9 g/dL
	Severe anaemia	Hb <7.0 g/dL	Hb <8.0 g/dL

[1] Calculated using NCHS Growth Reference 1977 and WHO Growth Standards 2006
WHZ: weight-for-height z-score, **HAZ:** height-for-age z-score, **WAZ:** weight-for-age z-score

Selective Feeding Programme Coverage (children 6-59 months)

Selective feeding programme coverage was assessed using the direct method as follows:

Targeted supplementary feeding programme

Coverage of TSFP programme (%) =

100x No. of surveyed children with MAM according to SFP

admission criteria who reported being registered in SFP
No. of surveyed children with MAM according to SFP admission criteria

Therapeutic feeding programme

Coverage of OTP programme (%) =

100x No. of surveyed children with SAM according to OTP
admission criteria who reported being registered in OTP
No. of surveyed children with SAM according to OTP admission criteria

Infant and Young Child Feeding (IYCF) Indicators (children 0-23 months)

Infant and young child feeding practices were assessed based on standard WHO recommendations (WHO, 2010) as follows:

- **Timely initiation of breastfeeding: WHO core indicator 1 -** Proportion of children 0-23 months of age who were put to the breast within one hour of birth.

Children 0-23 months of age who were put to the breast within one hour of birth
Children 0-23 months of age

- **Exclusive breastfeeding under 6 months: WHO core indicator 2 -** Proportion of infants 0–5 months of age who are fed exclusively with breast milk: (including milk expressed or from a wet nurse, ORS, drops or syrups (vitamins, minerals, medicines).

Infants 0–5 months of age who received only breast milk during the previous day
Infants 0–5 months of age

- **Continued breastfeeding at 1 year: WHO core indicator 3 -** Proportion of children 12–15 months of age who are fed breast milk.

Children 12–15 months of age who received breast milk during the previous day
Children 12–15 months of age

- **Introduction of solid, semi-solid or soft foods: WHO core indicator 4 -** Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods.

Infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day
Infants 6–8 months of age

- **Consumption of iron-rich or iron-fortified foods: WHO core indicator 8 -** Proportion of children 6–23 months of age who receive an iron-rich or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

Children 6–23 months of age who received an iron-rich food or a food that was specially designed for infants and young children and was fortified with iron, or a food that was
fortified in the home with a product that included iron during the previous day
Children 6–23 months of age

- **Continued breastfeeding at 2 years: WHO optional indicator 10 -** Proportion of children 20–23

months of age who are fed breast milk.

Children 20–23 months of age who received breast milk during the previous day
Children 20–23 months of age

- **Bottle feeding: WHO optional indicator 14 -** Proportion of children 0-23 months of age who are fed with a bottle.

Children 0–23 months of age who were fed with a bottle during the previous day
Children 0–23 months of age

- **Infant formula intake** – Proportion of children 0-23 months consuming infant formula

Children 0-23 months of age consuming infant formula
Children 0-23 months of age

- **Consumption of FBF+** - Proportion of children 6-59 months consuming CSB+

Children 6-59 months of age consuming CSB+
Children 6-59 months of age

- **Consumption of FBF super** – Proportion of children 6 to 59 months consuming CSB++

Children 6-59 months of age consuming CSB++
Children 6 to 59 months

WASH
The table below provides an overview of the definitions of drinking water and sanitation (toilet) facilities used in the survey and available in Yida and Ajuong Thok refugee locations.

Table 5: WASH Indicators Definition and Classification

Drinking Water	**Improved source**	**Unimproved source**
	Public tap/tap stand	Small water vendor (cart with small tank or drum)
		Surface water (river, dam, lake, pond, stream, canal, irrigation channels). Rainwater collection from surface run off.
Sanitation facility definition		
	Improved category	**Unimproved category**
	Pit latrine with slab	Pit latrine without slab (slab with holes) /open pit
		No facilities or bush or field/open defecation
Sanitation facility classification based on definition and sharing		
Improved excreta	A toilet in the above "improved" category **AND** one that is **not**	

disposal facility	**shared** with other families*,**
Shared family toilet	A toilet in the above "improved" category **AND** one used by 2 families / households only (for a maximum of 12 people)**
Communal toilet	A toilet in the above "improved" category **AND** one used by 3 families / households or more
Unimproved toilet	A toilet in the above "unimproved" category **OR** a **public toilet** which any member of the public can use e.g. in hospitals or markets

***To maintain consistency with other survey instruments (e.g. the multiple indicator cluster survey), UNHCR SENS WASH module classifies an **"improved excreta disposal facility"** as a toilet in the above "improved" category **AND** one that is **not shared** with other families / households.

****According to UNHCR WASH monitoring system, an **"improved excreta disposal facility"** is defined differently than in other survey instruments and is defined as a toilet in the above "improved" category **AND** one that is shared by a *maximum* of 2 families / households or with no more than *12 individuals*. Therefore, the following two categories from the above SENS survey definitions are considered "improved excreta disposal facility" for UNHCR WASH monitoring system: "improved excreta disposal facility" and "shared family toilet".

Safe excreta disposal for children aged 0-3 years: The safe disposal of children's faeces is of particular importance because children's faeces are the most likely cause of faecal contamination to the immediate household environment. It is also common for people to think that children's faeces are less harmful than adult faeces. "Safe" is understood to mean disposal in a safe sanitation facility or by burying. This is the method that is most likely to prevent contamination from faeces in the household.

3.6 Classification of public health problems and targets

Anthropometric data: UNHCR states that the target for the prevalence of global acute malnutrition (GAM) for children 6-59 months of age by camp, country and region should be <10% and the target for the prevalence of severe acute malnutrition (SAM) should be <2%. For stable camps, the target is to have GAM<5%.

Table 6 below shows the classification of public health significance of the anthropometric results for children under-5 years of age.

Table 6: Classification of public health significance for children under 5 years of age (WHO 1995, 2000)

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

Selective feeding programmes: UNHCR Strategic Plan for Nutrition and Food Security 2008-2012 includes the following indicators:

Table 7: Performance indicators for selective feeding programmes (UNHCR Strategic Plan for Nutrition and Food Security 2008-2012)*

	Recovery	Case fatality	Defaulter rate	Coverage		
				Rural areas	Urban areas	Camps
SFP	>75%	<3%	<15%	>50%	>70%	>90%
SC/OTP	>75%	<10%	<15%	>50%	>70%	>90%

* Also meet SPHERE standards for performance

Measles vaccination and vitamin A supplementation in last 6 months coverage: UNHCR recommends the following target:

Table 8: Recommended targets for measles vaccination and vitamin A supplementation in last 6 months (UNHCR SENS Guidelines)

Indicator	Target Coverage
Measles vaccination coverage (9-59m)	95% (also SPHERE)
Vitamin A supplementation in last 6 months coverage	90%

Anaemia data: The UNHCR Strategic Plan for Nutrition and Food Security (2008-2010) states that the targets for the prevalence of anaemia in children 6-59 months of age and in women 15-49 years of age should be low i.e. <20%. The severity of the public health situation for the prevalence of anaemia should be classified according to WHO criteria as shown in the Table below.

Table 9: Classification of public health significance (WHO, 2000)

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

WASH: Diarrhoea caused by poor water, sanitation and hygiene accounts for the annual deaths of over two million children under five years old. Diarrhoea also contributes to high infant and child morbidity and mortality by directly affecting children's nutritional status. Refugee populations are often more vulnerable to public health risks and reduced funding can mean that long term refugee camps often struggle to ensure the provision of essential services, such as water, sanitation and hygiene. Hygienic conditions and adequate access to safe water and sanitation services is a matter of ensuring human dignity and is recognised as a fundamental human right. The following standards apply to UNHCR WASH programmes:

Table 10: UNHCR WASH Programme Standard

UNHCR Standard	Indicator
Average quantity of water available per person/day	> or = 20 litres

Mosquito nets: WHO defines a long-lasting insecticidal net as a factory-treated mosquito net made with netting material that has insecticide incorporated within or bound around the fibres. The net

must retain its effective biological activity without re-treatment for at least 20 WHO standard washes under laboratory conditions and three years of recommended use.

Table 11: UNHCR Mosquito Net Programme Standards

UNHCR Standard	Indicator
Proportion of households owning at least one Long-Lasting Insecticide treated bed net (LLIN)	>80%
Average number of persons per LLIN	2 persons per LLIN

3.7 Training, coordination and supervision

3.7.1 Survey teams and supervision

The survey in Yida was conducted by 6 teams while in Ajuong Thok the survey was conducted by 5 teams. One team from Yida was dissolved as some enumerators from Yida were not able to participate in the data collection exercise in Ajuong Thok. Each team had 4 members; 2 measurers, 1 responsible for anaemia measurements and the fourth member who was responsible for conducting the interview and was also the team leader. A total of 28 enumerators was trained, 24 participated in data collection while 2 were data entry clerks. The other two were trained in case there were some dropouts in one of the teams and there was need to have a replacement.

Team leaders were national staff from SP and AHA while the rest of the team members were a mix of partner staff, community health workers and some people from the community. The minimum requirements to participate in the survey were the ability speak, read and write both English and Arabic. There were 3 dedicated survey supervisors who shared two teams; the survey coordinator was roving between teams. The supervisors were the WFP Nutrition Programme Officer who was supporting the survey and the Nutrition Programme Managers from both SP and AHA. The Survey Coordinator was the UNHCR Nutrition and Food Security Officer based in Unity.

3.7.2 Training

The training lasted for five days from 10 to 14 November 2014; the fifth day was used as the standardisation day. Training topics were shared between the Survey Coordinator and the Survey Supervisors. The topics covered were general survey objectives, overview of survey design, household selection procedures, anthropometric measurements, signs and symptoms of malnutrition, data collection and interview skills, mortality interview, WASH interview, IYCF interview, mosquito net coverage interview and anaemia assessment skills.

To ensure high quality data was collected, standardisation and field testing was conducted on the last day of the training. Each team had 3 households for this exercise and all eligible women and children in those households were included in the standardisation. The standardisation was conducted in the Yida Bomas which were not sampled to participate in the survey. A feedback session was conducted after the teams returned from the exercise to address challenges encountered.

3.8 Data collection

Data collection

Data collection lasted 6 days in Yida from 15 to 20 November 2014. Two days were given in-between to allow travelling from Yida to Ajuong Thok and for the teams to recuperate. Thereafter data collection resumed in Ajuong Thok from 23 to 29 November for 7 days. Eventually 35 clusters and 560 households were sampled in Ajuong Thok. The team leader introduced the team and the survey to the households for consent. The standard introduction and consent message was attached to every questionnaire, see Appendix 5.

3.9 Data analysis

Data was entered in excel by two data entry clerks. To ensure quality and accuracy, the Survey Coordinator would randomly spot check 5% of the data entered and compare to the paper questionnaires. There were problems however with the data entry clerks as they were slow and at the end the Survey Coordinator had to enter the data so as to ensure that the data was available for analysis on time. Data entry was conducted every day at the end of the day when data collection teams had returned from the field. Entry was conducted at UNHCR offices in both Yida and Ajuong Thok.

All the data was entered and cleaned in Microsoft Excel 1997 to 2003 version. Questionnaires with discrepancies and missing data were not included in the analysis. The SMART plausibility report was generated on a daily basis once data was entered to identify any problems with anthropometric data collection such as flags and digit preference for age, height and weight. The exercise aimed to improve the quality of the anthropometric data collected as the survey was on-going. Teams in need of support from the supervision and coordination team were identified. Anthropometric data was also cleaned using flexible cleaning criterion (+/- 3 SD from the observed mean; also known as SMART flags in the ENA for SMART software). SMART flags were excluded in the analysis. Mortality and anthropometry indices were analysed using the ENA for SMART October 2012 version was used. For analysis of other survey indicators, the data was exported to Epi Info version 3.5.4.

4 Results

4.1 Results-Yida

The demographic characteristics are illustrated in table 12 below. It will be noticed that the number of under 5 survey is much higher than anticipated and there was no non response observed. This is particularly due to the fact that the survey coincided with a ration card replacement exercise when all the refugees were in the camp for the exercise. The population figures are obtained from the mortality module of the survey. Also the survey coincided with the general food distribution exercise.

Table 12 : Demographic Characteristics of the Yida Survey Population

Total households surveyed	*503*
Total population surveyed	*3327*
Total U5 surveyed	*965*
Average household size	*6.6*
% of U5	*29.0*

4.1.1 Anthropometry and Health; Children 6-59 months

4.1.1.1 Sample size and clusters

Table 13: Target and Actual Number Captured

	Target (No.)	Total surveyed (No.)	% of the target
Children 6-59 months	384	965	251%
Clusters (where applicable)	35	35	100%

Table 13: Children 6-59 Months - Distribution of Age and Sex of Sample

	Boys		Girls		Total		Ratio
AGE (mo)	**no.**	**%**	**no.**	**%**	**no.**	**%**	**Boy:Girl**
6-17 months	103	47.7	113	52.3	216	27.8	0.9
18-29 months	94	49.7	95	50.3	189	24.4	1.0
30-41 months	80	49.7	81	50.3	161	20.7	1.0
42-53 months	77	55.4	62	44.6	139	17.9	1.2
54-59 months	35	49.3	36	50.7	71	9.1	1.0
Total	389	50.1	387	49.9	776	100.0	1.0

Percentage of children with no exact birthday: 100 %

All the children sampled did not have exact birth dates; instead age was estimated using the local events calendar. This is due to the non-issuance if birth notification. The overall boy: girl ratio was 1.0; and it can therefore be said both sexes were equally represented in the survey.

4.1.1.2 Anthropometric results (based on WHO Growth Standards 2006)

Table 14: Prevalence of Acute Malnutrition Based On Weight-For-Height Z-Scores (And/Or Oedema) and By Sex

	All n = 758	Boys n = 380	Girls n = 378
Prevalence of global malnutrition (<-2 z-score and/or oedema)	(47) 6.2 % (4.7 - 8.2 95% C.I.)	(21) 5.5 % (3.7 - 8.2 95% C.I.)	(26) 6.9 % (5.0 - 9.5 95% C.I.)
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no oedema)	(41) 5.4 % (4.0 - 7.2 95% C.I.)	(20) 5.3 % (3.5 - 7.8 95% C.I.)	(21) 5.6 % (3.8 - 8.1 95% C.I.)
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(6) 0.8 % (0.4 - 1.7 95% C.I.)	(1) 0.3 % (0.0 - 2.0 95% C.I.)	(5) 1.3 % (0.6 - 3.0 95% C.I.)

The prevalence of oedema is 0.0%

Data for 758 children was analysed for acute malnutrition out of 776 children survey children.

Table 15: Prevalence of Acute Malnutrition by Age, Based On Weight-For-Height Z-Scores And/Or Oedema

		Severe wasting (<-3 z-score)		Moderate wasting (>= -3 and <-2 z-score)		Normal (> = -2 z score)		Oedema	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	207	3	1.4	18	8.7	186	89.9	0	0.0
18-29	186	2	1.1	10	5.4	174	93.5	0	0.0
30-41	161	0	0.0	3	1.9	158	98.1	0	0.0
42-53	135	0	0.0	6	4.4	129	95.6	0	0.0
54-59	69	1	1.4	4	5.8	64	92.8	0	0.0
Total	758	6	0.8	41	5.4	711	93.8	0	0.0

Figure 8: Trend in the Prevalence of Wasting By Age in Children 6-59 Months

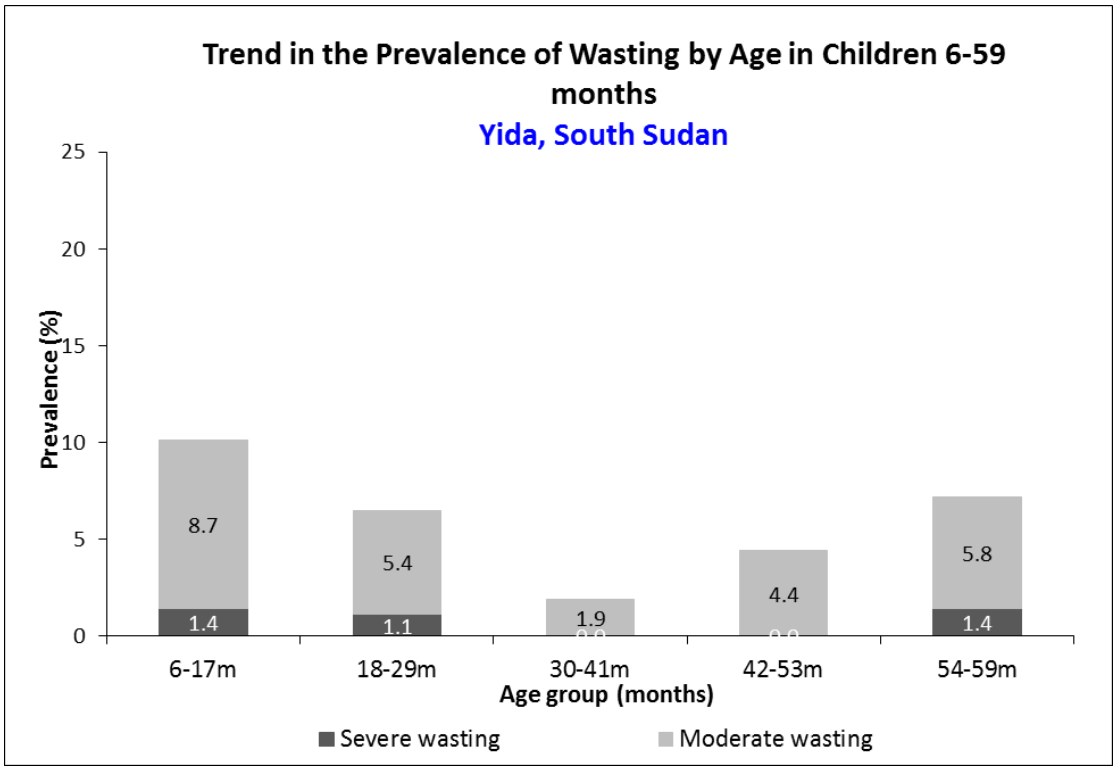
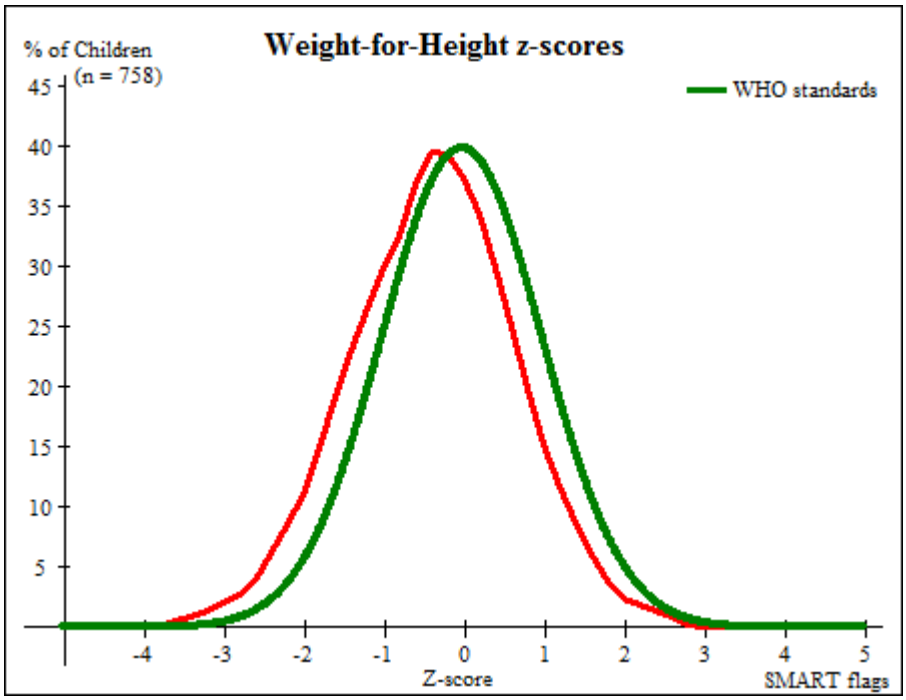


Table 16: Distribution of Severe Acute Malnutrition and Oedema Based On Weight-For-Height Z-Scores

	<-3 z-score	**>=-3 z-score**
Oedema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Oedema absent	Marasmic No. 17 (2.2 %)	Not severely malnourished No. 759 (97.8 %)

Figure 9: Distribution of Weight-For-Height Z-Scores (Based On WHO Growth Standards; The Reference Population Is Shown In Green And The Surveyed Population Is Shown In Red) Of Survey Population Compared To Reference Population

The Figure below shows that the distribution for weight-for-height z-scores for the survey sample is shifted to the left, illustrating a poorer status than the international WHO Standard population of children aged 6-59 months.



MUAC is used to monitor malnutrition trends and for admission and discharge in nutrition programmes. The MUAC findings are not very different from the trends monitoring results using MUAC.

Table 17: Prevalence of MUAC Malnutrition

	All n = 776	**Boys** n = **389**	**Girls** n = **387**
Prevalence of MUAC < 125 mm and/or oedema	(66) 8.5 % (6.6 - 10.9 95% C.I.)	(26) 6.7 % (4.3 - 10.2 95% C.I.)	(40) 10.3 % (8.0 - 13.3 95% C.I.)
Prevalence of MUAC < 125 mm and >= 115 mm, no oedema	(52) 6.7 % (5.2 - 8.7 95% C.I.)	(21) 5.4 % (3.5 - 8.2 95% C.I.)	(31) 8.0 % (5.8 - 11.0 95% C.I.)
Prevalence MUAC < 115 mm and/or oedema	(14) 1.8 % (0.9 - 3.6 95% C.I.)	(5) 1.3 % (0.5 - 3.1 95% C.I.)	(9) 2.3 % (1.0 - 5.3 95% C.I.)

Table 18 : Prevalence of MUAC Malnutrition by Age, Based On MUAC Cut Off's and/or Oedema

		MUAC < 115 mm		MUAC >= 115 mm and < 125 mm		MUAC > = 125 mm		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-17	216	7	3.2	32	14.8	177	81.9	0	0.0
18-29	189	6	3.2	12	6.3	171	90.5	0	0.0
30-41	161	1	0.6	6	3.7	154	95.7	0	0.0
42-53	139	0	0.0	1	0.7	138	99.3	0	0.0
54-59	71	0	0.0	1	1.4	70	98.6	0	0.0
Total	776	14	1.8	52	6.7	710	91.5	0	0.0

Table 9: Prevalence of Underweight Based On Weight-For-Age Z-Scores by Sex

	All n = 768	Boys n = 387	Girls n = 381
Prevalence of underweight (<-2 z-score)	(90) 11.7 % (9.5 - 14.4 95% C.I.)	(49) 12.7 % (9.2 - 17.2 95% C.I.)	(41) 10.8 % (8.1 - 14.1 95% C.I.)
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(81) 10.5 % (8.5 - 13.0 95% C.I.)	(45) 11.6 % (8.3 - 16.0 95% C.I.)	(36) 9.4 % (7.1 - 12.5 95% C.I.)
Prevalence of severe underweight (<-3 z-score)	(9) 1.2 % (0.6 - 2.3 95% C.I.)	(4) 1.0 % (0.4 - 2.7 95% C.I.)	(5) 1.3 % (0.6 - 3.1 95% C.I.)

Table 21: **Prevalence of Underweight by Age, Based On Weight-For-Age Z-Scores and/or Oedema**

		SEVERE UNDERWEIGHT (<-3 Z-SCORE)		MODERATE UNDERWEIGHT (>= -3 AND <-2 Z-SCORE)		NORMAL (> = -2 Z SCORE)		OEDEMA	
AGE (MO)	TOTAL NO.	NO.	%	NO.	%	NO.	%	NO.	%
6-17	213	2	0.9	24	11.3	187	87.8	0	0.0
18-29	186	1	0.5	24	12.9	161	86.6	0	0.0
30-41	161	3	1.9	11	6.8	147	91.3	0	0.0
42-53	138	2	1.4	12	8.7	124	89.9	0	0.0
54-59	70	1	1.4	10	14.3	59	84.3	0	0.0
TOTAL	768	9	1.2	81	10.5	678	88.3	0	0.0

Table 22: Prevalence of Stunting Based On Height-For-Age Z-Scores and By Sex

	All n = 752	Boys n = 381	Girls n = 371
Prevalence of stunting (<-2 z-score)	(180) 23.9 % (20.0 - 28.4 95% C.I.)	(113) 29.7 % (24.8 - 35.0 95% C.I.)	(67) 18.1 % (13.7 - 23.4 95% C.I.)
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(134) 17.8 % (14.7 - 21.4 95% C.I.)	(82) 21.5 % (17.9 - 25.6 95% C.I.)	(52) 14.0 % (10.2 - 19.0 95% C.I.)
Prevalence of severe stunting (<-3 z-score)	(46) 6.1 % (4.4 - 8.5 95% C.I.)	(31) 8.1 % (5.7 - 11.5 95% C.I.)	(15) 4.0 % (2.3 - 7.2 95% C.I.)

Table 23: Prevalence of Stunting By Age Based On Height-For-Age Z-Scores

		Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	205	9	4.4	26	12.7	170	82.9
18-29	184	10	5.4	41	22.3	133	72.3
30-41	158	9	5.7	28	17.7	121	76.6
42-53	135	14	10.4	24	17.8	97	71.9
54-59	70	4	5.7	15	21.4	51	72.9
Total	752	46	6.1	134	17.8	572	76.1

Figure 10: Trends in the Prevalence of Stunting By Age in Children 6-59 Months

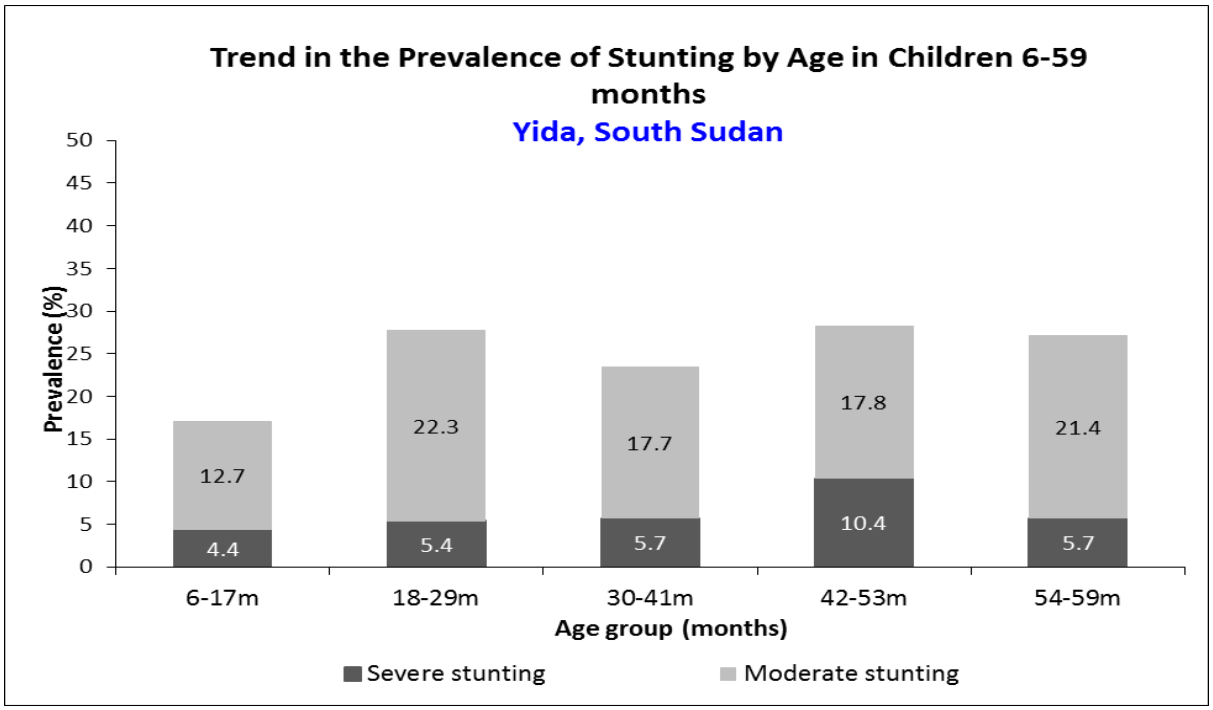


Figure 11: Distribution of Height-For-Age Z-Scores (Based On WHO Growth Standards; The Reference Population Is Shown In Green And The Surveyed Population Is Shown In Red) Of Survey Population Compared To Reference Population

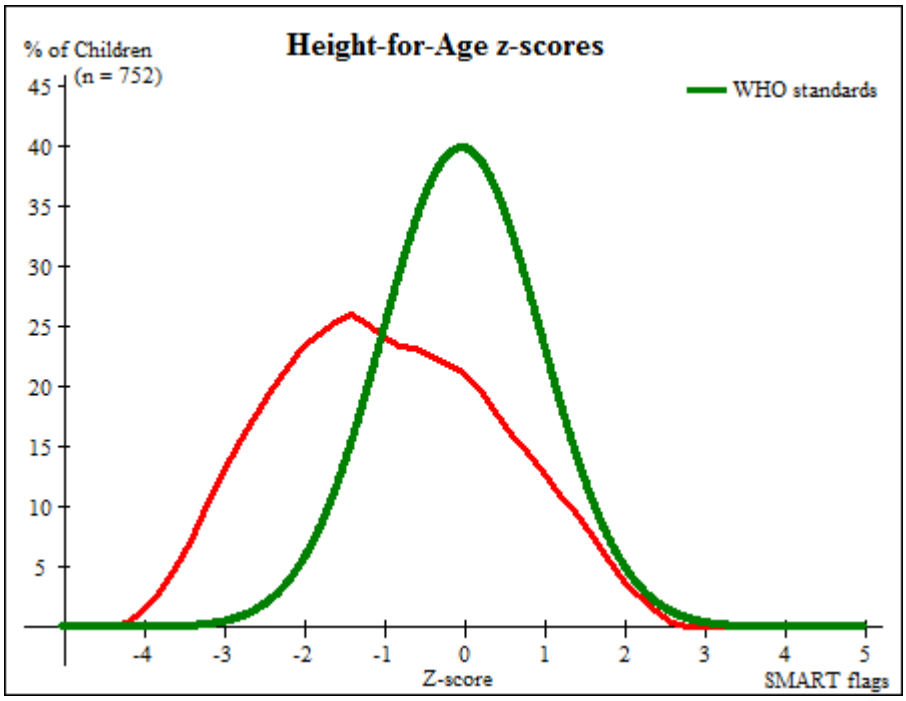


Table 24: Mean Z-Scores, Design Effects and Excluded Subjects

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	758	-0.38±1.02	1.00	0	18
Weight-for-Age	768	-0.77±1.03	1.10	0	8
Height-for-Age	752	-0.94±1.36	1.76	0	24

* contains for WHZ and WAZ the children with oedema.

4.1.1.3 Feeding programme coverage results

Table 25: Programme Coverage for Acutely Malnourished Children Based On MUAC, Oedema and WHZ

	Number/total	% (95% CI)
Supplementary feeding programme coverage	6/28	21.4(6.2-36.6)
Therapeutic feeding programme coverage	18/78	23.1(11.2-34.9)

Table 26: Programme coverage for acutely malnourished children based on MUAC and oedema

	Number/total	% (95% CI)
Supplementary feeding programme coverage	17/52	32.7(17.1-48.3)
Therapeutic feeding programme coverage	4/14	28.6(1.3-55.9)

4.1.1.4Measles vaccination coverage results

Table 27: Measles Vaccination Coverage for Children Aged 9-59 Months (N=737)

	Measles (with card) n= 422	Measles (with card or confirmation from mother) n= 622
YES	57.3% (48.5-66.1 95% CI)	84.4 % (79.0-89.7 95% CI)

4.1.1.5Vitamin A supplementation coverage results

Table 28: Vitamin A Supplementation for Children Aged 6-59 Months within Past 6 Months (N= 776)

	Vitamin A capsule (with card) n=405	Vitamin A capsule (with card or confirmation from mother) n=614
YES	52.2% (42.3-62.1 95% CI)	79.1 % (71.7-86.6 95% CI)

Table 29: DPT3/PENTA3 Vaccination Coverage for Children Aged 0-59 Months (N=776)

	DPT3 / PENTA3 (with card) n=215	DPT3 / PENTA3 (with card or confirmation from mother) n=428
YES	27.7% (18.0-37.4 95% CI)	55.2 % (45.4-64.9 95% CI)

4.1.1.6Diarrhoea Results

Table 30:10 Period Prevalence of Diarrhoea

	Number/total	% (95% CI)
Diarrhoea in the last two weeks	156/775	20.1 (15.6-24.7)

4.1.2 Anaemia Results Children 6 – 59 months

The total anaemia prevalence among children 6 to 59 months is 38.8% (33.9-43.7 95% CI). Prevalence of anaemia among children 6 to 23 months is of high public health significance at 55.3% (47.7-63.0 95% CI).

Table 31: Prevalence of Total Anaemia, Anaemia Categories, and Mean Haemoglobin Concentration in Children 6-59 Months of Age and By Age Group

	6-59 months n = 482	**6-23 months** n=206	**24-59 months** n=276
Total Anaemia (Hb<11.0 g/dL)	(187) 38.8% (33.9-43.7 95% CI)	(114) 55.3% (47.7-63.0 95% CI)	(73) 26.5% (21.2-31.7 95% CI)
Mild Anaemia (Hb 10.0-10.9 g/dL)	(121) 25.1% (21.0-29.2 95% CI)	(70) 34.0% (28.8-39.2 95% CI)	(51) 18.5% (13.2-23.7 95% CI)
Moderate Anaemia (7.0-9.9 g/dL)	(62) 12.9% (9.1-16.6 95% CI)	(42) 20.4% (13.8-27.0 95% CI)	(20) 7.2% (4.3-10.1 95% CI)
Severe Anaemia (<7.0 g/dL)	(4) 0.8% (0-1.6 95% CI)	(2) 1.0% (0-2.3 95% CI)	(2) 0.7 (0-1.7 95% CI)
Mean Hb (g/dL) (SD / 95% CI) [range]	11.2 g/dL (11.0-11.4 95% CI) [6.5-19.9]	10.8 g/dL (10.6-11.1 95% CI) [6.5-19.9]	11.5 g/dL (11.4-11.7 95% CI) [6.7-14.3]

Table 32: Prevalence of Moderate and Severe Anaemia in Children 6-59 Months of Age and By Age Group

	6-59 months n = 482	**6-23 months** n= 206	**24-59 months** n= 276
Moderate and Severe Anaemia (Hb<10.0 g/dL)	(66) 13.7% (9.8-17.6 95% CI)	(44) 21.4% (14.6-28.1 95% CI)	(22) 8.0% (4.8-11.1 95% CI)

4.1.3 IYCF; Children 0-23 months

Table 33: Prevalence of Infant and Young Child Feeding Practices Indicators

Indicator	Age range	Number/ total	Prevalence (%)	95% CI
Timely initiation of breastfeeding	**0-23 months**	308/339	90.6	87.4-94.3
Exclusive breastfeeding under 6 months	**0-5 months**	58/114	50.9	37.9-63.8
Continued breastfeeding at 1 year	**12-15 months**	57/65	87.7	80.7-94.7
Continued breastfeeding at 2 years	**20-23 months**	21/35	60.0	44.3-75.7
Introduction of solid, semi-solid or soft foods	**6-8 months**	14/130	10.8	4.3-17.2
Consumption of iron-rich or iron-fortified foods	**6-23 months**	143/226	63.3	52.9-73.7
Bottle feeding	**0-23 months**	29/340	8.5	4.4-12.6

Prevalence of intake

Infant formula

Table 34: Infant Formula Intake in Children Aged 0-23 Months

	Number/total	% (95% CI)
Proportion of children aged 0-23 months who receive infant formula (fortified or non-fortified)	50/341	14.7 (8.7-20.6)

Fortified blended foods

Table 35: CSB+ Intake in Children Aged 6-23 Months

	Number/total	% (95% CI)
Proportion of children aged 6-23 months who receive FBF	54/225	24 (14.6-33.4)

Table 36: FSB++ Intake in Children Aged 6-23 Months

	Number/total	% (95% CI)
Proportion of children aged 6-23 months who receive FBF++	45/224	20.1 (11.1-29.1)

4.1.4 Anaemia Women 15-49 years

TABLE 37: WOMEN PHYSIOLOGICAL STATUS AND AGE

Physiological status	Number/total	% of sample
Non-pregnant	312	78
Pregnant	88	22
Mean age (range)	26.8(15-49)	

Table 38: Prevalence of Anaemia and Haemoglobin Concentration in Non-Pregnant Women of Reproductive Age (15-49 Years)

Anaemia in non-pregnant women of reproductive age (15-49 years)	**All n = 301**
Total Anaemia (<12.0 g/dL)	(68) 22.6% (18.1-27.1 95% CI)
Mild Anaemia (11.0-11.9 g/dL)	(45) 15.0% (11.2-18.7 95% CI)
Moderate Anaemia (8.0-10.9 g/dL)	(22) 7.3% (3.8-10.8 95% CI)
Severe Anaemia (<8.0 g/dL)	(1) 0.3 (0-1.0 95% CI)
Mean Hb (g/dL) (SD / 95% CI) [range]	12.9 g/dL 0.1 [7.1-17.7]

Table 11 ANC Enrolment and Iron-Folic Acid Pills Coverage among Pregnant Women (15-49 Years)

	Number /total	% (95% CI)
Currently enrolled in ANC programme	58/87	66.7 (58.3-75.0)
Currently receiving iron-folic acid pills	46/86	53.5 (42.0-65.0)

4.1.5 WASH

Table 40: WASH Sampling Information

Household data	Planned	Actual	% of target
Total households surveyed for WASH	527	507	96.2

Table 41: Water Quality

	Number/total	% (95% CI)
Proportion of households using an improved drinking water source	506/507	99.8 (99.4-100)
Proportion of households that use a covered or narrow necked container for storing their drinking water	324/504	64.3 (51.1-77.4)

Table 42: Water Quantity: Amount of Litres of Water Used Per Person per Day

Proportion of households that use:	**Number/total**	**% (95% CI)**
≥ 20 lpppd	252/503	50.1 (44.3-56.0)
15 – <20 lpppd	105/503	20.9 (16.8-24.9)
<15 lpppd	146/503	29.0 (23.3-34.8)

Add the average water usage in lpppd:_____22.6 lpppd_____

Table 43: Satisfaction with Water Supply

	Number/total	% (95% CI)
Proportion of households that say they are satisfied with the drinking water supply	380/506	75.1 (67.3-82.9)

Figure 11: Proportion of Households That Say They Are Satisfied With the Water Supply

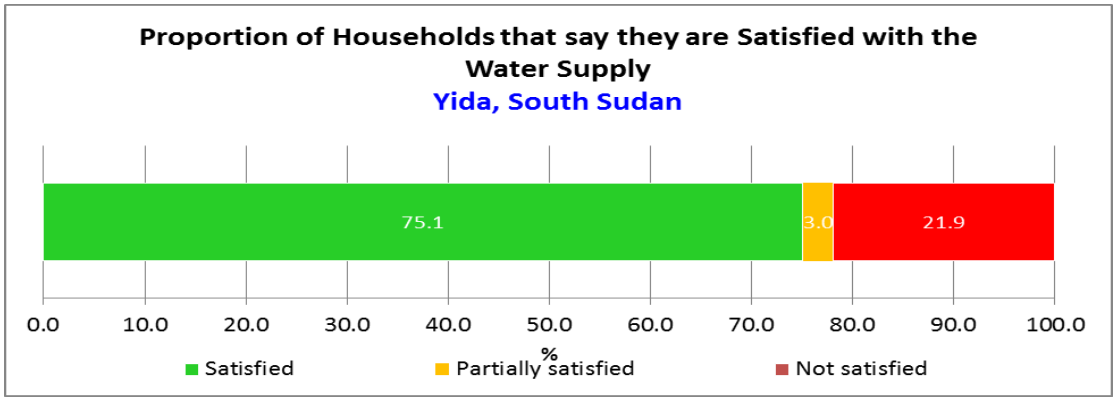


Figure 12: Main Reason for Dissatisfaction among Households Not Satisfied With Water Supply

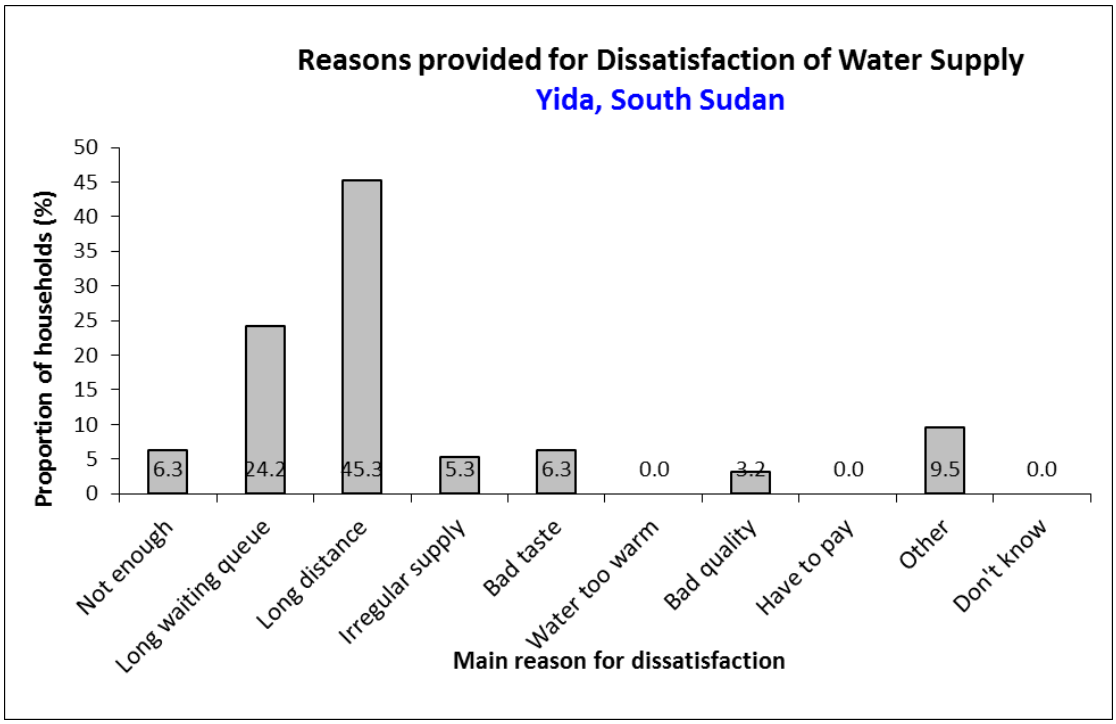


TABLE 44: SAFE EXCRETA DISPOSAL

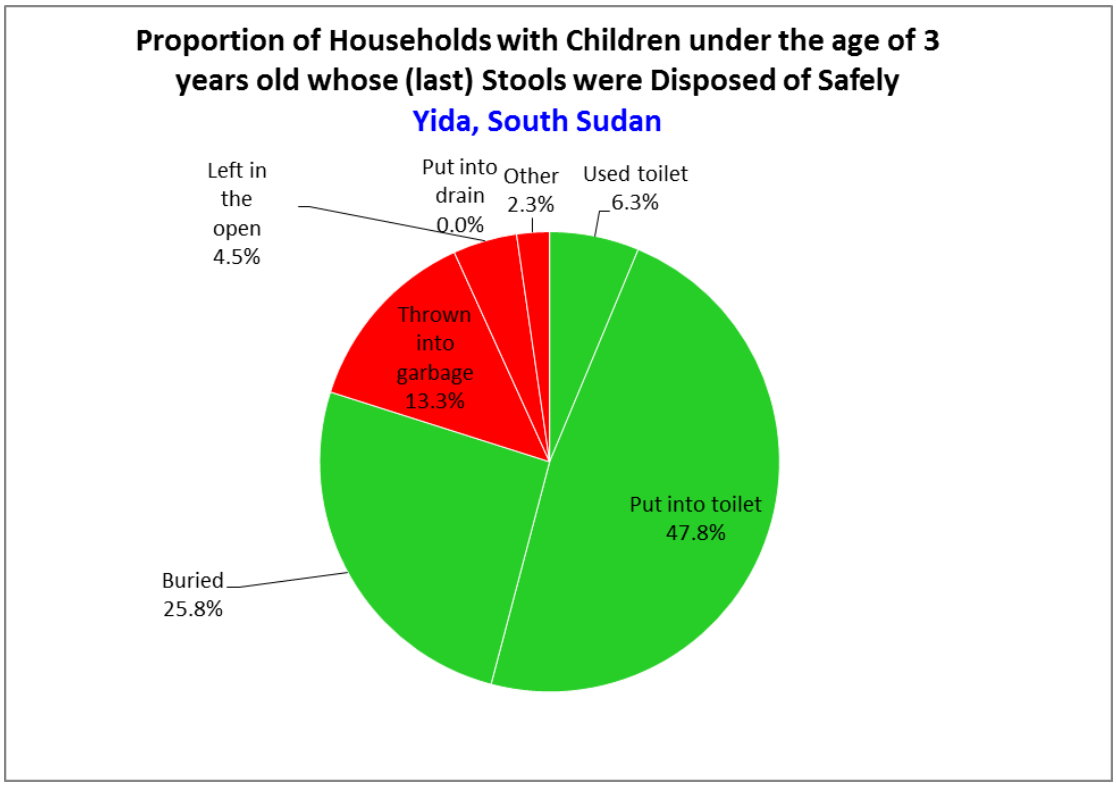
	Number/total	% (95% CI)
Proportion of households that use:		
An improved excreta disposal facility (improved toilet facility, 1 household)*,**	97/467	20.8 (15.3-26.3)
A shared family toilet (improved toilet facility, 2 households)**	51/467	10.9 (7.3-14.5)
A communal toilet (improved toilet facility, 3 households or more)	118/467	25.3 (19.6-30.9)
An unimproved toilet (unimproved toilet facility or public toilet)	201/467	43.0 (36.5-49.6)
Proportion of households with children under three years old that dispose of faeces safely	310/385	80.5 (73.1-88.0)

***To maintain consistency with other survey instruments (e.g. the multiple indicator cluster survey), UNHCR SENS WASH module classifies an **"improved excreta disposal facility"** as a toilet in the "improved" category **AND** one that is **not shared** with other families / households.

****According to UNHCR WASH monitoring system, an **"improved excreta disposal facility"** is defined differently than in survey instruments and is defined as a toilet in the "improved" category AND one that is shared by a *maximum* of 2 families / households or no more than *12 individuals*. Therefore, the following two categories from the SENS survey definitions are considered "improved excreta disposal

facility" for UNHCR WASH monitoring system: "improved excreta disposal facility (improved toilet facillity, 1 household)" and "shared family toilet (improved toilet facility, 2 households)".

Figure 13: **Proportion of Households With Children Under The Age Of 3 Years Whose (Last) Stools Were Disposed Of Safely**



4.1.6 Mosquito Net Coverage

Table 45: Mosquito Net Coverage Sampling Information

Household data	Planned	Actual	% of target
Total households surveyed for mosquito net coverage	264	326	123.5

Table 46: Household Mosquito Net Ownership

	Number/total	% (95% CI)
Proportion of total households owning at least one mosquito net of any type	262/321	81.6 (73.2-90.0)
Proportion of total households owning at least one LLIN	244/321	76.0 (67.2-84.8)

Figure 14: Household Ownership of At Least One Mosquito Net (Any Type)

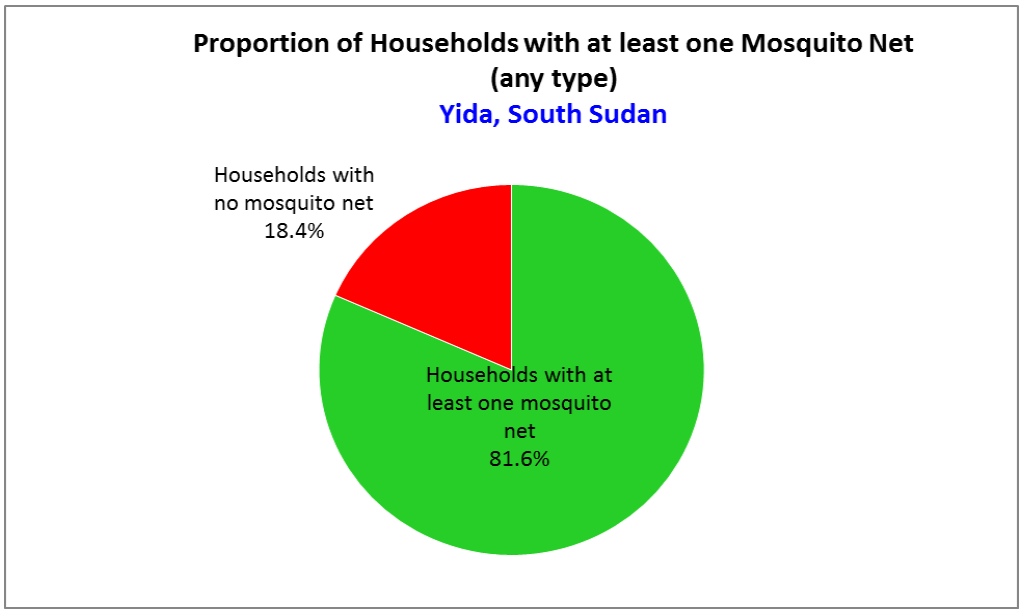


Figure 15: Household Ownership Of At Least One Llin

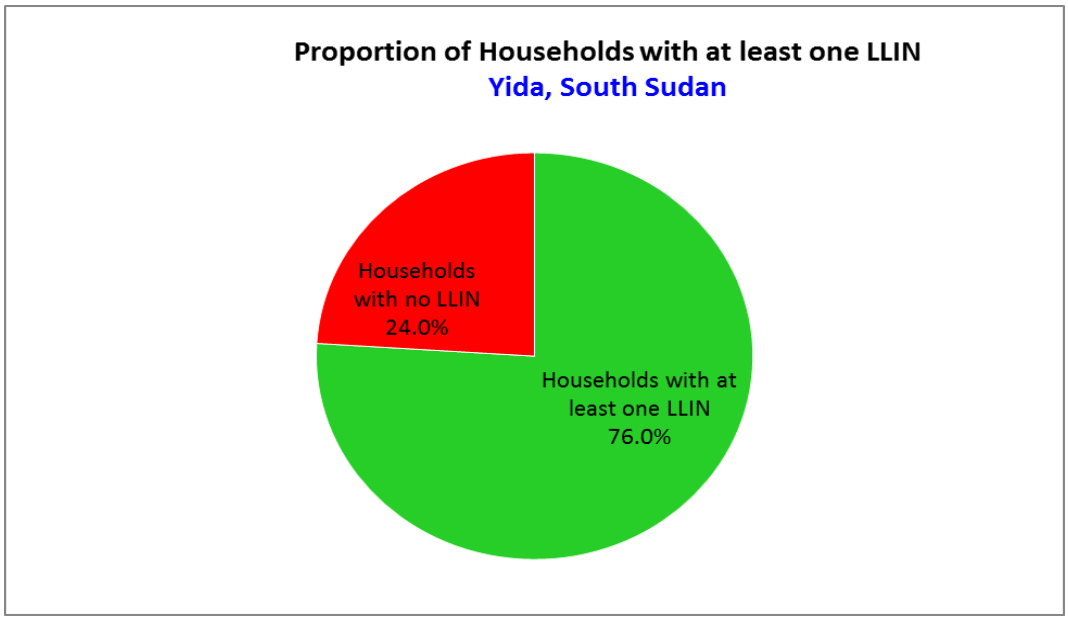


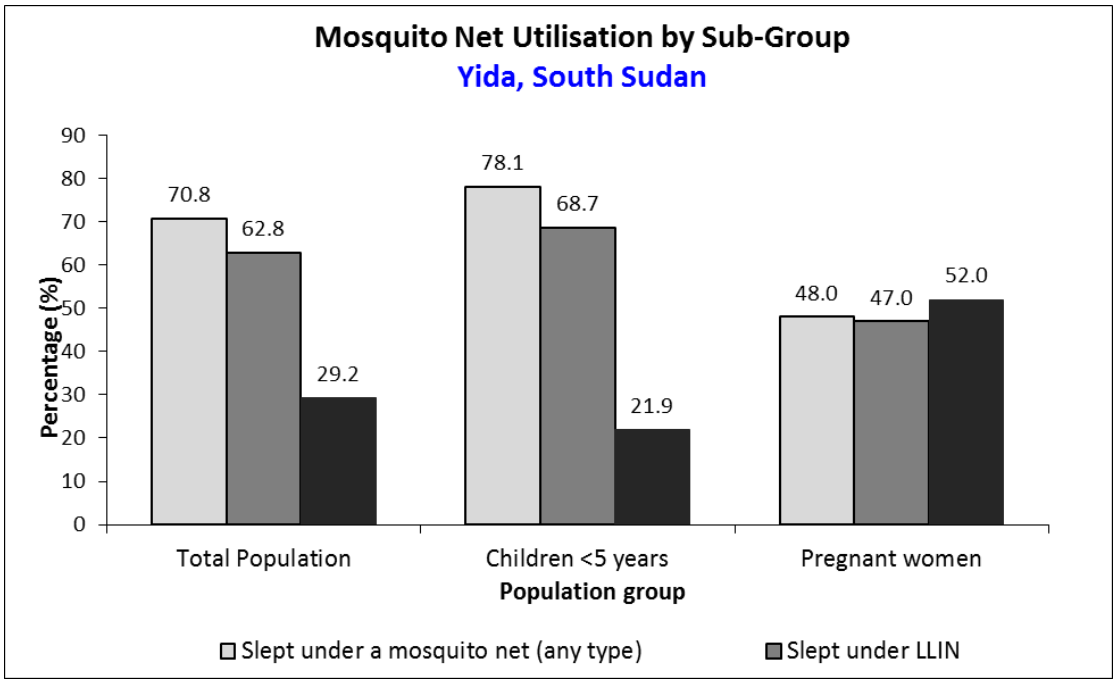
Table 47: Number Of Nets

Average number of LLINs per household	Average number of persons per LLIN
1.6	4.0

Table 48: Mosquito Net Utilisation.

	Proportion of total population (all ages)		Proportion of 0-59 months		Proportion of pregnant women	
	Total No= 2070	%	Total No= 562	%	Total No= 100	%
Slept under net of any type	1465	70.8	439	78.1	48	48.0
Slept under LLIN	1299	62.8	386	68.7	47	47.0

Figure 16: Mosquito Net Utilisation by Sub-Group



4.2 Results-Ajuong Thok

Table 49: Demographic Characteristics of the Study Population

Total households surveyed	*555*
Total population surveyed	*3049*
Total U5 surveyed	*825*
Average household size	*3.7*
% of U5	*27.1*

4.2.1 Anthropometry and Health; Children 6-59 months

4.2.1.1Sample size and clusters

Table 50: Target and Actual Number Captured

	Target (No.)	Total surveyed (No.)	% of the target
Children 6-59 months	300	655	211%
Clusters (where applicable)	36	35	97.2%

Table 51: Children 6-59 Months - Distribution of Age and Sex of Sample

	Boys		Girls		Total		Ratio
AGE (mo)	**no.**	**%**	**no.**	**%**	**no.**	**%**	**Boy:Girl**
6-17 months	104	55.6	83	44.4	187	28.5	1.3
18-29 months	70	50.0	70	50.0	140	21.4	1.0
30-41 months	69	43.9	88	56.1	157	24.0	0.8
42-53 months	60	52.6	54	47.4	114	17.4	1.1
54-59 months	32	56.1	25	43.9	57	8.7	1.3
Total	335	51.1	320	48.9	655	100.0	1.0

Percentage of children with no exact birthday: 99 %

4.2.1.2 Anthropometric results (based on WHO Growth Standards 2006)

Table 122: Prevalence of Acute Malnutrition Based On Weight-For-Height Z-Scores (and/or Oedema) and By Sex

	All n = 641	**Boys** n = 327	**Girls** n = 314
Prevalence of global malnutrition (<-2 z-score and/or oedema)	(20) 3.1 % (1.9 - 5.1 95% C.I.)	(16) 4.9 % (2.9 - 8.2 95% C.I.)	(4) 1.3 % (0.5 - 3.3 95% C.I.)
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no oedema)	(19) 3.0 % (1.8 - 4.9 95% C.I.)	(15) 4.6 % (2.6 - 7.9 95% C.I.)	(4) 1.3 % (0.5 - 3.3 95% C.I.)
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(1) 0.2 % (0.0 - 1.2 95% C.I.)	(1) 0.3 % (0.0 - 2.3 95% C.I.)	(0) 0.0 % (0.0 - 0.0 95% C.I.)

The prevalence of oedema is 0.0%

Table 53: Prevalence of Acute Malnutrition By Age, Based On Weight-For-Height Z-Scores and/or Oedema

		Severe wasting (<-3 z-score)		**Moderate wasting (>= -3 and <-2 z-score)**		**Normal (> = -2 z score)**		**Oedema**	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	180	1	0.6	13	7.2	166	92.2	0	0.0
18-29	138	0	0.0	3	2.2	135	97.8	0	0.0
30-41	153	0	0.0	1	0.7	152	99.3	0	0.0
42-53	113	0	0.0	0	0.0	113	100.0	0	0.0
54-59	57	0	0.0	2	3.5	55	96.5	0	0.0
Total	641	1	0.2	19	3.0	621	96.9	0	0.0

Figure 17: Trend in the Prevalence of Wasting By Age In Children 6-59 Months

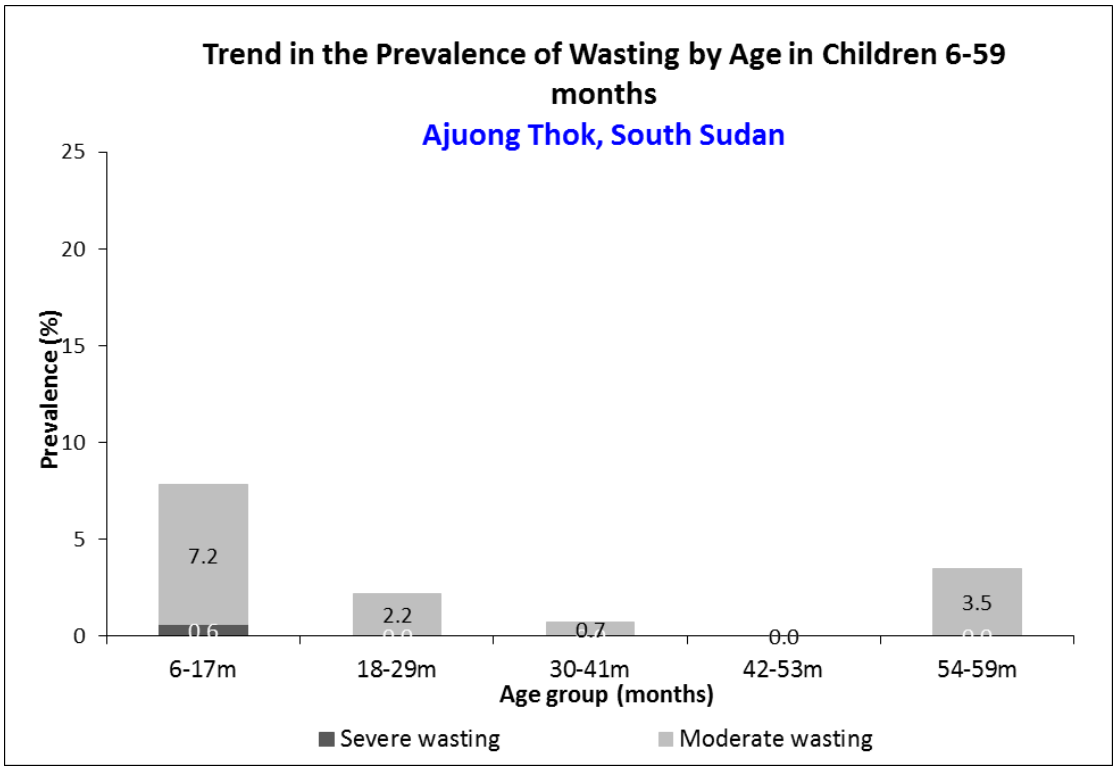


Table 54: Distribution of Severe Acute Malnutrition and Oedema Based On Weight-For-Height Z-Scores

	<-3 z-score	>=-3 z-score
Oedema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Oedema absent	Marasmic No. 12 (1.8 %)	Not severely malnourished No. 643 (98.2 %)

Figure 18: Distribution of Weight-For-Height Z-Scores (Based On WHO Growth Standards; the Reference Population Is Shown In Green and the Surveyed Population Is Shown In Red) Of Survey Population Compared To Reference Population

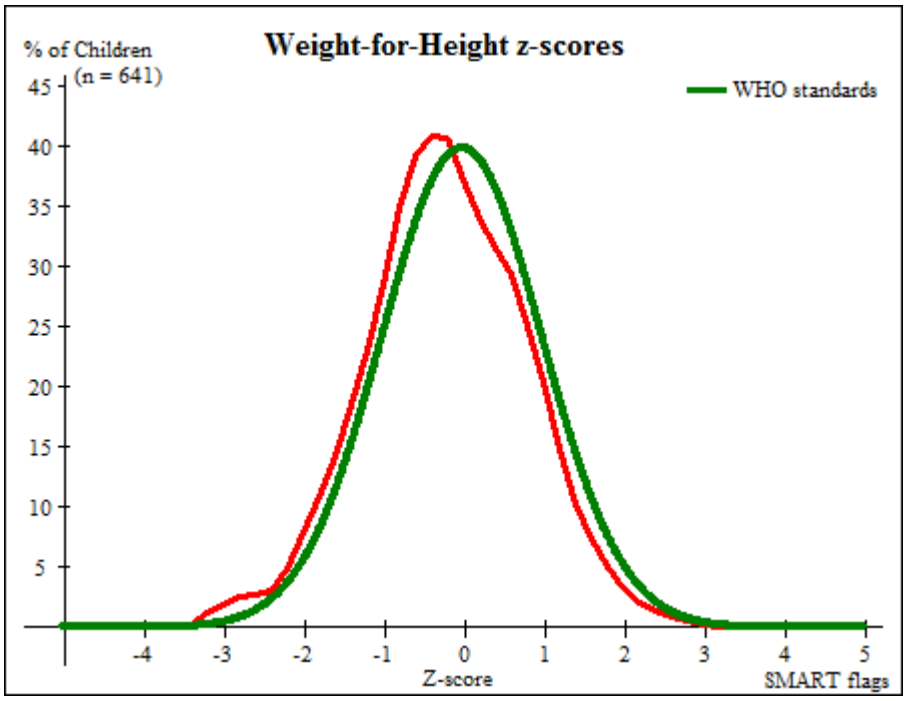


Table 55: Prevalence of MUAC Malnutrition

	All n = 655	**Boys** n = 335	**Girls** n = 320
Prevalence of MUAC < 125 mm and/or oedema	(27) 4.1 % (2.7 - 6.3 95% C.I.)	(16) 4.8 % (2.7 - 8.3 95% C.I.)	(11) 3.4 % (1.7 - 6.7 95% C.I.)
Prevalence of MUAC < 125 mm and >= 115 mm, no oedema	(22) 3.4 % (2.1 - 5.4 95% C.I.)	(12) 3.6 % (1.9 - 6.8 95% C.I.)	(10) 3.1 % (1.6 - 6.1 95% C.I.)
Prevalence MUAC < 115 mm and/or oedema	(5) 0.8 % (0.2 - 2.5 95% C.I.)	(4) 1.2 % (0.3 - 4.8 95% C.I.)	(1) 0.3 % (0.0 - 2.3 95% C.I.)

Table 56: Prevalence of MUAC Malnutrition by Age, Based on MUAC Cut off's and/or Oedema

		MUAC < 115 mm		**MUAC >= 115 mm and < 125 mm**		**MUAC > = 125 mm**		**Oedema**	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	187	5	2.7	15	8.0	167	89.3	0	0.0
18-29	140	0	0.0	4	2.9	136	97.1	0	0.0
30-41	157	0	0.0	3	1.9	154	98.1	0	0.0
42-53	114	0	0.0	0	0.0	114	100.0	0	0.0
54-59	57	0	0.0	0	0.0	57	100.0	0	0.0
Total	655	5	0.8	22	3.4	628	95.9	0	0.0

Table 57: Prevalence of Underweight Based On Weight-For-Age Z-Scores by Sex

	All n = 651	Boys n = 333	Girls n = 318
Prevalence of underweight (<-2 z-score)	(59) 9.1 % (7.1 - 11.6 95% C.I.)	(42) 12.6 % (9.3 - 16.9 95% C.I.)	(17) 5.3 % (3.5 - 8.1 95% C.I.)
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(53) 8.1 % (6.1 - 10.7 95% C.I.)	(38) 11.4 % (8.1 - 15.9 95% C.I.)	(15) 4.7 % (3.0 - 7.3 95% C.I.)
Prevalence of severe underweight (<-3 z-score)	(6) 0.9 % (0.4 - 2.0 95% C.I.)	(4) 1.2 % (0.5 - 3.1 95% C.I.)	(2) 0.6 % (0.2 - 2.6 95% C.I.)

Table 58: Prevalence of Underweight by Age, Based On Weight-For-Age Z-Scores and/or Oedema

		SEVERE UNDERWEIGHT (<-3 Z-SCORE)		MODERATE UNDERWEIGHT (>= -3 AND <-2 Z-SCORE)		NORMAL (> = -2 Z SCORE)		OEDEMA	
AGE (MO)	**TOTAL NO.**	**NO.**	**%**	**NO.**	**%**	**NO.**	**%**	**NO.**	**%**
6-17	184	2	1.1	25	13.6	157	85.3	0	0.0
18-29	139	2	1.4	13	9.4	124	89.2	0	0.0
30-41	157	2	1.3	8	5.1	147	93.6	0	0.0
42-53	114	0	0.0	6	5.3	108	94.7	0	0.0
54-59	57	0	0.0	1	1.8	56	98.2	0	0.0
TOTAL	651	6	0.9	53	8.1	592	90.9	0	0.0

Table 59: Prevalence of Stunting Based On Height-For-Age Z-Scores and By Sex

	All n = 640	Boys n = 325	Girls n = 315
Prevalence of stunting (<-2 z-score)	(131) 20.5 % (17.2 - 24.2 95% C.I.)	(73) 22.5 % (18.4 - 27.2 95% C.I.)	(58) 18.4 % (14.4 - 23.3 95% C.I.)
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(97) 15.2 % (12.3 - 18.5 95% C.I.)	(52) 16.0 % (12.3 - 20.6 95% C.I.)	(45) 14.3 % (10.7 - 18.8 95% C.I.)
Prevalence of severe stunting (<-3 z-score)	(34) 5.3 % (3.8 - 7.4 95% C.I.)	(21) 6.5 % (4.5 - 9.2 95% C.I.)	(13) 4.1 % (2.2 - 7.5 95% C.I.)

Table 60: Prevalence of Stunting By Age Based On Height-For-Age Z-Scores

		Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	178	3	1.7	23	12.9	152	85.4
18-29	137	12	8.8	26	19.0	99	72.3
30-41	155	9	5.8	22	14.2	124	80.0
42-53	113	9	8.0	19	16.8	85	75.2
54-59	57	1	1.8	7	12.3	49	86.0
Total	640	34	5.3	97	15.2	509	79.5

Figure 19: Trends in the Prevalence of Stunting By Age in Children 6-59 Months

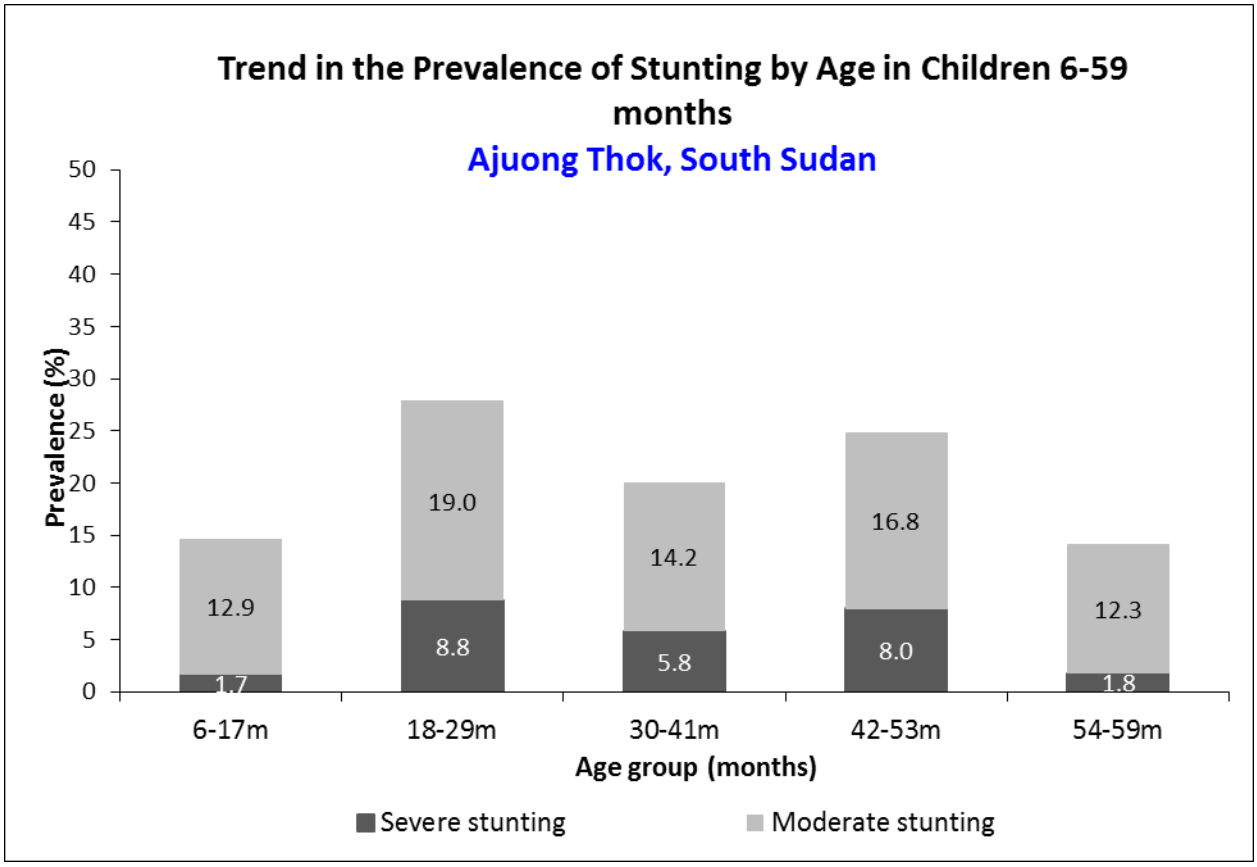


Figure 20: Distribution of Height-For-Age Z-Scores (Based On WHO Growth Standards; The Reference Population Is Shown In Green And The Surveyed Population Is Shown In Red) Of Survey Population Compared To Reference Population

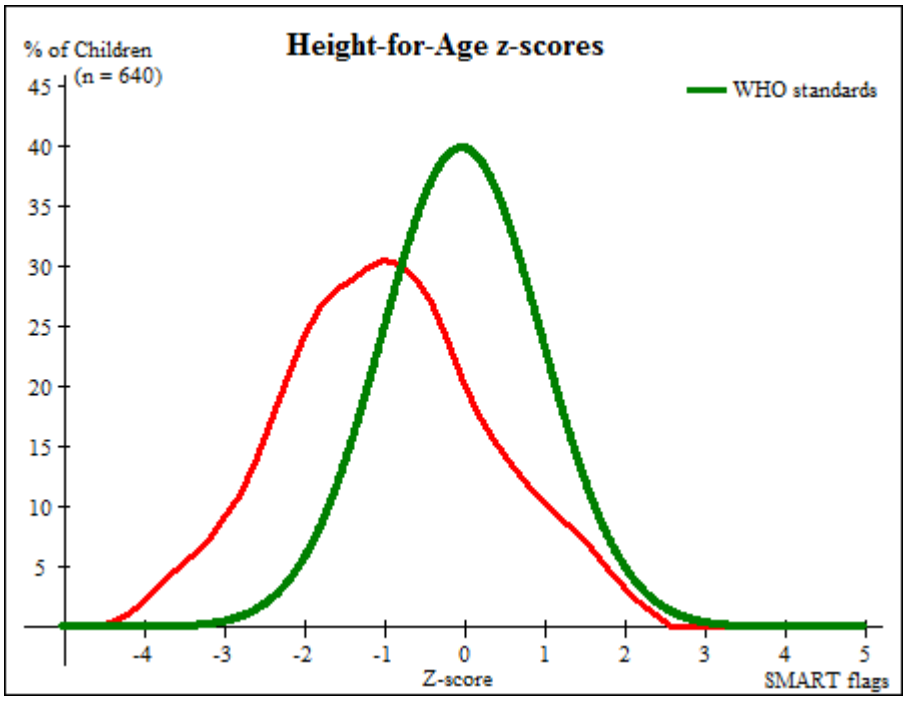


Table 61: Mean Z-Scores, Design Effects and Excluded Subjects

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	641	-0.22±0.98	1.18	0	14
Weight-for-Age	651	-0.69±0.98	1.00	0	4
Height-for-Age	640	-0.96±1.27	1.19	0	15

* contains for WHZ and WAZ the children with oedema.

4.2.1.3 Feeding programme coverage results

Table 62: Programme Coverage for Acutely Malnourished Children Based On MUAC, Oedema and WHZ

	Number/total	% (95% CI)
Supplementary feeding programme coverage	24/37	64.9(45.3-84.4)
Therapeutic feeding programme coverage	5/16	31.3(8.0-54.5)

Table 63: Programme Coverage for Acutely Malnourished Children Based On MUAC and Oedema

	Number/total	% (95% CI)
Supplementary feeding programme coverage	6/22	27.5(10.3-44.2)
Therapeutic feeding programme coverage	3/5	60.0(8.4-100)

4.2.1.4Measles Vaccination Coverage Results

Table 64: Measles Vaccination Coverage for Children Aged 9-59 Months (N=610)

	Measles (with card) n=428	Measles (with card or confirmation from mother) n=573
YES	70.2% (62.2-78.1 95% CI)	94.0 % (91.4-96.4 95% CI)

4.2.1.5Vitamin A Supplementation Coverage Results

Table 65: Vitamin A Supplementation for Children Aged 6-59 Months within Past 6 Months (N= 655)

	Vitamin A capsule (with card) n=431	Vitamin A capsule (with card or confirmation from mother) n=603
YES	65.8% (57.3-74.3 95% CI)	92.1 % (89.5-94.6 95% CI)

DPT3/PENTA3 Coverage Results

Table 66: DPT3/PENTA3 vaccination coverage for children aged 9-59 months (n=655)

	DPT3 / PENTA 3 (with card) n=181	DPT3 / PENTA 3 (with card or confirmation from mother) n=263
YES	27.6% (19.6-35.6 95% CI)	40.2 % (31.6-48.7 95% CI)

4.2.1.6Diarrhoea Results

Table 68: Period Prevalence of Diarrhoea

	Number/total	% (95% CI)
Diarrhoea in the last two weeks	174/630	27.6 (22.5-32.7)

4.2.2 Anaemia Results Children 6 – 59 Months

Table 69: Prevalence of Total Anaemia, Anaemia Categories, and Mean Haemoglobin Concentration in Children 6-59 Months of Age and By Age Group

	6-59 months n = 568	**6-23 months** n=224	**24-59 months** n=344
Total Anaemia (Hb<11.0 g/dL)	(204) 35.9% (31.9-39.9 95% CI)	(142) 63.4% (56.6-70.2 95% CI)	(62) 18.0% (13.9-22.1 95% CI)
Mild Anaemia (Hb 10.0-10.9 g/dL)	(93) 16.4% (13.3-19.5 95% CI)	(56) 25.0% (18.3-31.7 95% CI)	(37) 10.8% (7.8-13.7 95% CI)
Moderate Anaemia (7.0-9.9 g/dL)	(109) 19.2% (15.6-22.8 95% CI)	(84) 37.5% (29.9-45.1 95% CI)	(25) 7.3% (3.9-10.6 95% CI)
Severe Anaemia (<7.0 g/dL)	(2) 0.4% (0-0.9 95% CI)	(2) 0.6% (0-2.2 95% CI)	(0) 0.0% (0-0 95% CI)
Mean Hb (g/dL) (SD / 95% CI) [range]	11.3 g/dL (11.1-11.4 95% CI) [5.7-14.8]	10.4 g/dL (10.2-10.6 95% CI) [5.7-13.5]	11.9 g/dL (11.7-12.0 95% CI) [7.2-14.8]

Table 70: Prevalence of Moderate and Severe Anaemia in Children 6-59 Months of Age and By Age Group

	6-59 months n = 568	**6-23 months** n= 224	**24-59 months** n= 344
Moderate and Severe Anaemia (Hb<10.0 g/dL)	(111) 19.5% (15.6-23.2 95% CI)	(86) 38.4% (30.8-46.0 95% CI)	(25) 7.3% (3.9-10.6 95% CI)

4.2.3 IYCF Children 0-23 Months

Table 71: Prevalence of Infant and Young Child Feeding Practices Indicators

Indicator	**Age range**	**Number/ total**	**Prevalence (%)**	**95% CI**
Timely initiation of breastfeeding	**0-23 months**	266/310	85.8	79.0-92.6
Exclusive breastfeeding under 6 months	**0-5 months**	55/102	54.0	39.0-68.9
Continued breastfeeding at 1 year	**12-15 months**	53/58	91.4	82.5-100
Continued breastfeeding at 2 years	**20-23 months**	16/26	61.5	39.4-83.7
Introduction of solid, semi-solid or soft foods	**6-8 months**	147/210	70.0	61.7-78.3

Consumption of iron-rich or iron-fortified foods	**6-23 months**	105/210	50.0	37.8-62.2
Bottle feeding	**0-23 months**	40/315	12.7	7.7-17.7

Prevalence of Intake

Infant Formula

Table 72: Infant Formula Intake in Children Aged 0-23 Months

	Number/total	**% (95% CI)**
Proportion of children aged 0-23 months who receive infant formula (fortified or non-fortified)	29/315	9.2 (5.5-12.9)

Fortified Blended Foods

Table 73: CSB+ Intake in Children Aged 6-23 Months

	Number/total	**% (95% CI)**
Proportion of children aged 6-23 months who receive FBF	12/209	5.7 (2.3-9.2)

Table 74: CSB++ Intake in Children Aged 6-23 Months

	Number/total	**% (95% CI)**
Proportion of children aged 6-23 months who receive FBF++	20/209	9.6 (4.9-14.3)

4.2.4 Anaemia; Women 15-49 Years

Table 75: Women Physiological Status and Age

Physiological status	**Number/total**	**% of sample**
Non-pregnant	312	78
Pregnant	88	22
Mean age (range)	26.8(15-49)	

Table 76: Prevalence of Anaemia and Haemoglobin Concentration in Non-Pregnant Women of Reproductive Age (15-49 Years)

Anaemia in non-pregnant women of reproductive age (15-49 years)	All n = 402
Total Anaemia (<12.0 g/dL)	(73) 18.2% (13.1-23.2 95% CI)
Mild Anaemia (11.0-11.9 g/dL)	(50) 12.4% (8.6-16.2 95% CI)
Moderate Anaemia (8.0-10.9 g/dL)	(23) 5.7% (3.0-8.5 95% CI)
Severe Anaemia (<8.0 g/dL)	(0) 0 (0-0 95% CI)
Mean Hb (g/dL) **(SD / 95% CI)** **[range]**	13.0 g/dL 0.1 [8.0-16.8]

Table 77: ANC Enrolment and Iron-Folic Acid Pills Coverage among Pregnant Women (15-49 Years)

	Number /total	% (95% CI)
Currently enrolled in ANC programme	86/95	90.5 (83.5-97.6)
Currently receiving iron-folic acid pills	78/95	82.1 (71.6-92.6)

4.2.5 WASH

Table 78: WASH Sampling Information

Household data	Planned	Actual	% of target
Total households surveyed for WASH	569	544	95.6

Table 79: Water Quality

	Number/total	% (95% CI)
Proportion of households using an improved drinking water source	542/542	100.0 (100.0-100.0)
Proportion of households that use a covered or narrow necked container for storing their drinking water	330/541	61.0 (48.7-73.3)

Table 80: Water Quantity: Amount of Litres of Water Used Per Person per Day

Proportion of households that use:	Number/total	% (95% CI)
≥ 20 lpppd	242/540	44.8 (39.3-50.3)
15 – <20 lpppd	114/540	21.1 (17.0-25.2)
<15 lpppd	184/540	34.1 (27.6-40.5)

Add the average water usage in lpppd:_____20.0 lpppd_____

Table 81: Satisfaction with Water Supply

	Number/total	% (95% CI)
Proportion of households that say they are satisfied with the drinking water supply	229/539	42.5 (31.5-53.5)

Figure 21: Proportion of Households That Say They Are Satisfied With the Water Supply

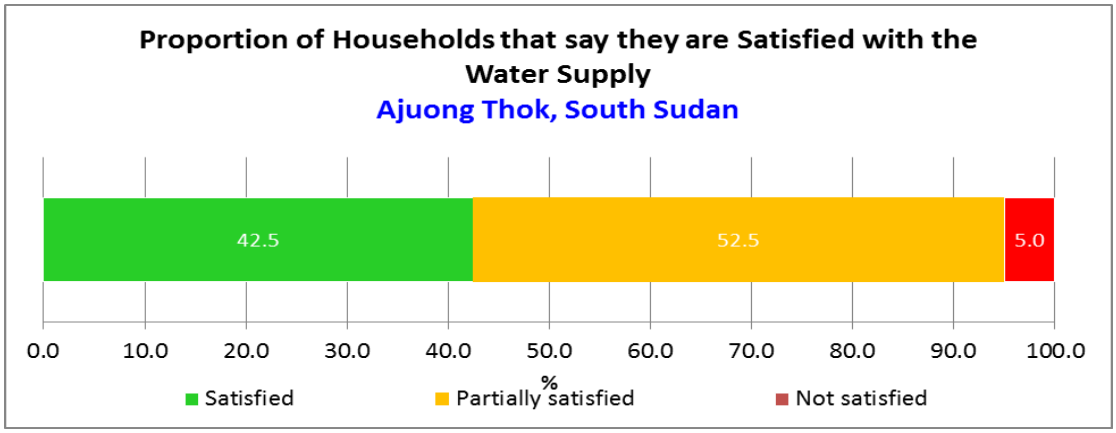


Figure 22: **Main Reason for Dissatisfaction among Households Not Satisfied With Water Supply**

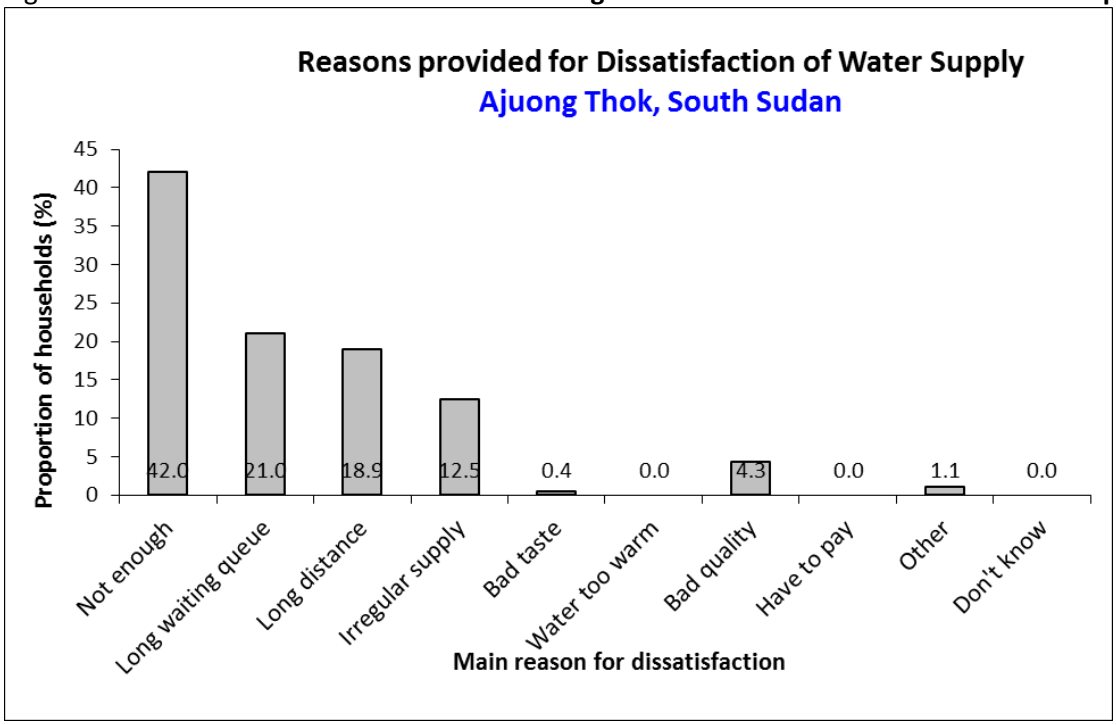


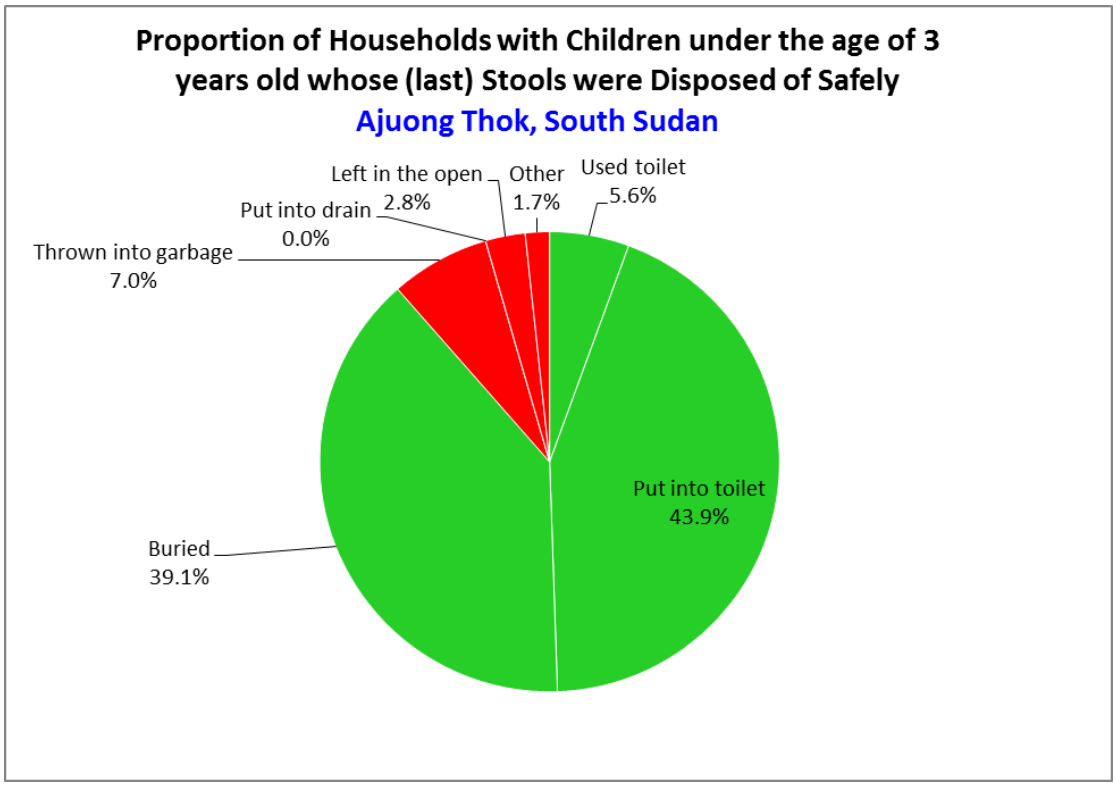
Table 82: Safe Excreta Disposal

	Number/total	% (95% CI)
Proportion of households that use:		
An improved excreta disposal facility (improved toilet facility, 1 household)*,**	128/534	24.0 (17.0-30.9)
A shared family toilet (improved toilet facility, 2 households)**	42/534	7.9 (5.8-10.0)
A communal toilet (improved toilet facility, 3 households or more)	116/534	21.7 (15.5-28.0)
An unimproved toilet (unimproved toilet facility or public toilet)	248/534	46.4 (37.7-55.1)
Proportion of households with children under three years old that dispose of faeces safely	308/344	89.5 (83.6-95.5)

***To maintain consistency with other survey instruments (e.g. the multiple indicator cluster survey), UNHCR SENS WASH module classifies an **"improved excreta disposal facility"** as a toilet in the "improved" category **AND** one that is **not shared** with other families / households.

****According to UNHCR WASH monitoring system, an **"improved excreta disposal facility"** is defined differently than in survey instruments and is defined as a toilet in the "improved" category AND one that is shared by a *maximum* of 2 families / households or no more than *12 individuals*. Therefore, the following two categories from the SENS survey definitions are considered "improved excreta disposal facility" for UNHCR WASH monitoring system: "improved excreta disposal facility (improved toilet facillity, 1 household)" and "shared family toilet (improved toilet facility, 2 households)".

Figure 23: Proportion of Households with Children under the Age of 3 Years whose (Last) Stools Were Disposed Of Safely



4.2.6 Mosquito Net Coverage

Table 83: Mosquito Net Coverage Sampling Information

Household data	Planned	Actual	% of target
Total households surveyed for mosquito net coverage	285	440	154.4

Table 84: Household Mosquito Net Ownership

	Number/total	% (95% CI)
Proportion of total households owning at least one mosquito net of any type	352/440	80.0 (74.4-85.6)
Proportion of total households owning at least one LLIN	333/440	75.7 (69.3-82.1)

Figure 24: Household Ownership of At Least One Mosquito Net (Any Type)

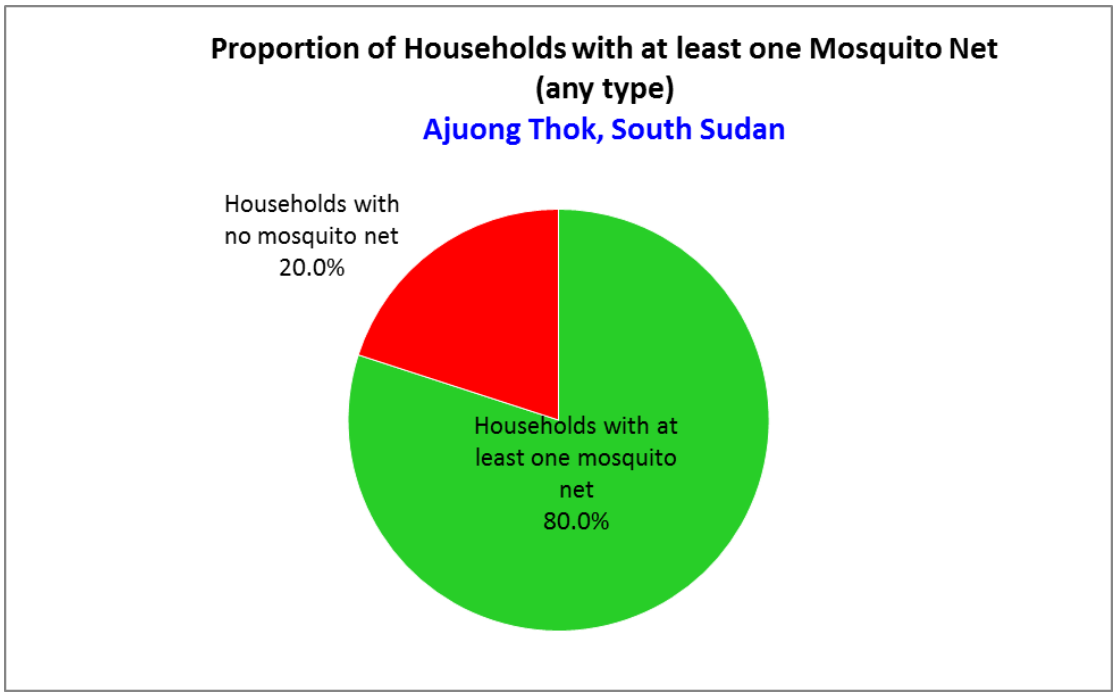


FIGURE 25: HOUSEHOLD OWNERSHIP OF AT LEAST ONE LLIN *(THIS FIGURE CAN BE AUTOMATICALLY GENERATED BY USING SENS PRE-MODULE TOOL 12 – TRENDS AND GRAPHS)*

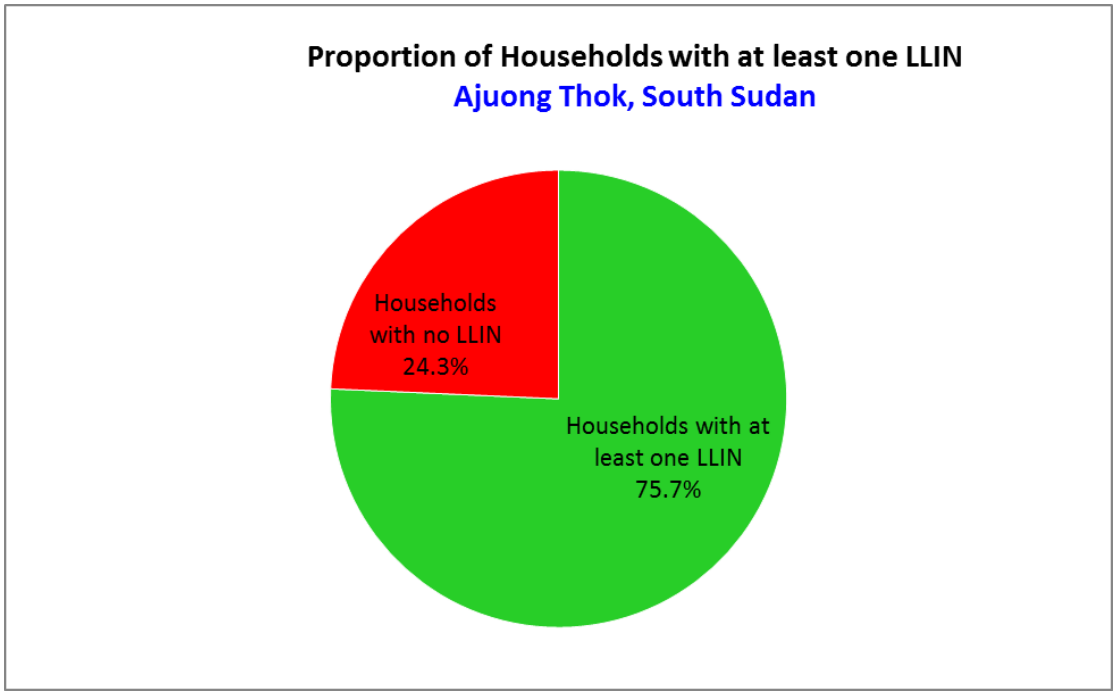


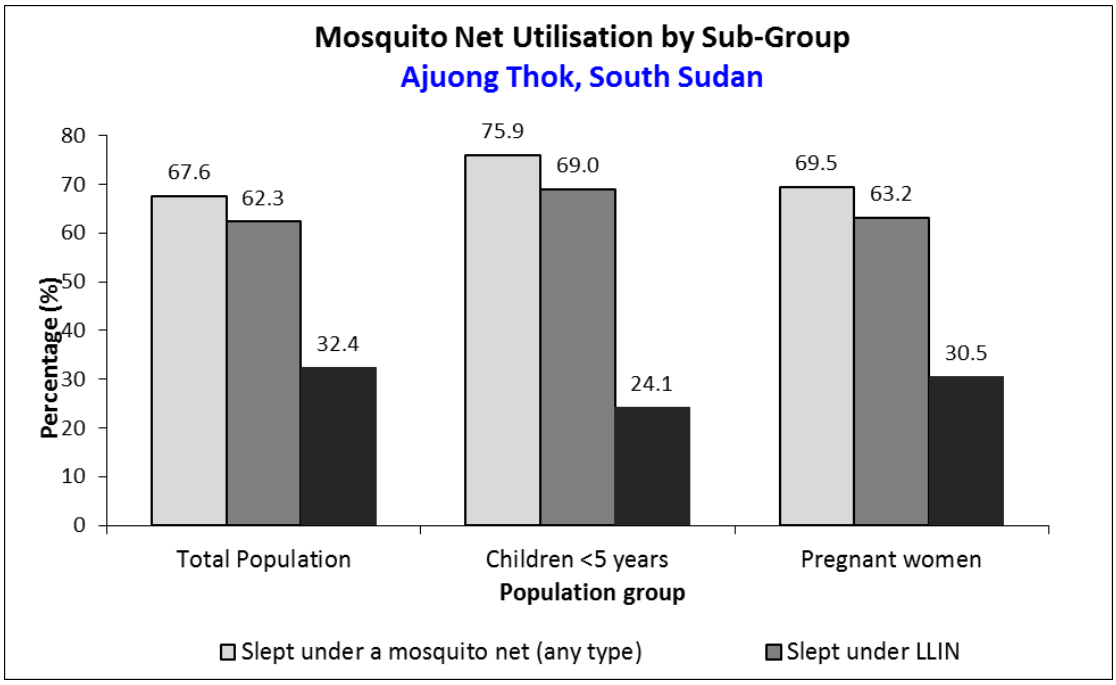
Table 85: Number Of Nets

Average number of LLINs per household	Average number of persons per LLIN
1.6	3.8

Table 86: Mosquito Net Utilisation

	Proportion of total population (all ages)		Proportion of 0-59 months		Proportion of pregnant women	
	Total No= 2468	%	Total No= 675	%	Total No= 95	%
Slept under net of any type	1668	67.6	512	75.9	66	69.5
Slept under LLIN	1537	62.3	466	69.0	60	63.2

Figure 26: Mosquito Net Utilisation by Sub-Group



4.3 Other results – Mortality

Yida Mortality Results (retrospective over 90 days prior to interview)

Table 87: Crude and under 5 mortality rates

CDR (total deaths/10,000 people / day):) 0.14(0.03-0.59 95%CI)
U5DR (deaths in children under five/10,000 children under five / day): 0.23(0.03-1.92 95%CI)

Ajuong Thok Mortality Results (retrospective over 90 days prior to interview)

Table 88: Crude and under 5 mortality rates

CDR (total deaths/10,000 people / day):) 0.04(0.00-0.27 95%CI)
U5DR (deaths in children under five/10,000 children under five / day): 0.12(0.02-1.03 95%CI)

5 Limitations

Data Quality

The plausibility report generated by the ENA software showed that the data was generally of good quality, scoring 4% in both Yida and Ajuong Thok. The age data is however not as reliable as all the children in Yida and 99% in Ajuong Thok used age estimates and not actual date of birth in determining their ages. With this in mind, the stunting and underweight results are not as reliable as would be expected.

Population Data

Ajuong Thok is a growing population receiving refugee constantly. This might have resulted in data given not to be as accurate as there is constant updating. Also as mentioned earlier, the survey data collection exercise coincided with GFD and ration card replacement exercises in Yida. These exercises brought people into the camp who do not usually stay in the camp and consequently affecting the proportion of the under 5 population. The population data breakdown used in Yida was by Boma (tribe/clan), this resulted in less reliable difficulties in cluster selection as some Bomas were not staying in the same geographic area and also some Bomas were mixed in the same geographic location.

Data Enumerators

Some enumerators used in data collection were people from the community who had not worked in nutrition before. This is likely to have affected their grasping of ideas as they had to understand the basic concepts first.

SFP/TFP Coverage

The data needs to be interpreted with extreme caution as the survey sample was very small.

IYCF Indicators

Due to the small survey sample size for some indicators such as the “continued breastfeeding at 1 year” and the “continued breastfeeding at 2 years” indicators, these results have to be interpreted with caution.

6 Discussion

6.1 Nutritional Status of Young Children

The GAM and SAM prevalence in Yida is 6.2 %(4.7-8.2 95% CI) and 0.8 %(0.4-1.7 95% CI) respectively. The Ajuong Thok results showed GAM of 3.1 %(1.9-5.1 95% CI) and SAM of 0.2 %(0.0-2.3 95% CI). This was the first time the survey was conducted in Ajuong Thok. Comparing the Yida 2014 results and the 2013 results when GAM 7.3% (5.3 -10.2 95% CI) was and SAM was 1.2% (0.6-2.5 95% CI), the 2014 results show a decrease in malnutrition prevalence for both GAM and SAM. Comparison of the 2013 and 2014 results has to be done with caution because the surveys were conducted at different times of the year. In 2013, the survey was conducted in February at the peak of the dry season while in 2014; the survey was conducted in November at the beginning of the harvest time. However there is overlap of the confidence intervals, which can be interpreted that the difference is not statistically significant. The prevalence of malnutrition on the refugee operation is lower if compared to the general South Sudan prevalence. In a rapid assessment conducted b CARE in the host community of Pariang County surrounding the refugee locations, GAM was 13.9% and SAM was 3.5% (South Sudan Nutrition Cluster, 2014). The acute malnutrition prevalence in the camps is much lower compared to the national, which according to the November/December 2014 Food Security and Nutrition Monitoring System (FSNMS) the national GAM was 12.5% and SAM 3.2%. (FSNMS Round 14, 2014).The survey results also compare well with nutrition trends monitoring when total MUAC malnutrition is around 3% and 6% in Yida and Ajuong Thok respectively. The prevalence of malnutrition in the Unity refugee camps is within acceptable levels; however more has to be done to bring down the Yida GAM to below 5%.

Given the fact that the refugee population relies on 100% GFD ration which meets the minimum 2100Kcal daily energy needs and also taking into account that there has not been any pipeline breaks, lack of food is ruled out as the major causes of acute malnutrition. The most likely causes are disease especially upper and lower respiratory tract infections which account for at least 60% of the total under 5 morbidity causes in both Yida and Ajuong Thok. Period prevalence diarrhoea of 20.1% (15.6-24.7 95% CI) in Yida and 27.6% (22.5-32.7 95% CI) in Ajuong Thok is quite high. This maybe a contributing cause of acute malnutrition also. Wasting is more prevalent in the 6 to 17 age group in both Yida and Ajuong Thok, the likely reason for this could be the inadequate care given to this age group as mothers and caregivers are busy with other household chores.

Total stunting prevalence in Yida is 23.9% (20.0-28.4 95% CI) while severe stunting prevalence is 6.1 %(4.4-8.5 95% CI). In Ajuong Thok the stunting prevalence is 20.5 %(17.2-24.2 95% CI) and severe stunting prevalence is 5.3% (3.8-7.4 95% CI). The total stunting levels are of medium public health concern according to WHO classification. In the 2013 survey, total stunting in Yida was 23.3% (20.0-26.9 95% CI) and severe stunting was 5.8% (4.1- 8.2 95% CI), these results are not different from the 2014 findings. The GFD basket comprises sorghum, yellow split peas/lentils, and vegetable oil and salt only, this basket lacks in animal protein which is essential for skeletal development and linear growth of children under 2 years and could be a contributing factor to the stunting levels shown. Good linear growth in the first two years of life results in substantial gains in height and schooling and gives some protection from adult chronic disease risk factors (Adair et al, Lancet Series, 2013). A finer look at the results shows that the most affected age group is the 18 to 29 months age group in both locations. This could be due to poor complementary feeding after cessation of breastfeeding.

Since the survey was conducted during the harvest season and also at a time when there was abundant fish, it is likely that the malnutrition rates were lower than most times of the year. Malnutrition rates are therefore likely to deteriorate a bit but not significantly in the coming months. The population will still have access to 100% GFD. As a way supplementing the food and also to diverse the diet, the community is advocating for support in agriculture and livelihoods activities

especially in Ajuong Thok where the local authorities have shown the will to give agricultural land to refugees.

There was no significant sex difference in the sampled population for both locations indicating that the survey was un-biased.

6.2 Programme Coverage

Measles vaccination coverage is quite high in Ajuong Thok, although it is shy of the 95% target. The coverage is 70.2% (62.2-78.1 95% CI) by card and 94.0% (91.4-96.4 95% CI) by both card and recall. This is generally a good result considering the Ajuong Thok refugee camp is in its second year of inception. In Yida measles vaccination is much lower than the target. Measles vaccination coverage by card is 57.3% (48.5-66.1 95% CI) by card and 84.4% (79.0-89.7 95% CI) when card and recall coverage is combined. In 2013 the total measles vaccination coverage for Yida was 73.6 %(63.8-83.5% CI), this shows that the coverage improved in 2014.

The target for vitamin A supplementation coverage is 90%, and neither of the two camps managed get to that target. The coverage in Yida was 52.2% (42.3-62.1 95% CI) by card and 79.1% (71.7-86.6 95% CI) when coverage by both card and recall is combined. The 2014 results are not very different from the 2013 results when coverage by card was54.1% (45.8-62.4 95% CI) and 69.8% (60.9-78.7 95% CI) when vitamin A supplementation by both card and recall is combined. Vitamin A supplementation coverage in Ajuong Thok was higher than the coverage in Yida, in Ajuong Thok the survey showed coverage of 65.8% (57.3-74.3 95% CI) by card and 92.1% (91.4-96.4 95% CI) by both card and recall. The total vitamin A supplementation coverage in Ajuong Thok is higher than the target.

It is however important to note that although measles and vitamin A coverage is high, the coverage was enhanced by the various campaigns that were held during the course of the year. Routine EPI vaccination is low. DPT3/PENTA3 vaccination coverage which is only by routine immunisation shows worrying coverage. The card and recall coverage in Yida is 55.2% (45.4-64.9 95% CI) in Yida and it is 40.2% (31.6-48.7 95% CI) in Ajuong Thok.

ANC and iron –folic acid coverage is relatively high in Ajuong Thok as compared to Yida. ANC coverage in Ajuong Thok is 90.5 (83.5-97.6) and iron-folic acid coverage is 82.1 (71.6-92.6) as compared to ANC coverage of 66.7 (58.3-75.0) in Yida and iron-folic acid coverage of 53.5 (42.0-65.0) in Yida as well.

SFP and TFP coverage rates are very low and blow the 90% target. In Yida the SFP coverage using both MUAC and WHZ was 21.4% (6.2-36.6 95% CI) and 32.7% (17.1-48.3) 95% CI) respectively, while the TFP coverage using WHZ is 23.1% (11.2-34.9 95% CI) and using MUAC the coverage is 28.6% (1.3-55.9 95% CI). Coverage in Ajuong Thok is also low as in Yida, the SFP coverage in Ajuong Thok using WHZ is 64.9% (45.3-84.4 95% CI) and using MUAC the coverage is 27.5% (10.3-44.2 95% CI). TFP coverage using WHZ is 31.3% (8.0-54.5 95% CI) and using MUAC its 60.0% (8.4-100 95% CI). The coverage rates in the survey have to be interpreted with extreme caution as the sample size is very small to make meaningful conclusions. Also if coverage is calculated using the MAM/SAM rate, number of children enrolled in the SFP/TFP programme and the total population of children 6 to 59 months, coverage in Yida and Ajuong Thok for both programmes surpasses 90%. To obtain the actual programme coverage, there is need for a coverage assessment to be undertaken.

In general, coverage indicators are lower in Yida as compared to Ajuong Thok. The likely reason could be that, the Ajuong Thok population is relatively small and therefore easier to reach. The other

possible theory could be that Yida was receiving a lot of people at the time of the survey coming back from South Kordofan who may not have been able to access these services.

6.3 Anaemia in Young Children and Women

The prevalence of anaemia among non-pregnant women 15 to 49 years in Yida is of medium public health significance and of low public health significance in Ajuong Thok according to WHO classification. Who classifies total anaemia prevalence less than 20% as of low public health significance, anaemia prevalence of 20% to 40% to be of medium public health significance and anaemia prevalence above 40% as of high public health significance. Total anaemia prevalence in Ajuong Thok was 18.2% (13.1-23.2 95% CI) with no cases of severe anaemia. In Yida, total anaemia prevalence was 22.6% (18.1-27.1 95% CI) while severe anaemia was 0.3% (0.0-1.0 95% CI). Comparing the 2014 anaemia results with the 2013 findings when total anaemia prevalence was 17.0% (10.5-23.5 95% CI), shows an absolute increase of anaemia in 2014. The increase however may not be statistically significant since there is overlap of confidence intervals. The increased can partly be blamed on the fact that there was no continuous nutrition programme targeting pregnant and lactating women in 2014, this was mostly due to commodity shortages.

Total anaemia prevalence among children 6 to 59 months in Ajuong Thok was 35.9% (31.9-39.9 95% CI) while in Yida the survey showed total anaemia levels of 38.8% (33.9-43.7 95% CI). These findings show anaemia levels of medium public health significance but approaching the critical threshold mark of 40% as evidenced by the upper confidence limits. The 2013 survey showed total anaemia prevalence of 34.0% (29.4-38.6 955 CI) in 2013. The increase in anaemia levels could be partly due to the fact that, just like in women of reproductive age, there were no preventive nutrition programme targeting children in 2014 as compared to 2013 when such a programme was in place and CSB++ was the commodity being used. It is however worth to note that the levels of severe anaemia are below 1% in both camps.

As expected, anaemia levels among children 6 to 23 months are much higher and even surpassing the 40% threshold. In Yida total anaemia among the 6 to 23 months age group is 55.3% (47.7-63.0 95% CI) and in Ajuong the prevalence is 63.4% (56.6-70.2 95% CI). The survey was conducted at a time when refugees had access to green leafy vegetables such as pumpkin leaves and bean leaves. If the survey was conducted at some other tome, anaemia could have been much higher that observed.

These findings imply that there is urgent need to intervene with a robust anaemia prevention and treatment intervention targeting this age group. The possible causes for such an increase could be the micronutrient poor GFD basket which these children are feeding on coupled with their need for essential micronutrients and proteins for skeletal development. Such high anaemia levels could also signify poor IYCF and general care practices by caregivers for this group. In UNHCR programming, anaemia levels are used as a proxy for micronutrient deficiency and these findings imply a serious nutrient gap in the diet of the children. It is therefore important to capitalise on the 1000days window of opportunity to address the anaemia and other related conditions which have long time detriments in children which can last until adulthood. There is an overlap of the age group most affected by anaemia (6 to 23 months) and the age group most affected by stunting (18 to 29 months). Such an overlap creates opportunity for comprehensive targeted interventions to address these two nutrition conditions.

6.4 IYCF Indicators

IYCF indicators from the survey show that there is still a lot to be done in the area. This is particularly tomorrow given that IYCF directly impacts the nutrition status of children up to two years and can

impact on child survival. This makes it imperative to protect, promote and support IYCF (WHO, 2010).

The rate of early initiation of breastfeeding in Yida and Ajuong Thok is relatively high. In Yida, 90.6% (87.4-94.3 95% CI) were breastfed within one hour of delivery while in Ajuong Thok 85.8% (79.0-92.6 95% CI) were breastfed within one hour of delivery. In 2013, 63.5% (52.5-74.4 95%CI) were breastfed within one hour after delivery. The results show a marked improvement in early initiation of breast milk. The rate of exclusive breastfeeding in Yida was 50.9% (37.9-63.8 95% CI) and in Ajuong Thok it was 54.0% (39.0-68.9 95% CI). Comparison of the 2013 results when the rate of exclusive breastfeeding in Yida was 40.4 (25.3-55.6 95% CI) shows a marked improvement in the rate of exclusive breastfeeding. The improvement in the IYCF indicators in general is attributed to strengthened IYCF interventions that focus on promoting and supporting IYCF. The major drivers for this intervention are the mother to mother support groups which are proving to be a key resource in cascading IYCF messages and therefore achieve behavioural change among mothers and caregivers. Strengthened integration of nutrition and reproductive health is also bearing results as evidenced by the high levels of early initiation of breastfeeding.

The proportion of children who were introduced to solid and semi-solid foods at the age of 6 to 8 months in Yida is worryingly low at 10.8% (4.3-17.2 95% CI). Such low prevalence signifies a gap in the IYCF programming where this message is not accorded the due diligence it deserves. This is a significant drop to the 2013 findings when 64.5 (48.9-80.1) were introduced to solid and semi-solid foods at the age of 6 to 8 months. In Ajuong Thok, 70.0% (61.7-78.3 95% CI) of children 6 to 8 months were introduced to solid and semi-solid foods, although the rate is quite low it is still commendable.

The rate of consumption of iron rich foods in Yida is 63.3% (52.9-73.7 95% CI) and in Ajuong Thok the rate is 50.0% (37.8-62.2 95% CI). The results showed low consumption of iron rich foods among children 6 to 59 months which is a likely contributing factor to the anaemia levels. Anaemia prevalence is of medium public health significance among children 6 to 59 months and of high public health significance among children 6 to 23 months.

In Yida 14.7% (8.7-20.6 95% CI) of children 0 to 23 months were fed infant formula while in Ajuong Thok 9.2 (5.5-12.9 95% CI) were given infant formula. These findings are quite high considering the strict breast milk substitute policy in place. It is imperative to further investigate the source of this infant formula in a more qualitative IYCF review and be able to address such concerns. This is particularly worrying given that acute watery diarrhoea is in the top 5 of common morbidities in both camps and also considering that 20.1% (15.6-24.7 95% CI) in Yida and 27.6% (22.5-32.7 95% CI) in Ajuong Thok suffered from diarrhoea in the two weeks before the survey date. The rate of diarrhoea is quite high given that globally diarrhoea is the second leading causes of mortality among children between 1 and 5 years (WHO, 2013). There is need to educate communities in the possible dangers associated with the improper use of infant formula and other breast milk substitutes.

6.5 WASH

Essentially all the surveyed households indicated that they are accessing drinking water from a source. Households have access to the minimum required amount of water per day. In Ajuong Thok, the water supply is 20 litres per person per day (lpppd) while in Yida it is 22.6lpppd. There is need to improve on drinking water storage, 64.3% (51.1-77.4 95% CI) of households in Yida and 61.0% (48.7-73.3 95% CI) of households in Ajuong Thok are storing water in safe containers that are either narrow necked or covered.

Three quarters of the surveyed households in Yida 75.1% (67.3-82.9 95% CI), reported that they are satisfied with the supply of drinking water. This was not so for Ajuong Thok where only 42.5% (31.5-53.5 95% CI) of the households reported satisfaction with the supply of drinking water. The three main reasons for dissatisfaction in Ajuong Thok were sighted as water not enough (42.0% (32.6-51.3 95% CI)), long waiting queues 21.0% (14.3-27.7 95% CI)) and long distance (18.9% (9.1-28.6 95% CI) respectively. These findings concur with general observations about the WASH situation in Ajuong Thok.

A significant proportion of households 43.0% (36.5-49.6 95% CI) in Yida and 46.4% (37.7-55.1 95% CI) in Ajuong Thok reported that they are using unimproved toilet facilities, with most of them practising open defecation. The practice of open defecation was evidenced by direct observation during the survey when it was a common phenomenon in some parts of the refugee camp to come across faecal matter. It is however important to note that the use of open defecation is not common across the camp but only in certain locations of the camp. Only 20.8% (15.3-26.3 95% CI) of households in Yida and 24.0% (17.0-30.9 95% CI) of households in Ajuong Thok are using improved excreta disposal facility facilities that are shared by one household only.

Besides the low coverage of latrines and particularly family latrines, it is commendable that 80.5% (73.1-88.0 95% CI) of households in Yida and 89.5% (83.6-95.5 95% CI) of households in Ajuong Thok are safely disposing stool for children below 3 years old. The majority of the households reported burying and throwing into the toilet as the most common disposal methods.

6.6 Mosquito Net Coverage

According to UNHCR standards, at least 80% of households in a refugee camp should have at least one long lasting insecticide treated mosquito net (LLIN). This is however not true for the Unity refugee camps where in Yida 81.6% (73.2-90.0 95% CI) of the surveyed households own at least one mosquito net of ant type and 76.0% (67.2-84.895% CI) own at least one LLIN. In Ajuong Thok 80.0% (74.4-85.6 95% CI) of surveyed households own at least one mosquito net of any type while 75.7% (69.3-82.1 95% CI) of the same households own at least one LLIN. The results show that households miss the LLIN 80% threshold by a whisker and the possible explanation for this could be population movements where some households may not have received the mosquito nets. Also it is a common sight to see mosquito nets being sold in the market soon after NFI distribution or being used as fishing nets or as ropes.

Although the ownership of mosquito nets is quite high, the ratio of mosquito nets to people is not very pleasing. In Yida, on average a household has 1.6 LLIN with 4.0 people sharing a LLIN while in Ajuong Thok, a household has an average of 1.6 LLIN and 3.8 people share a LLIN. UNHCR standards recommend that not more than 2 people share a LLIN.

The high ratio of LLIN to people consequently results in low LLIN utilisation among different population groups. In Yida 70.8% of the population sleeps under a mosquito net of any type with 62.8% sleeping in an LLIN specifically. Among children under 5 years old, 78.1% sleeps under a mosquito net of any type with 68.7% sleeping under a LLIN, and among pregnant women only 48.0% sleep under a mosquito net of any type and 47% sleep under a LLIN. In Ajuong Thok 67.6% of the population sleeps under a mosquito net of any type with 62.3% sleeping in an LLIN specifically. Among children under 5 years old, 75.9% sleeps under a mosquito net of any type with 62.0% sleeping under a LLIN, and among pregnant women only 69.5% sleep under a mosquito net of any type and 63.2% sleep under a LLIN. These findings help explain why malaria is among the top 5 leading morbidity causes among under 5 children in both camps (8.1% in Yida and 12.6% in Ajuong Thok).

6.7 Mortality

Mortality data collected shows that the health situation is fairly stable in Yida and Ajuong Thok. The measure of mortality used is deaths/10000/day. The crude mortality rate in Ajuong Thok was 0.04(0.00-0.27 95%CI), while under 5 mortality rate was 0.13(0.02-1.03 95%CI). In Yida the crude mortality rate was 0.14(0.03-0.59 95%CI) while the survey showed under 5 mortality rate of 0.23(0.03-1.92 95%CI). The 2013 survey in Yida showed that the crude mortality rate was 0.13 (0.04-0.4 95% CI) and under 5 mortality rate of 0.27 (0.03-2.1 95% CI). These 2013 findings compare well with the 2014 results and show that the situation has remained under control despite the 2014 challenges. In general the mortality results are below the emergency threshold of crude mortality rate of 1/10000/day and under 5 mortality rate of 2/10000/day according to SPHERE standards.

7 Conclusions

The 2014 SENS results leads to the overall conclusion that the nutrition and other related public health situation in Yida and Ajuong Thok is relatively stable and under control. The different interventions being implemented are achieving the intended results. Despite the impressive findings there is need however to strengthen the services so as to improve the indicators. Home gardens and other nutrition sensitive interventions such as agriculture, health, social protection, early child development, education, and WASH have enormous potential to enhance the scale and effectiveness of nutrition-specific c interventions such as CMAM and IYCF (Alderman H. and Ruel M.T. Lancet Series 2013).

In Yida, the curative aspect of nutrition should be further strengthened to achieve GAM less than 5%. More effort is required across the camps in IYCF to improve virtually all the IYCF indicators. IYCF and other preventive nutrition programmes such as BSFP are to be strengthened in a bid to reduce stunting to below 20%. A robust anaemia strategy to reduce anaemia prevalence to below 20% in all the age groups particularly children should be considered.

Although the overall water supply is satisfactory, there is need to improve on water network and pressure in both camps particularly in Ajuong Thok where only 42% are satisfied with the water supply. WASH partners are to put concerted effort in improving the latrine coverage and strive to provide family latrines or at the minimum latrines that are shared by a maximum of 2 households. The ratio of LLIN is very high and this is in turn affecting the utilisation rate of LLIN.

In overall, the effort of all the partners in the camps is contributing directly or indirectly to the improved nutrition and general public health status of the refugees. The difference in household sizes which range from 1 to as much as 21 makes it important to device ways of targeting these large households so that everyone in the camp benefits from the services. Also some pockets of the camps have worse indicators than others, making detailed analysis of indicators necessary.

8 Recommendations and Priorities

8.1 Immediate Term

1. UNHCR and the nutrition partners; SP and AHA should continue implementing and strengthening the curative nutrition component.

2. As a way of improving the anaemia levels and to provide animal protein in the diet, WFP should consider implementing continuous Blanket Supplementary Feeding (BSFP) using corn soya blend plus plus (CSB++) targeting children 6 to 23 months.

3. The health partners IRC, AHA and MSF-F should come up with ways of improving routine measles immunisation and vitamin A coverage which will be complemented by campaigns.

4. SP and AHA should strengthen the IYCF programmes in order to improve the exclusive breastfeeding rates and other optimum IYCF indicators.

5. SP in Yida to investigate further on why mothers are not introducing children to solids and semi-solid foods on time and rectify the situation appropriately.

6. IRC as the WASH partner as the WASH partner in Ajuong Thok should improve the water distribution system to shorten distances and waiting time.

7. Health partners and UNHCR Community Services to identify high family size households so as to improve on the ratio of LLIN and the coverage/utilisation rate of the same.

8.2 Medium Term

8. UNHCR, AHA and SP should carry out an IYCF review to identify factors contributing to the low exclusive breastfeeding rate and come up with ways of identifying the same.

9. UNHCR, IRC and SP should prioritise providing improved family latrines to the refugee population.

10. Nutrition partners to consider implementing proper back yard gardening project coupled with provision of training, seeds and tools as a way of addressing the anaemia situation.

11. UNHCR to pursue the option of refugees in Ajuong Thok having access to agricultural land so that they are able to supplement the General Food Ration (GFR).

12. WFP and UNHCR to consider carrying out a proper food security assessment in Yida and Ajuong Thok as a way of understanding the food security patterns and food utilisation, which may have an effect on the anaemia and stunting levels.

13. UNHCR should consider introducing indoor residual spray as a malaria preventive measure

14. Health and community services stakeholders should come up with messaging on the appropriate use of mosquito nets by refugees.

8.3 Long Term

15. UNHCR should consider supporting livelihood activities in Ajuong Thok to improve the local economy and increase the disposable income available to the population. Increased disposable income has high chances of having positive nutrition impact through dietary diversification.

16. All partners working in nutrition, health and WASH should strengthen the integrated community health programme so as to have all-rounder community health workers as a way of having sustainable public health interventions.

Future nutrition monitoring, an annual SENS is recommended and can still be UNHCR led. The survey can still take at the same time in the fourth quarter of the year so as to give recent data about the following's programming.

- Is it necessary to carry out another nutrition survey in this area in the near future? Who should do it? Should there be any changes to the survey methodology? When should the survey take place?

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11 Appendices

11.1 Appendix 1 – Plausibility Check Reports

SMART Plausibility Check Report – Yida

Standard/Reference used for z-score calculation: WHO standards 2006

(Flagged data is included in the evaluation)

Overall data quality

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	**Score**
Flagged data	Incl	%	0-2.5	>2.5-5.0	>5.0-7.5	>7.5	
(% of in-range subjects)			0	5	10	20	**0** (2.3 %)
Overall Sex ratio	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.943)
Overall Age distrib	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**4** (p=0.004)
Dig pref score - weight	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (6)
Dig pref score - height	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**4** (13)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (2)
Standard Dev WHZ	Excl	SD	<1.1	<1.15	<1.20	>=1.20	
.			and	and	and	or	
.	Excl	SD	>0.9	>0.85	>0.80	<=0.80	
			0	2	6	20	**0** (1.02)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**0** (-0.06)
Kurtosis WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**0** (0.00)
Poisson dist WHZ-2	Excl	p	>0.05	>0.01	>0.001	<=0.001	
			0	1	3	5	**0** (p=0.460)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	**8** %

The overall score of this survey is 8 %, this is excellent.

The overall score of this survey is 4 %, this is excellent.

SMART Plausibility Check Report – Ajuong Thok

Standard/Reference used for z-score calculation: WHO standards 2006

(Flagged data is included in the evaluation.)

Overall data quality

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	**Score**
Flagged data	Incl	%	0-2.5	>2.5-5.0	>5.0-7.5	>7.5	
(% of in-range subjects)			0	5	10	20	**0** (2.1 %)
Overall Sex ratio	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.558)
Overall Age distrib	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**4** (p=0.002)

Dig pref score - weight	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (5)
Dig pref score - height	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**4** (16)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (4)
Standard Dev WHZ	Excl	SD	<1.1 and	<1.15 and	<1.20 and	>=1.20 or	
.							
.	Excl	SD	>0.9	>0.85	>0.80	<=0.80	
			0	2	6	20	**0** (0.98)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**0** (-0.06)
Kurtosis WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**0** (0.09)
Poisson dist WHZ-2	Excl	p	>0.05	>0.01	>0.001	<=0.001	
			0	1	3	5	**0** (p=0.238)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	**8** %

The overall score of this survey is 8 %, this is excellent.

11.2 Appendix 2 – Assignment of Clusters

Assignment of Clusters-Yida

Geographical unit	Population size	Cluster
Angolo	9939	1,2,3,4,RC,5
Umdoreen	6999	6,RC,7,8
Toloji	4233	9,10
Fama	3534	11,12
Safaya	3455	13,14
Dar	3276	15
Tira	3251	16,17
Mazarig	2634	18,19
Damam	2540	20
Tabanya	2451	21
Tess	2428	22,23
Katcha	2192	RC
Boram	1649	24
Kululu	1616	25
Atoro	1561	26
Tolodi	1214	
Umshuran	1023	27
Tarawi	979	
Doloka	955	28
Reka	933	
Lera	890	29
Tuna	863	
Saraf Jamusi	826	RC

Kurungo Abdalla	772	
Abu Hashim	739	30
Tora	688	
Kawalib	687	
Kutang	655	31
Mashisha	612	
Dabatika Shatt	576	
Tuku	564	32
Safaya Noss	501	
Taballa	486	
Keiga	478	33
Lagawa/Gharbia	471	
Miri	429	
Darfur	395	
Harjer Naba	380	
Kafina	361	34
Sabore	356	
Dilling	326	
Alliri	322	
Bilenya	313	
Faruk	293	35
Tafare	233	
Tuma	173	
Werni	158	
Chururu	158	
Damba	154	
Shawaja	152	
Tillo	130	
Safaya Guluk	114	

Assignment of Clusters-Ajuong Thok

Geographical unit	Population size	Cluster
Block 17	519	1
Block 15	485	2,3
Block 13	484	RC
Block 31	456	4
Block 18	448	5,6
Block 8	429	7
Block 24	426	8
Block 12	413	9
Block 30	411	10,11
Block 16	408	12

Block 35	407	13
Block 22	407	14
Block 19	404	15
Block 27	391	16
Block 23	387	17,18
Block 26	383	19
Block 20	381	20
Block 9	379	21
Block 11	375	22
Block 10	372	23
Block 14	365	RC
Block 29	361	24
Block 4	362	25
Block 3	356	26
Block 21	349	27
Block 36	345	28
Block 32	344	RC
Block 28	338	29
Block 1	335	30
Block 34	334	31
Block 7	332	32
Block 2	327	33
Block 5	314	34
Block 25	309	35
Block 33	309	36
Block 6	305	RC

11.3 Appendix 3 – Anthropometry Resusts NCHS Reference

Result Tables for NCHS growth reference 1977 – Yida

Table89: Prevalence of Acute Malnutrition Based On Weight-For-Height Z-Scores (and/or Oedema) and By Sex

	All n = 762	**Boys** n = 383	**Girls** n = 379
Prevalence of global malnutrition (<-2 z-score and/or oedema)	(54) 7.1 % (5.6 - 8.9 95% C.I.)	(20) 5.2 % (3.6 - 7.6 95% C.I.)	(34) 9.0 % (6.8 - 11.7 95% C.I.)
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no oedema)	(48) 6.3 % (5.0 - 7.9 95% C.I.)	(18) 4.7 % (3.1 - 7.1 95% C.I.)	(30) 7.9 % (5.9 - 10.6 95% C.I.)
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(6) 0.8 % (0.4 - 1.7 95% C.I.)	(2) 0.5 % (0.1 - 2.1 95% C.I.)	(4) 1.1 % (0.4 - 2.7 95% C.I.)

The prevalence of oedema is 0.0%

Table 90: Prevalence of Acute Malnutrition by Age, Based On Weight-For-Height Z-Scores and/or oedema

		Severe wasting (<-3 z-score)		Moderate wasting (>= -3 and <-2 z-score)		Normal (> = -2 z score)		Oedema	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	211	5	2.4	21	10.0	185	87.7	0	0.0
18-29	185	1	0.5	14	7.6	170	91.9	0	0.0
30-41	161	0	0.0	5	3.1	156	96.9	0	0.0
42-53	136	0	0.0	4	2.9	132	97.1	0	0.0
54-59	69	0	0.0	4	5.8	65	94.2	0	0.0
Total	762	6	0.8	48	6.3	708	92.9	0	0.0

Table 91: Distribution of Severe Acute Malnutrition and Oedema Based On Weight-For-Height Z-Scores

	<-3 z-score	**>=-3 z-score**
Oedema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Oedema absent	Marasmic No. 13 (1.7 %)	Not severely malnourished No. 763 (98.3 %)

Table 92: Prevalence of Acute Malnutrition Based On the Percentage of the Median and/or Oedema (Using the NCHS Growth Reference)

	n = 762
Prevalence of global acute malnutrition (<80% and/or oedema)	(26) 3.4 % (2.4 - 4.9 95% C.I.)
Prevalence of moderate acute malnutrition (<80% and >= 70%, no oedema)	(24) 3.1 % (2.2 - 4.6 95% C.I.)
Prevalence of severe acute malnutrition (<70% and/or oedema)	(2) 0.3 % (0.1 - 1.1 95% C.I.)

Table 93: Prevalence of Malnutrition by Age, Based On Weight-For-Height Percentage Of The Median And Oedema (Using The NCHS Growth Reference)

		Severe wasting (<70% median)		Moderate wasting (>=70% and <80% median)		Normal (> =80% median)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-17	211	2	0.9	10	4.7	199	94.3	0	0.0
18-29	185	0	0.0	10	5.4	175	94.6	0	0.0
30-41	161	0	0.0	2	1.2	159	98.8	0	0.0
42-53	136	0	0.0	0	0.0	136	100.0	0	0.0
54-59	69	0	0.0	2	2.9	67	97.1	0	0.0
Total	762	2	0.3	24	3.1	736	96.6	0	0.0

Table 94: Prevalence of Underweight Based On Weight-For-Age Z-Scores By Sex

	All n = 769	Boys n = 388	Girls n = 381
Prevalence of underweight (<-2 z-score)	(129) 16.8 % (14.0 - 19.9 95% C.I.)	(66) 17.0 % (13.2 - 21.7 95% C.I.)	(63) 16.5 % (13.2 - 20.4 95% C.I.)
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(115) 15.0 % (12.6 - 17.7 95% C.I.)	(60) 15.5 % (11.9 - 19.8 95% C.I.)	(55) 14.4 % (11.4 - 18.1 95% C.I.)
Prevalence of severe underweight (<-3 z-score)	(14) 1.8 % (0.9 - 3.7 95% C.I.)	(6) 1.5 % (0.6 - 4.2 95% C.I.)	(8) 2.1 % (0.9 - 5.1 95% C.I.)

Table 95: Prevalence of Stunting Based On Height-For-Age Z-Scores and By Sex

	All n = 752	Boys n = 382	Girls n = 370
Prevalence of stunting (<-2 z-score)	(156) 20.7 % (17.1 - 24.9 95% C.I.)	(99) 25.9 % (21.1 - 31.4 95% C.I.)	(57) 15.4 % (11.5 - 20.3 95% C.I.)
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(126) 16.8 % (13.7 - 20.3 95% C.I.)	(79) 20.7 % (16.5 - 25.7 95% C.I.)	(47) 12.7 % (9.3 - 17.1 95% C.I.)
Prevalence of severe stunting (<-3 z-score)	(30) 4.0 % (2.6 - 6.0 95% C.I.)	(20) 5.2 % (3.4 - 8.0 95% C.I.)	(10) 2.7 % (1.2 - 6.0 95% C.I.)

Table 96: Prevalence of Stunting By Age Based On Height-For-Age Z-Scores

		Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	208	5	2.4	28	13.5	175	84.1
18-29	183	4	2.2	38	20.8	141	77.0
30-41	156	6	3.8	25	16.0	125	80.1
42-53	135	11	8.1	20	14.8	104	77.0
54-59	70	4	5.7	15	21.4	51	72.9
Total	752	30	4.0	126	16.8	596	79.3

Table 97: Mean Z-Scores, Design Effects and Excluded Subjects

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	762	-0.65±0.93	1.00	0	14
Weight-for-Age	769	-1.02±1.04	1.15	0	7
Height-for-Age	752	-0.79±1.32	1.67	0	24

Result Tables for NCHS growth reference 1977 – Ajuong Thok

Table 98: Prevalence of Acute Malnutrition Based On Weight-For-Height Z-Scores (and/or Oedema) and By Sex

	All N = 646	**Boys N = 331**	**Girls N = 315**
Prevalence Of Global Malnutrition (<-2 Z-Score and/or Oedema)	(31) 4.8 % (3.2 - 7.1 95% C.I.)	(21) 6.3 % (4.0 - 9.8 95% C.I.)	(10) 3.2 % (1.7 - 5.7 95% C.I.)
Prevalence Of Moderate Malnutrition (<-2 Z-Score And >=-3 Z-Score, No Oedema)	(23) 3.6 % (2.4 - 5.3 95% C.I.)	(15) 4.5 % (2.6 - 7.9 95% C.I.)	(8) 2.5 % (1.3 - 5.1 95% C.I.)
Prevalence Of Severe Malnutrition (<-3 Z-Score and/or Oedema)	(8) 1.2 % (0.6 - 2.6 95% C.I.)	(6) 1.8 % (0.8 - 3.8 95% C.I.)	(2) 0.6 % (0.2 - 2.6 95% C.I.)

The prevalence of oedema is 0.0 %

Table 99: Prevalence of Acute Malnutrition by Age, Based On Weight-For-Height Z-Scores and/or Oedema

		Severe Wasting (<-3 Z-Score)		**Moderate Wasting (>= -3 And <-2 Z-Score)**		**Normal (> = -2 Z Score)**		**Oedema**	
Age (Mo)	**Total No.**	No.	%	No.	%	No.	%	No.	%
6-17	**182**	5	2.7	12	6.6	165	90.7	0	0.0
18-29	**138**	1	0.7	8	5.8	129	93.5	0	0.0
30-41	**156**	2	1.3	2	1.3	152	97.4	0	0.0
42-53	**113**	0	0.0	0	0.0	113	100.0	0	0.0
54-59	**57**	0	0.0	1	1.8	56	98.2	0	0.0
Total	**646**	8	1.2	23	3.6	615	95.2	0	0.0

Table 100: Distribution of Acute Malnutrition and Oedema Based On Weight-For-Height Z-Scores

	<-3 Z-SCORE	>=-3 Z-SCORE
Oedema Present	Marasmic Kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Oedema Absent	Marasmic No. 14 (2.1 %)	Not Severely Malnourished No. 641 (97.9 %)

Table 101: Prevalence of Acute Malnutrition Based On MUAC Cut Off's (and/or Oedema) and By Sex

	ALL N = 655	BOYS N = 335	GIRLS N = 320
PREVALENCE OF GLOBAL MALNUTRITION (< 125 MM AND/OR OEDEMA)	(27) 4.1 % (2.7 - 6.3 95% C.I.)	(16) 4.8 % (2.7 - 8.3 95% C.I.)	(11) 3.4 % (1.7 - 6.7 95% C.I.)
PREVALENCE OF MODERATE MALNUTRITION (< 125 MM AND >= 115 MM, NO OEDEMA)	(22) 3.4 % (2.1 - 5.4 95% C.I.)	(12) 3.6 % (1.9 - 6.8 95% C.I.)	(10) 3.1 % (1.6 - 6.1 95% C.I.)
PREVALENCE OF SEVERE MALNUTRITION (< 115 MM AND/OR OEDEMA)	(5) 0.8 % (0.2 - 2.5 95% C.I.)	(4) 1.2 % (0.3 - 4.8 95% C.I.)	(1) 0.3 % (0.0 - 2.3 95% C.I.)

Table 102: Prevalence of Acute Malnutrition By Age, Based On MUAC Cut Off's and/or Oedema

		SEVERE WASTING (< 115 MM)		MODERATE WASTING (>= 115 MM AND < 125 MM)		NORMAL (> = 125 MM)		OEDEMA	
AGE (MO)	TOTAL NO.	NO.	%	NO.	%	NO.	%	NO.	%
6-17	187	5	2.7	15	8.0	167	89.3	0	0.0
18-29	140	0	0.0	4	2.9	136	97.1	0	0.0
30-41	157	0	0.0	3	1.9	154	98.1	0	0.0
42-53	114	0	0.0	0	0.0	114	100.0	0	0.0
54-59	57	0	0.0	0	0.0	57	100.0	0	0.0
TOTAL	655	5	0.8	22	3.4	628	95.9	0	0.0

Table 103: Prevalence of Acute Malnutrition Based On the Percentage of the Median and/or Oedema

	N = 646
PREVALENCE OF GLOBAL ACUTE MALNUTRITION (<80% AND/OR OEDEMA)	**(16) 2.5 % (1.4 - 4.3 95% C.I.)**
PREVALENCE OF MODERATE ACUTE MALNUTRITION (<80% AND >= 70%, NO OEDEMA)	**(16) 2.5 % (1.4 - 4.3 95% C.I.)**
PREVALENCE OF SEVERE ACUTE MALNUTRITION (<70% AND/OR OEDEMA)	**(0) 0.0 % (0.0 - 0.0 95% C.I.)**

Table 104: Prevalence of Acute Malnutrition by Age, Based On Weight-For-Height Percentage of the Median and Oedema

		Severe Wasting (<70% Median)		**Moderate Wasting (>=70% And <80% Median)**		**Normal (> =80% Median)**		**Oedema**	
Age (Mo)	**Total No.**	No.	%	No.	%	No.	%	No.	%
6-17	**182**	0	0.0	10	5.5	172	94.5	0	0.0
18-29	**138**	0	0.0	3	2.2	135	97.8	0	0.0
30-41	**156**	0	0.0	3	1.9	153	98.1	0	0.0
42-53	**113**	0	0.0	0	0.0	113	100.0	0	0.0
54-59	**57**	0	0.0	0	0.0	57	100.0	0	0.0
Total	**646**	0	0.0	16	2.5	630	97.5	0	0.0

Table 105: Prevalence of Underweight Based On Weight-For-Age Z-Scores by Sex

	All N = 650	Boys N = 334	Girls N = 316
Prevalence Of Underweight (<-2 Z-Score)	(99) 15.2 % (12.5 - 18.4 95% C.I.)	(64) 19.2 % (15.0 - 24.1 95% C.I.)	(35) 11.1 % (8.3 - 14.6 95% C.I.)
Prevalence Of Moderate Underweight (<-2 Z-Score And >=-3 Z-Score)	(93) 14.3 % (11.7 - 17.3 95% C.I.)	(60) 18.0 % (14.0 - 22.8 95% C.I.)	(33) 10.4 % (7.9 - 13.6 95% C.I.)
Prevalence Of Severe Underweight (<-3 Z-Score)	(6) 0.9 % (0.4 - 2.0 95% C.I.)	(4) 1.2 % (0.5 - 3.1 95% C.I.)	(2) 0.6 % (0.2 - 2.6 95% C.I.)

Table 106: Prevalence of Underweight by Age, Based On Weight-For-Age Z-Scores

		Severe Underweight (<-3 Z-Score)		Moderate Underweight (>= -3 And <-2 Z-Score)		Normal (> = -2 Z Score)		Oedema	
Age (Mo)	**Total No.**	No.	%	No.	%	No.	%	No.	%
6-17	**182**	1	0.5	44	24.2	137	75.3	0	0.0
18-29	**140**	3	2.1	24	17.1	113	80.7	0	0.0
30-41	**157**	2	1.3	14	8.9	141	89.8	0	0.0
42-53	**114**	0	0.0	7	6.1	107	93.9	0	0.0
54-59	**57**	0	0.0	4	7.0	53	93.0	0	0.0
Total	**650**	6	0.9	93	14.3	551	84.8	0	0.0

Table 107: Prevalence of Stunting Based On Height-For-Age Z-Scores and By Sex

	All N = 642	Boys N = 328	Girls N = 314
Prevalence Of Stunting (<-2 Z-Score)	(100) 15.6 % (12.9 - 18.6 95% C.I.)	(52) 15.9 % (12.4 - 20.1 95% C.I.)	(48) 15.3 % (11.9 - 19.5 95% C.I.)
Prevalence Of Moderate Stunting (<-2 Z-Score And >=-3 Z-Score)	(79) 12.3 % (9.8 - 15.3 95% C.I.)	(40) 12.2 % (8.9 - 16.5 95% C.I.)	(39) 12.4 % (9.3 - 16.4 95% C.I.)
Prevalence Of Severe Stunting (<-3 Z-Score)	(21) 3.3 % (2.1 - 5.0 95% C.I.)	(12) 3.7 % (2.1 - 6.4 95% C.I.)	(9) 2.9 % (1.5 - 5.3 95% C.I.)

Table 108: Prevalence of Stunting By Age Based On Height-For-Age Z-Scores

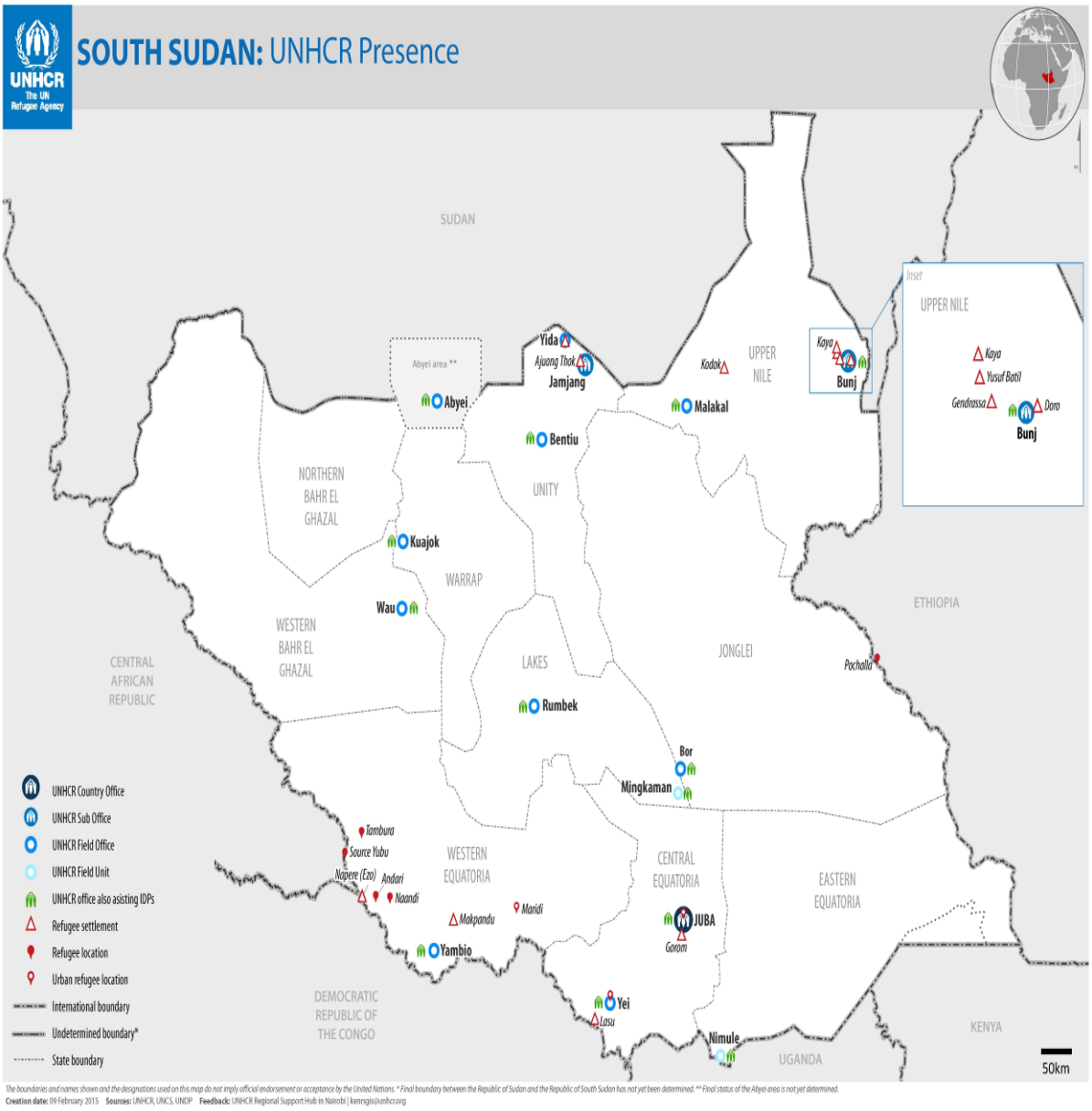
		Severe Stunting (<-3 Z-Score)		**Moderate Stunting (>= -3 And <-2 Z-Score)**		**Normal (> = -2 Z Score)**	
Age (Mo)	**Total No.**	NO.	%	NO.	%	NO.	%
6-17	**182**	3	1.6	16	8.8	163	89.6
18-29	**136**	3	2.2	23	16.9	110	80.9
30-41	**154**	7	4.5	14	9.1	133	86.4
42-53	**113**	7	6.2	19	16.8	87	77.0
54-59	**57**	1	1.8	7	12.3	49	86.0
Total	**642**	21	3.3	79	12.3	542	84.4

Table 109: Mean z-scores, Design Effects and excluded subjects

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	646	-0.50±0.92	1.21	0	9
Weight-for-Age	650	-0.93±1.00	1.08	0	5
Height-for-Age	642	-0.79±1.24	1.00	0	13

* contains for WHZ and WAZ the children with oedema.

11.4 *Appendix 4 – Map of Area*



11.5 *Appendix 5 - Questionnaires*

UNHCR Standardised Expanded Nutrition Survey (SENS) Questionnaire	المفوضية الموحد مسح التغذية الموسعة (SENS) استبيان
Greeting and reading of rights: THIS STATEMENT IS TO BE READ TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSE BEFORE THE INTERVIEW. DEFINE A HOUSEHOLD AS A GROUP OF PEOPLE WHO LIVE TOGETHER AND ROUTINELY EAT OUT OF SAME POT. DEFINE HEAD OF HOUSEHOLD AS MEMBER OF THE FAMILY WHO MANAGES THE FAMILY RESOURCES AND IS THE FINAL DECISION MAKER IN THE HOUSE.	**تحية وقراءة من الحقوق** هذا البيان هو أن تقرا قبل المقابلة لربة الاسرة أو إذا ما غاب أو عضو آخر البالغين من البيت.تعريف سكان لبيت مجموعة من الناس الذين يعيشون معا ويأكلون بشكل روتيني فى قدر او (هال) واحد تعريف مسؤول اوربة البيت فرد من أفراد الأسرة الذي يدير موارد الأسرة وهو صانع القرار النهائي فى البيت. :
Hello, my name is _____ and I work with *[UNHCR*]. We would like to invite your household to participate in a survey that is looking at the nutrition and health status of people living in this camp. • UNHCR is sponsoring this nutrition survey. • Taking part in this survey is totally your choice. You can decide to not participate, or if you do participate you can stop taking part in this survey at any time for any reason. If you stop being in this survey, it will not have any negative effects on how you or your household is treated or what aid you receive. • If you agree to participate, I will ask you some questions about your family and I will also measure the weight and height of all the children in the household who are older than 6 months and younger than 5 years In addition to these assessments, I will test a small amount of blood from the finger of the children and women to see if they have anaemia. • Before we start to ask you any questions or take any measurements, we will ask you to state your consent on this form. Be assured that any information that you will provide will be kept strictly confidential. • You can ask me any questions that you have about this survey before you decided to participate or not. • If you do not understand the information or if your questions were not answered to your satisfaction, do not declare your consent on this form. Thank you.	مرحبا، اسمي _____ وأنا أعمل مع [المفوضية]. نود أن ندعو أهل بيتك للمشاركة في الدراسة أن تبحث في الحالة الغذائية والصحية للناس الذين يعيشون في هذا المخيم. • المفوضية في رعاية هذا المسح التغذوي. • المشاركة في هذا المسح هو تماما اختيارك. يمكنك أن تقرر عدم المشاركة، أو إذا كنت تفعل المشاركة يمكنك إيقاف المشاركة في هذا المسح في أي وقت ولأي سبب. إذا كنت تتوقف عن أن تكون في هذه الدراسة، فإنه لن يكون لها أي تأثير سلبي على كيفية التعامل معك أو أسرتك أو ما تلقي المساعدات لك. • إذا كنت توافق على المشاركة، وسوف أسألك بعض الأسئلة عن عائلتك وسوف أيضا قياس الوزن والطول للأطفال كل في الأسرة الذين هم أكبر سنا من 6 أشهر والذين تقل أعمارهم عن 5 سنوات بالإضافة إلى هذه التقييمات، I سيتم اختبار كمية صغيرة من الدم من الاصبع من الأطفال والنساء لمعرفة إذا كان لديهم فقر الدم. • قبل أن نبدأ أن أطلب منكم أي أسئلة أو اتخاذ أي قياسات، سوف نطلب منك موافقتك على الدولة هذا النموذج. التأكد من أن أي وستبقى المعلومات التي سوف تقدم في سرية تامة. • يمكنك أن تسأل أي سؤال لي أن لديك حول

SENS- MORTALITY QUESTIONNAIRE (One questionnaire per HH)

Date (dd/mm/yyyy) / يوم مقابلة:	**Camp**المعسكرة	**Cheikh/Boma…….**	**Block/Code Number/**رغم مربع
|___|___|/|___|___|/|___|___||___|___|	Doro=1, Yusuf Batil =2 , Gendrassa=3 , Jammam=4 , Yida=5 |___|	|___||___|___|	|___||___|___|
Cluster Number(*in cluster survey only*)……	**HH Number**رغم ربة البيت	**House/Tent Number** رغم خيمة/بيت	**Team Number**رغم فريق
|___|___|	|___|___||___|___|	|___|___||___|___|	|___|

#	**COL1**1مربع	**COL2**	**COL3**	**COL4**	**COL5**	**COL6**
	NAME اسم	SEX نوع /زكر/انثى M/F	AGE IF **≥5 YRS** 5<سنة **UNIT:** وحدة **YRS**	AGE IF **< 5 YRS** 5>سنة ازا **SPECIFY UNIT:** حدد الوحدة **DAYS / MONTHS / YRS** يوم /شهر/سنة	BORN BETWEEN **LAST 3 MONTHS** AND TODAY تم ميالد فى بين واليوم (ازكر اليوم) **(Y/N)**	JOINED HOUSEHOLD BETWEEN **END (3 MONTHS)** AND TODAY **بيت مزدوزة بين اخر و اليوم(Y/N)**
A.	**LIST ALL MEMBERS WHO ARE CURRENTLY LIVING IN THIS HOUSEHOLD AND EATING FROM THE SAME POT**(قدر)سجل كل اعضاء الزين يسكنون الان فى هزى البيت وياكلون فى نفس هلا					
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
B.	**DID ANY MEMBERS OF THE HOUSEHOLD LEAVE BETWEEN LAST 3 MONTHS AND TODAY? IF SO LIST THEM** هل اعضاء البيت يسكن بين نهيابة (ازكر اليوم) و اليوم ازا نعم سجلهم					
01						
02						
03						

C. DID ANY MEMBERS OF THE HOUSEHOLD DIE BETWEEN LAST 3 MONTHS AND TODAY? IF SO LIST THEM هل العضاء البيت يموتون بين نهاية(ازكر اليوم)واليوم؟ازا نعم سجلهم						
01						
02						

MORTALITY SUMMARY (for supervisor only) (خلاصة الوفيات (خاص لمشرف

		TOTAL الجملة	**Under 5** 5 تحت
1. Members present now يقدم الاعضاء الان	**A.** COL **1**		
2. Joined household between last 3 months) and today بين الانضمام الى العائلة قبل 3 شهور و اليوم	**A**. COL **6**		
3. Members that left the household between last 3 months) and today الاعضاء الذين تركوا العائلة قبل 3 شهور و اليوم	**B**. COL **1**		
4. Births between last 3 months) and today بين المواليد قبل 3 شهور و اليوم	**A, B**. COL **5**		
5. Deaths between last 3 months) and today بين الاموات قبل 3 شهور و اليوم	**C**. COL **1**		

NB:

- Household members are defined as members who are living together *in the camp* and who are eating from the same cooking الاعضاء البيت هم الزين يسكنون فى معسكرة وياكلون فى نفس اكل
- Members of the household present now are the members who slept in the household last night. Members of the household who slept here last night but who are away today to the market/elsewhere and will return before the end of the day should be listed here also. الاعضاء البيت الموجدين الان و نامو فى البيت فى الليل الماضيى وايضا الاضاء البيت الزين نامو فى البيت فى ليل الماضى وزهبوا الى شوق وسوف يعودون قبل نهية اليوم يمكن تسجيل ايضا
- A child who was born and dead during the recall period is counted as a death only when entering data in ENA (SMART Version 1, April 2006). الطفل الزى تم ميلادة و مات خلال فترة زكر يمكن تسجلة كلا ميت

SENS CHILDREN 6-59 QUESTIONNAIRE

If child is less than 6 months stop at the dark line (CH6) and proceed to IYCF.

Date of interview (dd/mm/yyyy): التاريخ المقابلة يوم/شهر/سنة |___|___|/|___|___|/|___|___|___|___|					**Cluster Number (*in cluster survey only*)** رغم المجموع |___|___|						**Team number** رغم الفريق |___|			
CH1	**CH2**	**CH3**	**CH4**	**CH5**	**CH6**	**CH7**	**CH8**	**CH9**	**CH10**	**CH11**	**CH12**	**CH13**	**CH14**	**CH 15**	**CH16**
ID البطاقة	**HH ربة البيت**	**Consent الموفقة given** 1=yes نعم 2=no لا 3=absent غاٮب	**Sex** نوع (m/f) **زكر/انثى**	**Birthdate* تاريخ الميلاد** dd/mm/yyyy يوم/شهر/سنة	**Age*** * سنة (شهور) ((months)	**Weight وزن**(kg) ±100g -جرام100 +	**Height طول (سنتمتر)**(cm) ±0.1cm	**Oedema وزمة الامعاء** (y/n)	**MUAC مقياس يد الاعلى** (mm)	**Child enrolled الطفل المسجل** 1=SFP الكل الاضافى 2=TFP الكل اللعلاج 3=None لاثيىئ	**Measles الحصبة** 1=yes card نعم لى بطاقة 2=yes recall نعم ازكر 3=no or don't know لا عرف	**Vit. A in past 6 فيتامين ا فى فتر 6شهور أ months** (show capsule) 1=yes card نعم لى بطاقة 2=yes recall نعم ازكر 3=no or don't know لا اعرف	**Diarrhoea in past 2 weeks اسهلات خلال فترة 2اسبوع الماضية** 1=yes نعم 2=no لا 8=DK لا اعرف	**DPT3/ Penta 3** 1=yes card ذ عم ب طاقة لى 2=yes recall ذ عم ازكر 3=no or don't know لا عرف	**Hb** *(g/dL)*
01				/ /											
02				/ /											
03				/ /											
04				/ /											
05				/ /											
06				/ /											
07				/ /											
08				/ /											
09				/ /											

*The exact birth date should only be taken from an age documentation showing day, month and year of birth. It is only recorded if an official age documentation is available; if the mother recalls the exact date, this is not considered to be reliable enough. **Leave blank if no official age documentation is available.**

**If no age documentation is available, estimate age using local event calendar. If an official age documentation is available, record the age in months from the date of birth.

الالواثائق فية التاريخ/شهر/سنة الميلاد ازا يوجد سجل الواثائق الرسمية ولا تسجل حتى لوالام يتزكر التاريخ الميلاد اترك خالية ازا الوثائق رسمية غير موجود.وازا لا توجد وثائق الميلاد خمن حسب حواديث المحلى. وازا سجل موجود التاريخ ا سجل

SENS IYCF Questionnaire

No	QUESTION الاسئللة	ANSWER CODES الجابات	
SECTION IF1			
IF1	Sex نوع	Male زكر ..... 1 Female انثى 2	|___|
IF2	Birthdate التاريخ الميلاد RECORD FROM AGE DOCUMENTATION. LEAVE BLANK IF NO VALID AGE DOCUMENTATION سجل من وثيق	Day/Month/Year……|__|__| /|__|__| / |__|__|__|__| **يوم/شهر/سنة**	
IF3	Child's age in months سنة الطفل فى شهر	IF AGE DOCUMENTATION NOT AVAILABLE, ESTIMATE USING EVENT CALENDAR. IF AGE DOCUMENTATION AVAILABLE, RECORD THE AGE IN MONTHS FROM THE DATE OF BIRTH *ازا لا توجد وثقةتاريخ الميلاد خمن التارغ خلال حدث فى المحلى*	|__|__|
IF4	Has [NAME] ever been breastfed? هل (الاسم) دائما يرضى	Yes نعم..... 1 No لا.....2 DK لا اعرف 8	|__| **IF ANSWER IS 2 or 8 GO TO IF7**
IF5	How long after birth did you first put [NAME] to the breast? بعد الميلاد مباشراً كم من زمن رضيض الطفل؟	Less than one hour بعد اقل من ساعة ..... 1 Between 1 and 23 hours بين 1 و 23 ساعة .....2 More than 24 hours اكثر من 24 ساعة .....3 DK لا اعرف 8	|__|
IF6	Was [NAME] breastfed yesterday during the day or at night? هل رضيض الفللك خلال نهار ام الليل؟	Yes نعم ..... 1 No لا .....2 DK لا اعرف 8	|__|
SECTION IF2			

IF7 Now I would like to ask you about liquids that [NAME] may have had yesterday during the day and at night. I am interested in whether your child had the item even if it was combined with other foods. Yesterday, during the day or at night, did [NAME] receive any of the following?
الان اريد اسال عن السائل ممكن اخزت خلال النهار امس و فى ليل.لى رغبة لمعرفة ازا طفلك لة مواد حتلا لو مغلوط مع بعض من اكل خلال يوم او ليل امس(اسم) هل استلام بعض من مزكورة:

ASK ABOUT EVERY LIQUID. IF ITEM WAS GIVEN, CIRCLE '1'. IF ITEM WAS NOT GIVEN, CIRCLE '2'. IF CAREGIVER DOESN'T KNOW, CIRCLE '8'. EVERY LINE MUST HAVE A CODE.
اسال عن السائل ازا اخزوا ضع دئرة فى (1) و ازا لم تاخز ضع دئرة فى (2) و ام ازا لاعرف ضع دئرة فى (8)

		Yes	No	DK
7A.	Plain water مياة السهل	7A……1	2	8
7B.	Infant formula: for example (Libto Mama)] طفل مرضيى على سبيل المثال اضيف عيش الماحلى من اكل قوى غير قوى(مبتومامة, لبتونيل)	7B……1	2	8
7C.	Milk such as tinned, powdered, or fresh animal milk: for example (Nido, Formost) لبن علبة المجفيف او لحم حيوان طازج على سبيل المثل اضيف بعض لبن علب	7C……1	2	8
7D.	Juice or juice drinks (Gungules-Aradeb, Kedem) عصير او مشروب عصير اضيف مشروبات المحلى (قنفوليس, اريديب, قديم) .	7D……1	2	8
7E.	Clear broth or Soup مرق الصافى	7E……1	2	8
7F.	Sour milk or yogurt for example: (Zabadi , Roob) لبن حامض (زبادي , روب)	7F……1	2	8
7G.	Thin porridge for example: (Medida Khafif) **نثة خفيف ازكر اسم المحلى** (مديدة خفيف)	7G……1	2	8
7H.	Tea or coffee with milk الشاى لبن او قهوة	7H……1	2	8

	7I. Any other water-based liquids (kastar), Serilak): for example sodas, other sweet drinks, herbal infusion, gripe water, clear tea with no milk, black coffee, ritual fluids ازكر بعض من السوائل مثل مشروبات غازية و مشرونبا ت الشاى خالى من لبن مشروبات الحلوة مشروبات عشبية	7I……..……1	2 8
IF8	Yesterday, during the day or at night, did [NAME] eat solid or semi-solid (soft, mushy) food? امس خلال اليوم او اليل هل (اسم) اكلت اكل صلب ام شبة صلب (لين عصبى)	Yesنعم……..….1 No لا ……..2 DK… لااعرف……..8	|___|
SECTION IF3			
IF9	Did [NAME] drink anything from a bottle with a nipple yesterday during the day or at night? هل (اسم) شرب اى شئ من زجاج لة حلمةا امس خلال النها ر او اليل	Yes نعم.....1 No لا ……..…….2 DK لا اعرف ……..…….8	|___|
SECTION IF4			
IF10	Is child aged 6-23 months? هل طفلك عمره 6-23 شهر REFER TO IF2	Yes نعم ……...……1 Noلا ……..…….2	|___| **IF ANSWER IS 2 STOP NOW** **ازا اللجا بة 2 قف الان**

IF11 Now I would like to ask you about some particular foods [NAME] may eat. I am interested in whether your child had the item even if it was combined with other foods. Yesterday, during the day or at night, did [NAME] consume any of the following?
الان اريد عن اسا ل بعض غزاء ت (اسم)توكل طفلك لة هزى المواد حتى لو مخلوت مع اغزية اخرى امس خلال اليل او نها ر (اسم) يا كل التا لي:

ASK ABOUT EVERY ITEM. IF ITEM WAS GIVEN,CIRCLE '1'. IF ITEM WAS NOT GIVEN, CIRCLE '2'. IF CAREGIVER DOESN'T KNOW, CIRCLE '8'. EVERY LINE MUST HAVE A CODE.
اسا ل كل المواد ازا المواد قد ضع دائرة (1)ازا المواداعطى دائرة (2)و ازا لم تعرف ضع دائرة (8) كل خطوط عن تكن لة رمز

IF12

		Yes	No	DK
11A. **Flesh foods** for example: beef, goat, lamb, mutton, pork, rabbit, chicken, duck, liver, kidney, heart غزاء لحمى (سجل كل لحم العا مة مثل سمك دجاج وكبد)على سبيل مثا ل لحم بقر ضا ن بط ارنب لحم خنزير كبد كلية	11A…….....1	2	8
11B CSB+ Premix الغزاء المخلوتة وقوى وسجل الموجود فى المنطقة	11B……..……1	2	8
11C. **FBF++** : for example CSB++ الغزاء القوى مثل زرة وفول صويا	11C…….....1	2	8
11D. **RUTF** : for example Plumpy'Nut® (SHOW SACHET) الجاهزة يسد تعامل فى العلاج سجل هزى الغزذية المحلى الغزاء	11D……..…1	2	8
11E. **RUSF** : for example Plumpy'Sup® (SHOW SACHET) لمحلى دالاضافى سجل هزة الكل الموجو الك الجاهزة	11E……..…1	2	8
	11F……..…1	2	8
11G. Infant formula: for example Libto Mama . االقوى لوصفة الطفل الرضى ازكر بعض من هزة اسماء الغزذية الحديدى	11G……..……..…….....1	2	8
11H. **List any *iron fortified* solid, semi-solid or soft foods designed specifically for infants and young children available in the local setting that are different than distributed commodities. سجل زي بعض الغزذي شبة صلب لين المصنع لاط فال والاط فال يرضى الموجون فى المنطقة ولة فرق من الغ و صلب او**	11H……..……..…….....1	2	8

SENS QUESTIONNAIRE Women 15-49 years
الاسـاء 15-49

Date of interview (dd/mm/yyyy): لـ تاريـ غ الـمـ قابـ ل |___|___|___|___|/|___|___|/|___|___|	**Cluster Number (*in cluster survey only*)** الـمجموع ذمرة |___|___|	**Team number** |___|الـ فريـ ق رغم

WM1	**WM2**	**WM3**	**WM4**	**WM5**	**WM6**	**WM7**	**WM8**
ID **الـ بطا قة**	**HH** **ربـ ة الـ بـ يت**	**Consent given** **الـ قـ بول اعطى** 1=yes نعم 2=no لا 3=absent الغائب	**Age** **العمر (السنة)** (years)	**Are you pregnant? هل انـ ت حامل** 1=yes ذ عم 2=no لا (GO TO WM 8) 8=DK لااعرف (GO TO WM 8)	**Are you currently <u>enrolled</u> in the ANC programme?** هل سجلت فى برنامج المؤتمر الوطنى الافريقى 1=yes 2=no (If no, STOP) 8=DK (If DK, STOP)	**Are you currently <u>receiving</u> iron-folate pills (*SHOW PILL*)?** **تستلم حبوب حامض الفوليك الحديدية حاليا** 1=yes (STOP NOW) قف الان 2=no (STOP NOW) قف الان 8=DK (STOP NOW) قف الان	**فـ قر الـدمHb** (g/L or g/dL) **(Only for non-pregnant women)** فقط للنساء غير الحبلى
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							

WASH: 1 questionnaire per household *(*THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO THE MAIN CARETAKER OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD) *بحث عن الاسرة : او استفتاء لكل عائلة (هذا الاستفتاء سيكون النظام الادارى للعائلة للبالغين من العائلة*

No	QUESTION السؤال	ANSWER CODES رمز الاجابة	
SECTION WS1 القسم			
WS 1	How many people live in this household and slept here last night? كم عدد الافراد الذين قضوا هذه الليلة هنا ؟		|___|___|
WS 2	What is the ***main*** source of drinking water for members of your household? ADAPT LIST TO LOCAL SETTING BEFORE SURVEY. WHEN ADAPTING THE LIST, KEEP THE ORIGINAL ANSWER CODES AND DO NOT CHANGE. ما هى مصادر مياه الشرب لافراد لاسرنك ؟ DO NOT READ THE ANSWERS لا تقرأ الأجابة ؟ SELECT ONE ONLY أختر ا	Piped water.....01 الماء المزمر Public tap/standpipe.....02 الحنفية العامة Tubewell/borehole (& pump).....03 Protected dug well..... 04 الحلمة المحمية Protected spring .....05 الربيع المحمى Rain water collection .....06 مياه الامطار UNHCR Tanker .....07 ناقلة الماء Unprotected spring.....08 الحلمة الغير محمية Unprotected dug well.09 الربيعى غير المحمى Small water vendor.....10 ناقلة الماء الصغير Tanker truck.....11 ناقلة الماء الكبير Bottled water.....12 الماء المعبا Surface water (e.g. river, pond) 13 الماء السطحى Other.....96 اشياء اخرى Don't know.....98 لا اعلم	|___|___|
WS 3	Are you satisfied with the water supply? هل انت مستفيد من خدمات المياه ؟ THIS RELATES TO THE DRINKING WATER SUPPLY هذا طريقة لاستخدام تجهيز المياه الصالحة للشرب	Yes.....1 نعم No..... 2 لا Partially.....3 جزئيا Don't know.....8 لا اعلم	|___| **IF ANSWER IS 1, 3 OR 8 GO TO WS5**
WS 4	What is the ***main*** reason you are not satisfied with the water supply? ما هى الاسباب التى تجعلك لا تستفيد من خدمات المياه ADAPT LIST TO LOCAL SETTING BEFORE SURVEY. كيف يتم تحضير السكن قبل المسح الميدانى DO NOT READ THE ANSWERS لا تقرا الاجابة SELECT ONE ONLY اختر اجابة واحدة فقط	Not enough ..... 01 لا يكفى Long waiting queue..... 02 انتظار طويل للصف Long distance .....03 المسافة بعيدة Irregular supply.....04 التجهيز شاذ Bad taste ..... 05 الطعم السيئ Water too warm .....06 الماء الساخن Bad quality .....07 النوعية سئية Have to pay ..... 08 يجب ان تدفع Other.....96 اشياء اخرى Don't know..... 98 لا اعلم	|___|___|
WS	What kind of toilet facility does this	Flush to piped sewer system01 تدفق نظام البلاعة	

5	household use? اى نوع من المراحيض التى يتم استخدامها فى البيت ؟ ADAPT LIST TO LOCAL SETTING BEFORE SURVEY. WHEN ADAPTING THE LIST, KEEP THE ORIGINAL ANSWER CODES AND DO NOT CHANGE. بين قائمة السكن قبل المسح الميدانى و عندما يبين القائمة يبقى الاجابة الاصح و لا يتغير DO NOT READ THE ANSWERS لا تقرأ الاجابة SELECT ONE ONLY اختر اجابة واحدة فقط	الزمر Flush to septic system..... 02 - تدفق نظام النتك Pour-flush to pit .. 03 – صب الاحمرار التحريض VIP/simple pit latrine with floor/slab04 الحفرة فى الارض Composting/dry latrine..... 05 التسميد Flush or pour-flush elsewhere06 تدفق اة صب فى مكان اخر Pit latrine without floor/slab07 حفرة مرحاض بدون ارضية Service or bucket latrine ..... 08 صيانة سريعة للمرحاض Hanging toilet/latrine ..... 09 المرحاض معلق No facility, field, bush, plastic bag10 لا وسيلة , حقل , كيس بلاستيكى	|___|___| **IF ANSWER IS 10 GO TO WS7**
WS 6	How many ***households*** share this toilet? كم عدد الاسر الذين يشاركون فى مرحاض واحد ؟ THIS INCLUDES THE SURVEYED HOUSEHOLD هذا من ضمن العائلة الممسوحة	RECORD NUMBER OF HOUSEHOLDS IF KNOWN (RECORD 96 IF PUBLIC TOILET OR 98 IF UNKNOWN) عدد قياسى من العوائل المعروفة (يتم تسجيل 96 للمراحيض العامة و 98 للمجهولين)	|___|___| Households
		SUPERVISOR SELECT ONE ONLY يختار المشرف واحد فقط Not shared (**1 HH**) ..... 1 لا اشتراك Shared family (**2 HH**)..... 2 مشاركة العائلة Communal toilet (**3 HH or more**)3 المرحاض العام Public toilet (**in market or clinic etc**.)4 المرحاض العمومى Don't know..... 8 لا اعلم	|___|
WS 7	Do you have children under three years old? **هل لديك اطفال تحت الاعمار 3 سنة ؟**	Yes.....1 نعم No.....2 لا	|___| **IF ANSWER IS 2 GO TO WS9**
WS 8	The last time [NAME OF YOUNGEST CHILD] passed stools, what was done to dispose of the stools? DO NOT READ THE ANSWERS SELECT ONE ONLY	Child used toilet/latrine.....01 Put/rinsed into toilet or latrine.....02 Buried.....03 Thrown into garbage.....04 Put/rinsed into drain or ditch .....05 Left in the open.....06 Other.....96 Don't know 98	|___|___|

SECTION WS2 Observation Based Questions (*done after the initial questions to ensure the flow of the interview is not broken*)					
No	**OBSERVATION / QUESTION**	**ANSWER**			
WS9	CALCULATE THE TOTAL AMOUNT OF WATER USED BY THE HOUSEHOLD PER DAY THIS RELATES TO ALL SOURCES OF WATER (DRINKING WATER AND NON-DRINKING WATER SOURCES)	Please show me the containers you used yesterday for collecting water ASSIGN A NUMBER TO EACH CONTAINER	Capacity in litres	Number of journeys made with each container	Total litres **SUPERVISOR TO COMPLETE HAND CALCULATION**
		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		10			
		Total litres used by household			
WS10	Please show me where you store your drinking water. ARE THE DRINKING WATER CONTAINERS COVERED OR NARROW NECKED?	All are..... 1 Some are..... 2 None are..... 3			|___|

No	QUESTION السؤال		ANSWER CODES الاجابات السرية		
SECTION TN1					
TN 1	How many people live in this household and slept here last night? كم عدد الافراد فى هذه العائلة و الذين ناموا هنا الليلة ؟ INSERT NUMBER العدد الملحق				|___|___|
TN 2	How many children 0-59 months live in this household and slept here last night? كم عدد الاطفال الاحياء من 0 -59 شهرفى هذه العائلة و الذين ناموا هذه الليلة ؟ INSERT NUMBER العدد الملحق				|___|___|
TN 3	How many pregnant women live in this household and slept here last night? كم عدد النساء الحبلى فى هذه العائلة و نمن هذه الليلة ؟ INSERT NUMBER العدد الملحق				|___|___|
TN 4	Did you have your house sprayed with insecticide in an indoor residual spray campaign in the past I___I months? (OPTIONAL) هل تم رش منزلك بمبيد حشرات فى الحملة الماضية للرش ؟		Yes ..... 1 نعم No ..... 2 لا		|___|
TN 5	Do you have mosquito nets in this household that can be used while sleeping? هل لديك ناموسيات تستعملها فى الليل مع العائلة ؟		Yes ..... 1 نعم No ..... 2 لا		|___| **IF ANSWER IS 2 STOP NOW**
TN 6	How many of these mosquito nets that can be used while sleeping does your household have? كم عدد الناموسيات التى يمكن ان تستعملها العائلة اثناء النوم فى الليل ؟ INSERT NUMBER العدد الملحق		IF MORE THAN 4 NETS, ENTER THE NUMBER AND USE ADDITIONAL NET QUESTIONNAIRE SHEETS ENTERING THE NUMBER OF THE NETS SEQUENTIALLY AT THE TOP. **اذا اكثر من 4 شبكات التى تدخل فيها الشبكات عدد فى القمة**		|___| Nets
TN 7	ASK RESPONDENT TO SHOW YOU THE NET(S) IN THE HOUSEHOLD. IF NETS ARE NOT OBSERVED → CORRECT TN6 ANSWER اسال المستجيب لتشويفك صحيح TNلشبكة فى العائلة اذا شبكات 6 جواب	NET #|___|	NET #|___|	NET #|___|	NET #|___|
TN 8	OBSERVE NET AND RECORD THE BRANDNAME OF NET ON THE TAG. IF NO TAG EXISTS OR IS UNREADABLE RECORD 'DK' FOR DON'T KNOW. لاحظ شبكة وسجل العلامة التجارية من شيكة على البطاقة , اذا تجد اى بطاقة او غير صالح للقراءة , لا يعرف				
TN 9	**For surveyor/supervisor only (not to be done during interview)**: للمساح و المشرف فقط , اثناء المعاينة WHAT TYPE OF NET IS THIS?	1=LLIN 2=Other/DK |___|	1=LLIN 2=Other/DK |___|	1=LLIN 2=Other/DK |___|	1=LLIN 2=Other/DK |___|

	BASED ON THE TAG INDICATE IF THIS IS A LLIN OR OTHER TYPE OF NET OR DK. ای نوع هذه الشبكة ؟ و ما نوع المستند للبطاقة و الشبكة اوDK				
TN 10	**For surveyor/supervisor only (not to be done during interview)**: للمساح و المشرف فقط اثناء المعاينة RECORD THE TOTAL NUMBER OF LLINs IN HOUSEHOLD BY COUNTING THE NUMBER OF '1' IN TN9. **سجل العددى الكلى ل فى العائلة بحساب 1 فى 9**				|___| LLINs

SECTION TN2

Line no	Household members	Sex	Age	Pregnancy status	Slept under net	Which net	Type of net
#	COL1	COL2	COL3	COL4	COL5	COL6	COL7
	Please give me the names of the household members who live here and who slept here last night	Sex m/f	Age years	FOR WOMEN 15-49 YEARS, ASK: Is (NAME) currently pregnant? (CIRCLE NOT APPLICABLE OR N/A'99' IF FEMALE <15->49 YEARS OR MALE) Yes No/DK N/A	Did (NAME) sleep under a net last night? Yes No/DK	ASK THE RESPONDENT TO PHYSICALLY IDENTIFY WHICH OF THE OBSERVED NETS THEY SLEPT UNDER. WRITE THE NUMBER CORRESPONDING TO THE NET THEY USED.	**For surveyor/ supervisor only:** BASED ON THE OBSERVED NET BRANDNAME RECORDED (TN8), INDICATE IF IT IS AN LLIN OR OTHER / DON'T KNOW (DK). LLIN OTHER/DK
01		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
02		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
03		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
04		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
05		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
06		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
07		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
08		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
09		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
10		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
11		m f	<5 ≥5	1 0 99	1 0	|___|	1 2
12		m f	<5 ≥5	1 0 99	1 0	|___|	1 2

13		m f	<5 ≥5	1	0	99	1	0		___		1	2
14		m f	<5 ≥5	1	0	99	1	0		___		1	2
15		m f	<5 ≥5	1	0	99	1	0		___		1	2

Mosquito net summary (for surveyor / supervisor only, not to be done during interview)

	Total household members		**Total <5**		**Total Pregnant**	
Slept under a net of any type	Count the number of '1' in COL5	**TN11** |___|___|	For children < 5 (COL3 is '<5'), count the number of '1' in COL5	**TN13** |___|___|	For pregnant women (COL4 is '1'), count the number of '1' in COL5	**TN15** |___|___|
Slept under an LLIN	Count the number of '1' in COL7	**TN12** |___|___|	For children <5 (COL3 is '<5'), count the number of '1' in COL7	**TN14** |___|___|	For pregnant women (COL4 is '1'), count the number of '1' in COL7	**TN16** |___|___|

11.6 Appendix 6 – Events Calendar

Local event calendar used during the survey to estimate age of young children

Unity Events Calendar

MONTHS	SEASONS	2009	2010	2011	2012	2013	2014
JANUARY			**58** New year celebrations	**46** New year celebrations	**34** New year celebrations	**22** New year celebrations	**10** New year celebrations
FEBRUARY			**57** Start of land preparation	**45** Start of land preparation	**33** Start of land preparation	**21** Start of land preparation	**9** Start of land preparation
MARCH			**56** Celebration of Yusuf Kuwa	44 Celebration of Yusuf Kuwa	**32** Celebration of Yusuf Kuwa	**20** Celebration of Yusuf Kuwa; Ajuong Thok opens	**8** Celebration of Yusuf Kuwa
APRIL			**55** House rehabilitations	43 House rehabilitations	**31** House rehabilitations	**19** House rehabilitations	**7** House rehabilitations
MAY			**54** Rains begin; SPLA Day	42 Rains begin; SPLA Day	**30** Rains begin; SPLA Day	**18** Rains begin; SPLA Day	**6** Rains begin; SPLA Day
JUNE			**53** Primary schools close	41 Primary schools close; War broke in South Kordofan	**29** Primary schools close	**17** Primary schools close	**5** Primary schools close
JULY			**52** Start of weeding	**40** Start of weeding South Sudan Independence	**28** Start of weeding South Sudan Independence	**16** Start of weeding South Sudan Independence	**4** Start of weeding South Sudan Independence
AUGUST			**51** First maize harvest	**39** First maize harvest	**27** First maize harvest	**15** First maize harvest	**3** First maize harvest
SEPTEMBER			**50** Groundnuts harvesting; Bible Course	**38** Groundnuts harvesting; Bible Course	**26** Groundnuts harvesting; Bible Course	**14** Groundnuts harvesting; Bible Course	**2** Groundnuts harvesting; Bible Course
OCTOBER			**49** Primary schools open	**37** Primary schools open	**25** Primary schools open	**13** Primary schools open	**1** Primary schools open
NOVEMBER			**48** Wrestling month	**36** Wrestling month Antenov Bombed Yida	**24** Wrestling month	**12** Wrestling month	**0** Wrestling month
DECEMBER		**59** Christmas celebrations	**47** Christmas celebrations	**35** Christmas celebrations	**23** Christmas celebrations	**11** Christmas celebrations	