



South Sudan

July 2019

Food Security and Nutrition

Data collected in Dec 2018



Photo: Gabriela Vivacqua/WFP

This is an output from collaborative activity of WFP, FAO, UNICEF, Government of South Sudan and NGO partners from the Food Security and Livelihood cluster in South Sudan. For additional information, please contact: Juba.VAM@wfp.org

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1. Key findings:

The food security situation continues to deteriorate due to conflict-driven displacement, low crop production, economic crisis, climate shocks and humanitarian access challenges. Key findings from the survey include:

Food security overview

Food insecurity in the country has reached record levels (74 percent) during the harvest season compared to same time in previous years. This continues against a backdrop of deteriorating macro-economic conditions present before the signing of the peace agreement. The proportion of households facing severe food insecurity has almost doubled compared to December 2017 and overall it has reached its highest levels of 26 percent compared to the yearly trends during harvest season.

Global Acute Malnutrition

The prevalence of Global Acute Malnutrition (GAM) for children 0-59 months was 11.6 percent which is classified as serious as per the WHO emergency threshold. The GAM prevalence exceeded the WHO emergency threshold in Jonglei State (19.5 percent).

Stunting

About 18 percent of children 0-59 months of age are chronically malnourished (stunted). The finding is considered of 'medium public health significance' as per the new WHO classification for Stunting.

Dietary diversity

A significant proportion of the population in South Sudan continues to have inadequate food consumption as the insecurity (political, inter communal and localized) continue to disrupt the livelihoods, an increased cereals deficit and early depletion of food stocks, disrupted markets, limited and the declining availability of sources of food such as wild foods, fish have also been affected by the dry spell. Although households' food consumption has improved by 3 percent in December 2019 compared to December 2017 the overall situation is not encouraging compared to the trends.

Minimum Acceptable Diet (children 6 – 23 months)

Almost 20 percent of children 6-23 months received diversified foods (4 or more food groups). Nearly a quarter of children 6-23 months (24.3 percent) met their minimum desired meal frequency. Only 7.1 percent met the minimum acceptable diet. The Minimum Acceptable Diet (MAD) is the composite indicator of dietary diversity and meal frequency.

Livelihood coping

The high level of food insecurity and shocks are also reflected in the severity of household coping mechanisms. The livelihood based coping strategies, particularly emergency and crisis strategies practiced by households are likely to erode their resilience and thus have possible long-term consequences. Overall, 66 percent of households were either resorting to emergency coping

strategies (30 percent) or crisis coping strategies (36 percent) while only 10 percent were practicing stress coping strategies.

Access to land for cultivation

Agricultural practices are rudimentary and do not necessarily result in optimal utilization of the available land. During the survey period, 75 percent of households who had access to land cultivated crops in the previous season, with almost all households (99 percent) using the production for their own consumption.

Cereals production

South Sudan is a structurally food deficit country where even in a good production year, imports are needed to fill the cereal gap. This situation has been aggravated by the protracted conflict. As reported by the households surveyed, an average farming household in South Sudan can currently produce food (cereals) that is sufficient for their own consumption needs for only 3 months of the year.

Monthly income and expenditure

Conflict related disruption of livelihoods, coupled with the ongoing economic downturn, have significantly affected households' incomes. Some 42 percent of the households surveyed reported reduced income over the past year alone. The main reason of the reduction being destruction of the income sources as a result of the ongoing conflict. Overall, 63 percent of households' expenditure goes to food and nearly half (51 percent) of the money spent on food was used to purchase cereals.

Livestock ownership

Livestock ownership has slightly decreased as compared to the same time last year with 49 percent of households reporting owning livestock during the time of survey (Dec 2018). This marks a 5 percent decrease from the 54 percent ownership at the same time last year (Dec 2017). Moreover, about 60 percent reported a decrease in the numbers of livestock they own as compared to the same time last year. This is quite evident due to prevailing drought and insecurity conditions in South Sudan. The households that did not own livestock at the time of the survey but had livestock before the crisis of 2013 cited cattle raiding, both intercommunal and armed, and disease outbreaks as the main causes of livestock loss.

Water

Safe and improved access to water during both seasons was limited, as reported by approximately 34 percent of households. More than half (56percent) of the households reported being able to access their preferred source in 30 minutes or less. On the other hand, some 15 percent of the households reported protection concerns (i.e. feeling unsafe while accessing their primary source of drinking water) that played a key factor in limiting them from accessing water in a timely and safe manner.

Sanitation

Access to and use of latrines varied by region, from 45 percent in Greater Equatoria to 10 percent in Greater Bahr el Ghazal. Overall, some 21 percent of households across South Sudan reported access to latrines (private, shared, or communal/institutional). Low access and use stems from

insufficient and damaged infrastructure, and in some regions, it is compounded by cultural norms around improved sanitation practices.

Water and vector borne diseases

Low access to WASH Nonfood Items may have influenced the high proportion of households reporting a water or vector borne disease. For 74 percent of households the most commonly self-reported diseases included: malaria, fever, and acute watery diarrhea (AWD).

Assistance received

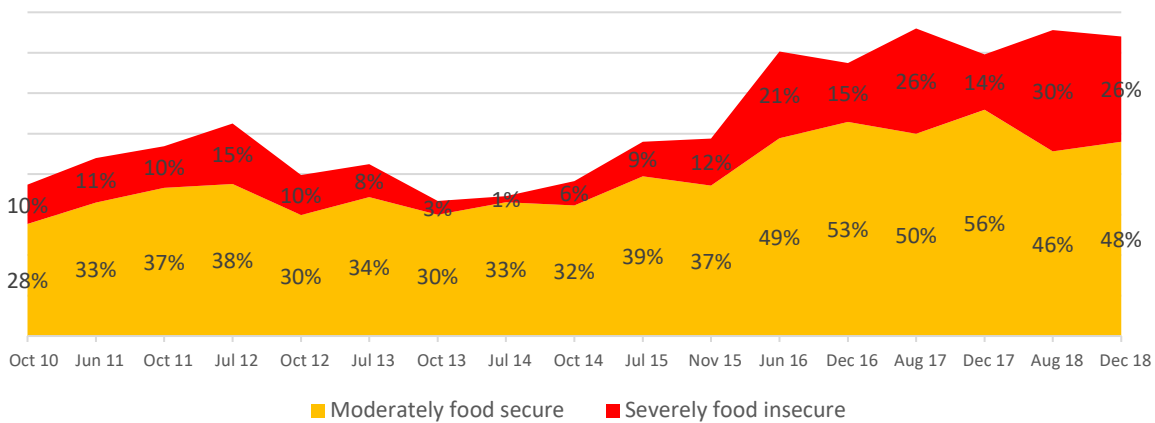
Overall, 32 percent of the household across the country reported receiving at least some form of assistance in the 3 months prior to data collection (data collected in November and December 2018). Almost all the beneficiary households reported receiving general food distribution (GFD).

2. Food security overview

2.1 Overall food security trends (CARI)

The proportion of food insecure households during the harvest season has reached its historical peak (74 percent), if compared to same time in previous years. Moreover, only a 2 percent improvement is observed in the overall food security situation compared to the lean season of same year (i.e. August 2018), where 76 percent population is reported to be food insecure. The proportion of households facing severe food insecurity has almost doubled compared to December 2017. Overall, the level of food insecurity has reached its highest levels of 26 percent compared to the yearly trends during harvest season.

Figure 2.1: South Sudan Food Insecurity trends (from 2010 to 2018)



Extreme levels of food insecurity persist as a result of the continued disruption of livelihoods and limited humanitarian access in worst-affected areas. These extreme levels of food insecurity in the worst-affected states is further substantiated by households experiencing extreme hunger in Unity, Upper Nile, Jonglei and Lakes.

Figure 2.2: Food security by state in Dec 2018

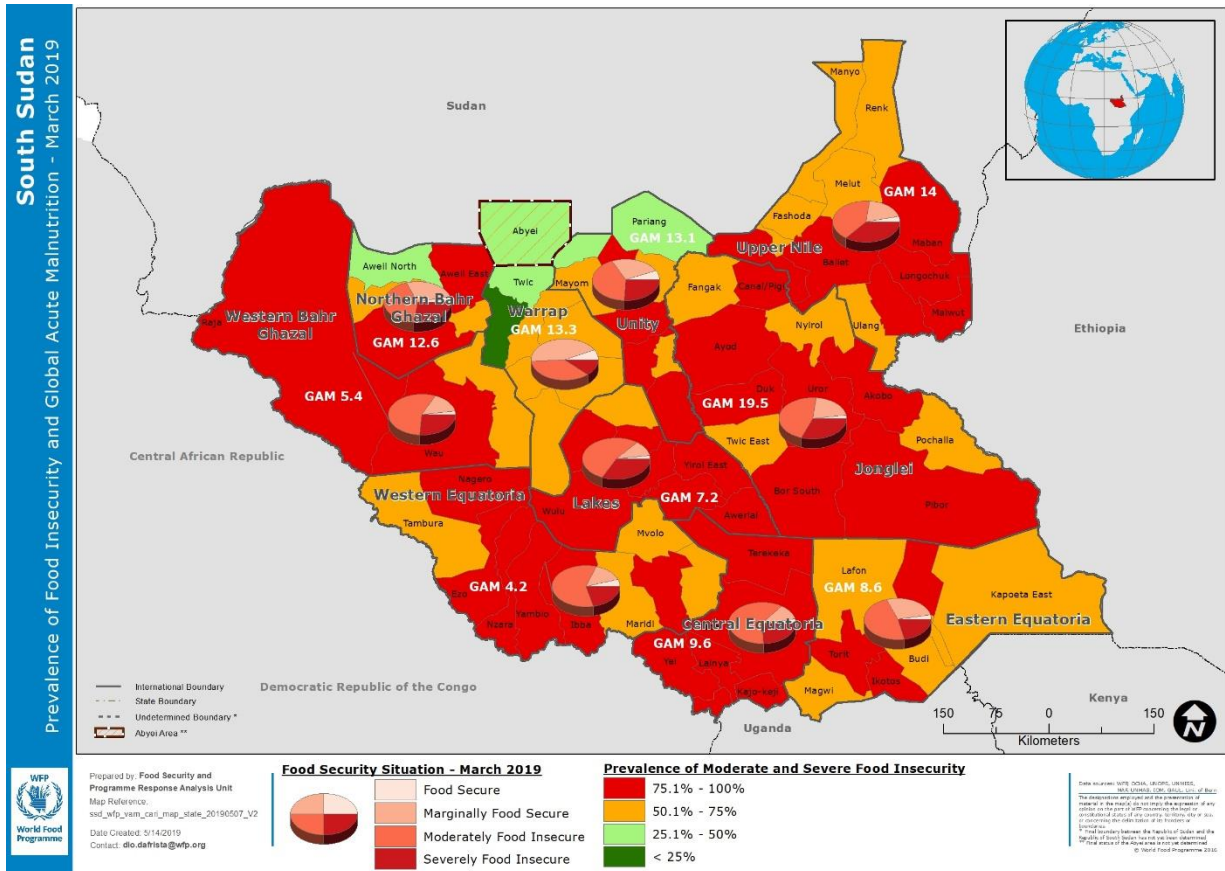
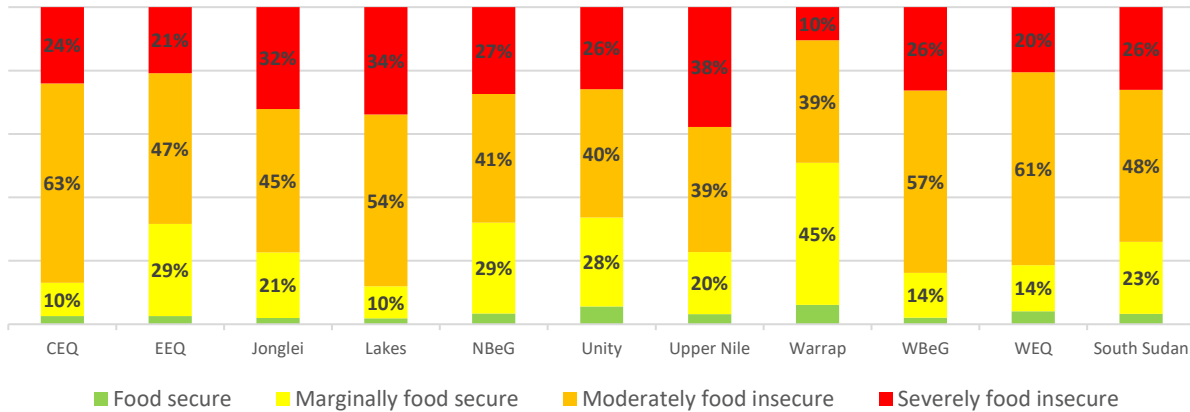


Figure 2.3: Map showing food insecurity and malnutrition situation, December 2018.

The highest proportion of food insecure households was found in Lakes (88 percent), followed by Central Equatoria (87 percent), Western Bahr el Ghazal (84 percent) and Western Equatoria (81 percent). Food insecurity remained high in Jonglei (77 percent) and Upper Nile (77 percent). The food security situation among the ten states is relatively better in Warrap, where less than half

of the population is estimated to be food insecure. Upper Nile (38 percent) and Lakes (34 percent) presents the highest levels of severe food insecurity in the country (Figure 2.2).

Considering county level food insecurity, a higher proportion of food insecure households was more frequently found in Canal/ Pigi (98 percent), Yirol West (97 percent), Baliet (96 percent), Maban (96 percent) and Panyikang (97 percent) counties of Jonglei, Lakes, and Upper Nile (Figure 2.4).

Figure 2.4: Food insecurity in Dec 2018 compared to Dec 2017

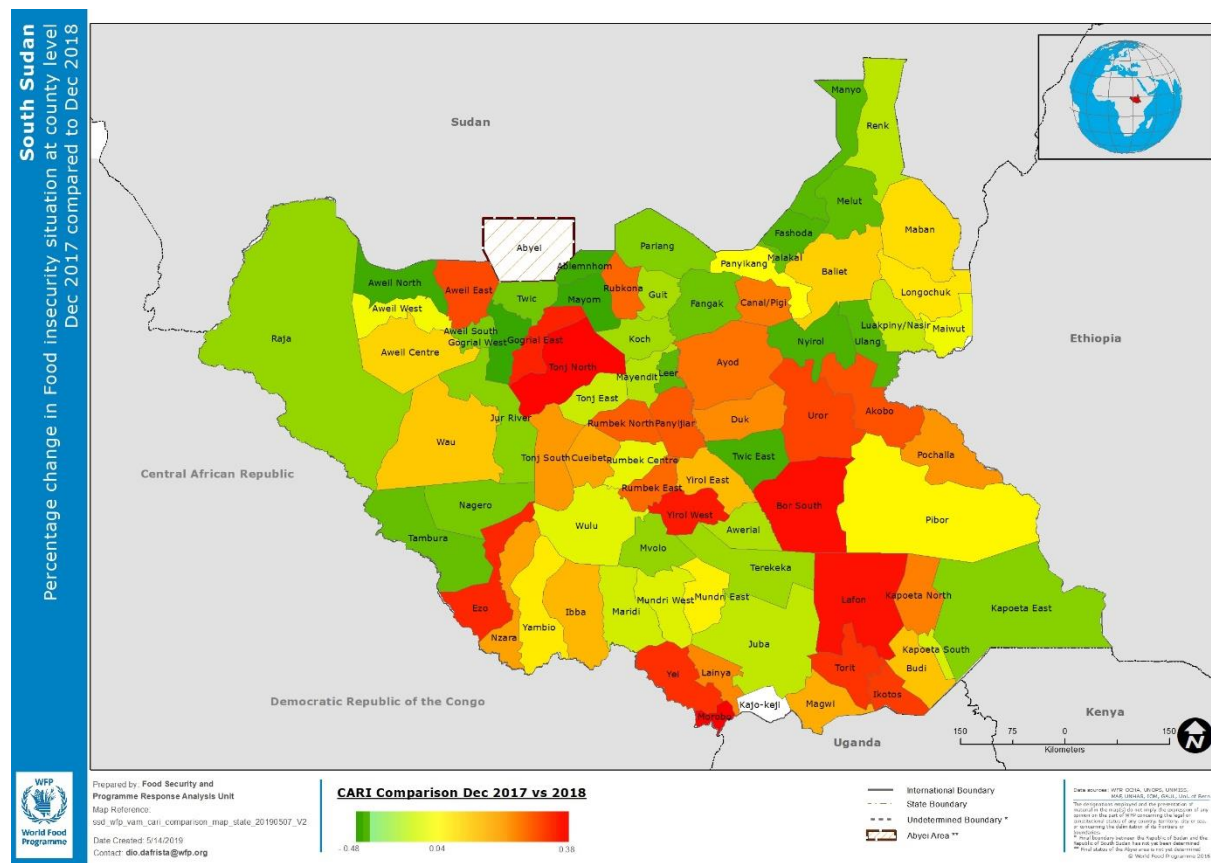
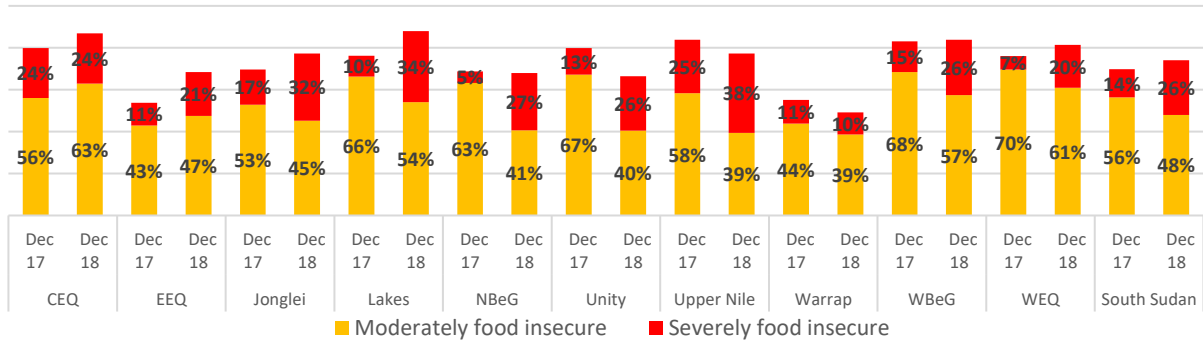


Figure 2.5: Percentage change in food insecurity situation; Dec 2017 compared to Dec 2018.

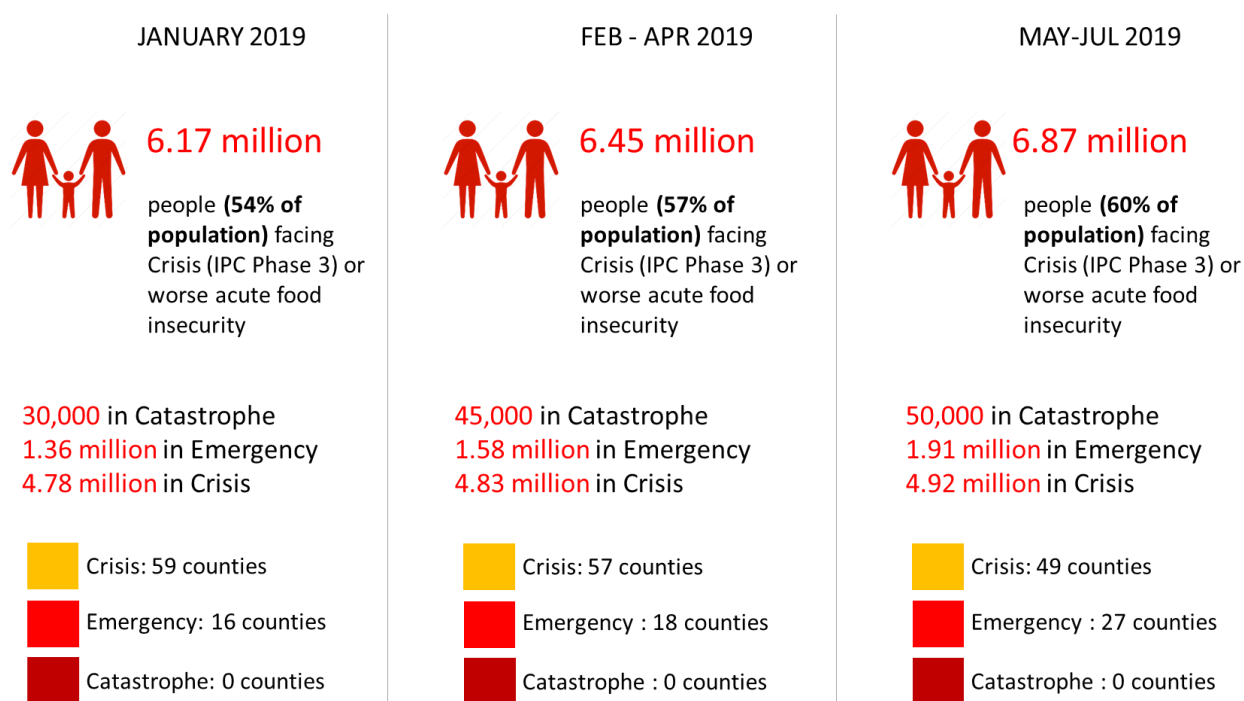
Comparing the food security situation to that of the same time last year, food insecurity has increased overall from 70 percent in December 2017 to 74 percent in December 2018. This

increase is reported higher in Eastern Equatoria by 15 percent, in Lakes by 12 percent, Jonglei by 8 percent, Northern Bahr e Ghazal and Central Equatoria by 7 percent each, Western Equatoria by 5 percent and in Western Bahr el Ghazal by 1 percent as compared to the same time last year. Some positive improvements are seen in Unity, Upper Nile and Warrap, where a positive improvement in overall food security situation is reported by an improvement of 14 percent, 7 percent and 6 percent respectively.

2.2 IPC food security trends

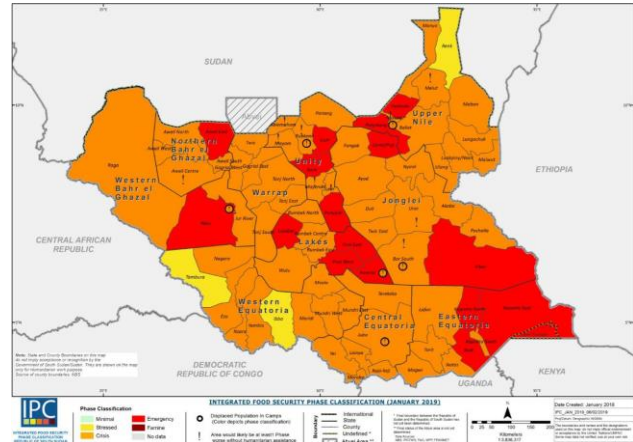
The Integrated Food Security Phase Classification (IPC)¹ for acute food insecurity and acute malnutrition analysis was conducted in January 2019. The IPC analysis is based on the 'current period' that is January 2019 (also called the harvest season), 'first projected period' that is from February to April 2019 (also called the post-harvest season), and the 'second projected period' that is from May to July 2019 (also called the lean season). The summary of key findings from these analyses is shown below.

Figure 2.6: IPC January 2019 - current and projected analysis

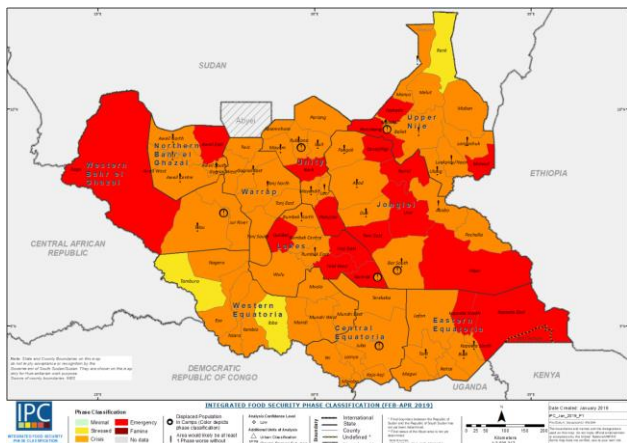


¹ The Integrated Food Security Phase Classification (IPC) is an innovative multi-partner initiative for improving food security and nutrition analysis and decision-making. The main goal of the IPC is to provide decision-makers with a rigorous, evidence- and consensus-based analysis of food insecurity and acute malnutrition situations, to inform emergency responses as well as medium- and long-term policy and programming.

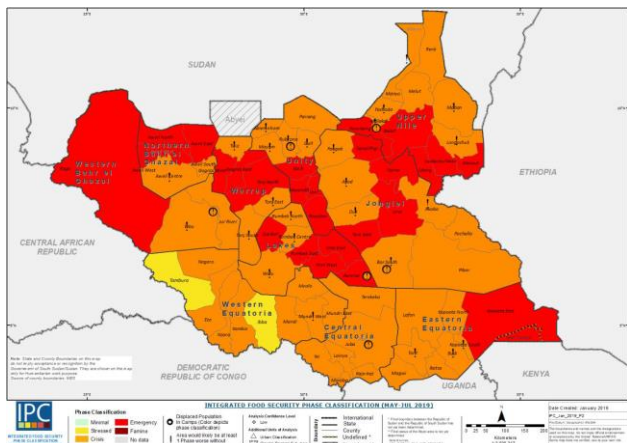
In the **current analysis period of January 2019**, 6.17 million people (54 percent of the population) are estimated to have faced Crisis (IPC Phase 3) acute food insecurity or worse, out of which 1.36 million people faced Emergency (IPC Phase 4) acute food insecurity and 30,000 faced Catastrophe (IPC phase 5)². Compared with the same time last year, the January 2019 levels of food insecurity reflect a 13 percent increase in the population facing Crisis (IPC Phase 3) acute food insecurity or worse in the postharvest season.



In the **projection period of February to April 2019**, in the presence of Humanitarian Food Assistance (HFA)³, a total of 6.45 million people (57 percent of the population) will face Crisis (IPC Phase 3) acute food insecurity or worse, with an estimated 1.58 million people facing Emergency (IPC Phase 4) acute food insecurity and 45,000 people in Catastrophe (IPC Phase 5). This shows an increase of 11 percent from the 6.33 million people (57 percent of the population) from the same period in 2018.



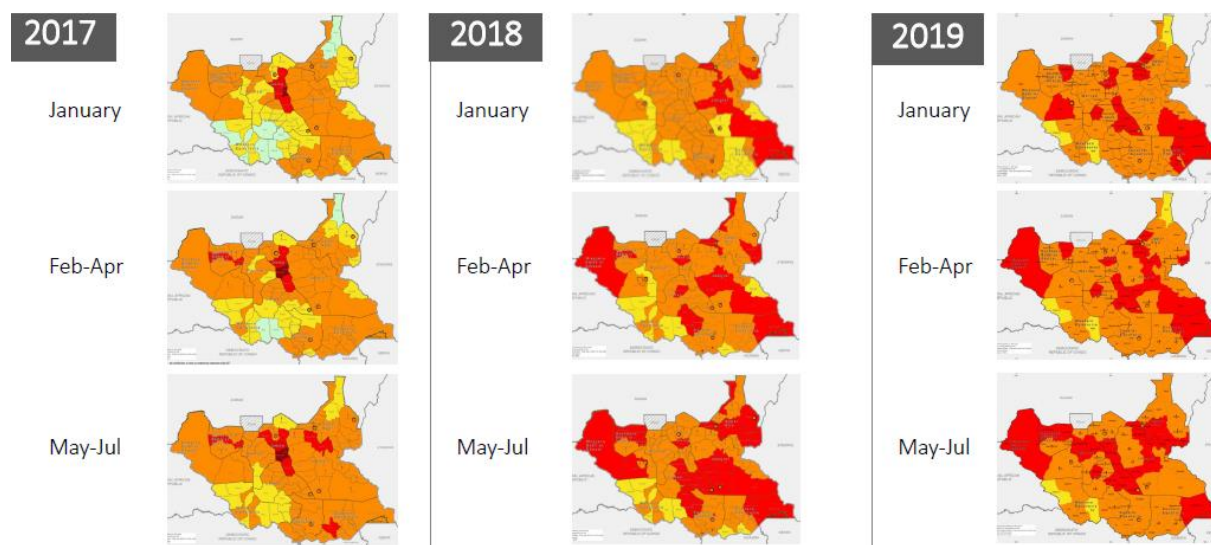
In the **projection period of May to July 2019**, in the presence of Humanitarian Food Assistance, a total of 6.87 million people (60 percent of the population) will face Crisis (IPC Phase 3) acute food insecurity or worse, with an estimated 1.91 million people facing Emergency (IPC Phase 4) acute food insecurity and 50,000 people in Catastrophe (IPC Phase 5). This shows an increase of 8 percent from the 7.08 million people (63 percent of the population) from the same period in 2018.



² No counties were classified as in Famine (IPC phase 5) in January 2019; rather in some counties, fewer than 20 percent of the population were estimated to be in Catastrophe (IPC phase 5).

³ Humanitarian assistance is only considered if it is planned, funded and likely.

Figure 2.7: IPC maps trends for 2017 to 2019



2.3 Key drivers of Food Insecurity

The high levels of acute food insecurity continue to be driven by the cumulative effects of national and localized conflicts, heavy reliance on unpredictable and poor rainfall performances, associated population displacements and prolonged years of asset depletion. These factors have contributed to insufficient crop production, with only 52 percent of the 2019 national cereal needs⁴ being met by harvests. Additionally, conflict has disrupted livelihoods and impacted households' access to other food sources, such as wild foods, fish, and livestock products. Furthermore, the on-going economic crisis has significantly reduced households' purchasing power. Other significant drivers include the prolonged dry spells at critical stages of crop growth, flooding, crop pests and diseases, migration of cattle away from homesteads and growing destitution, humanitarian access challenges, chronic water borne diseases and malnutrition.

⁴ In 2018, even though the country still faced a cereal deficit, up to 61 percent of the national cereal needs were met by harvests.

3 Food security outcome indicators:

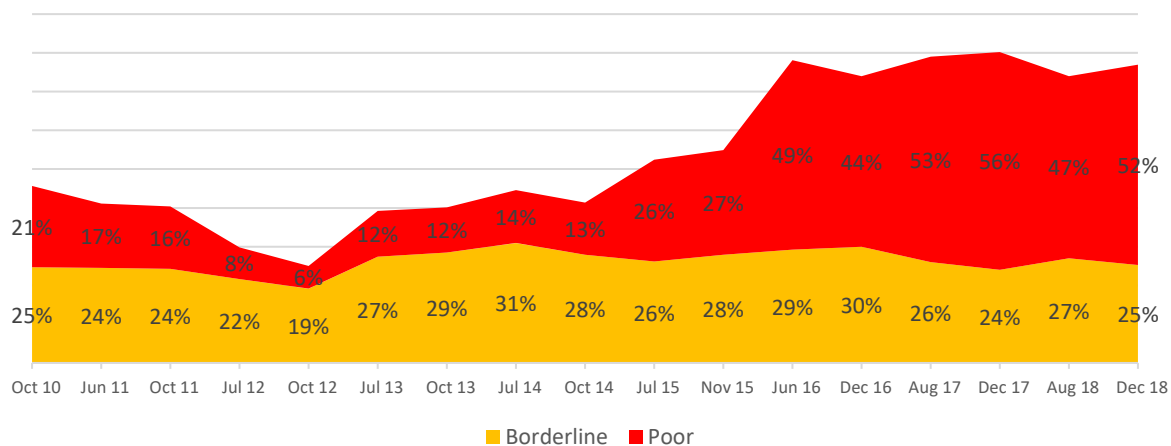
3.1 Food consumption

A significant proportion of the population of South Sudan continues to have inadequate food consumption as localized political and inter-communal insecurity, as well as displacement, continues to disrupt livelihoods, exacerbating cereal deficit and early depletion of food stocks. Insecurity also aggravates markets disruption, and limits the access to wild foods and fish, which has also been negatively affected by the dry spell. Although households' food consumption has improved by 3 percent in December 2019 compared to December 2017, the overall situation is not encouraging when compared to the trends.

While the proportion of households classified as Severely Food Insecure increased from 14 percent to 26 percent in **December 2017 compared to December 2018**; other measures were more indicative of a general improvement:

- FCS (mean) increased from 23.8 to 26.6
- rCSI (mean) decreased from 11.2 to 11.0
- HDDS (mean) increased from 3.1 to 3.2
- Food expenditure share increased from 46.2 percent to 62.6 percent

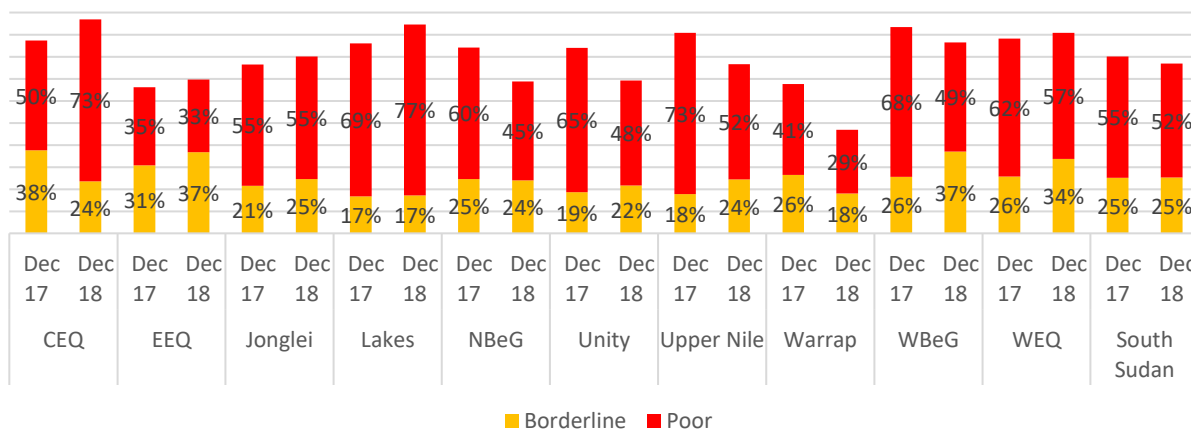
Figure 3.1: Food consumption trends



Overall, 77 percent of households had inadequate food consumption in December 2018 with 52 percent of them having poor food consumption and 25 percent borderline food consumption. Only 23 percent of households were found to have acceptable food consumption over this period. In December 2017 and December 2016, the proportion of households consuming inadequate food was 80 percent and 74 percent respectively; with as high as 56 percent had poor food consumption in December 2017 and that number was 44 percent in December 2016.

Although the food consumption score (FCS)⁵ appears to improve slightly, it still remains significantly below acceptable levels. The proportion of households having acceptable food consumption increased from 20 percent in December 2017 to 23 percent in December 2018. Conversely, the proportion of households having poor food consumption decreased from 56 percent in December 2017 to 52 percent in December 2018. This improvement is attributed to better access to households’ own production in 2018 (Figure 3.1).

Figure 3.2: Current food consumption trends by state level compared to December 2017



The food consumption situation varies from state to state depending on the levels of livelihood disruption caused by the ongoing conflict and the impact of the macro-economic situation in the area. Although the food security situation in Northern Bahr el Ghazal remains precarious, the proportion of households consuming inadequate food improved by 15 percent. In Warrap, Unity and upper Nile the food consumption has improved by 21 percent, 15 percent and 14 percent respectively as compared to December 2017. The food consumption situation has reached a peak in Central Equatoria and Lakes where 97 percent and 95 percent of households are reported to have inadequate food consumption in December 2018 (see Figure 3.2 for details).

3.2 Diet Diversity

Dietary diversity has substantially declined among rural households, as meals mostly comprise of cereals and vegetables. Overall, 75 percent of households had low dietary diversity, 17 percent had medium and only 9 percent had high dietary diversity. While households reported consumption of cereals and vegetables for 4.7 and 1.5 days on average respectively, foods rich in protein (meat, fish and eggs) were only consumed 0.8 days of the seven days preceding the survey. Dairy products were consumed 1.1 days, pulses 1.2 days and fruits 0.9 days within the seven days prior to the survey. The low dietary diversity could explain the poor food consumption among the majority of the households (Table 2.1). Comparing weekly cereals consumption at

⁵ FCS Consumption Score (FCS) is an acceptable proxy indicator based on a seven-day recall of the food groups consumed within a household, the FCS measures food diversity (types of foods consumed), food frequency (the number of days each food group is consumed), and the relative nutritional importance of different food groups. Based on FCS standard thresholds, households are categorized into three groups: “poor” food consumption (FCS= 1- 21), “borderline” food consumption (FCS = 21.5 – 35), and “acceptable” food consumption (FCS>35).

state level, Warrap and Norther Bahr el Ghazal show the most frequent consumption, with 6.3 days each, followed by Easter Equatoria (5.8 days on average).

Table 3.1: Average days of consumption by different food commodities eaten during the last week of data collection

	Cereals and tubers	Legumes/pulses/nuts	Milk and other dairy products	Meat, fish and eggs	Vegetables	Fruits	Oil	Sugar	Condiments
CEQ	3.2	1.3	0.1	0.2	2.0	0.9	1.4	0.8	0.9
EEQ	5.8	0.7	1.7	0.7	4.0	1.5	2.6	0.8	3.9
Jonglei	4.5	0.8	1.1	0.8	0.9	1.1	1.7	1.0	1.0
Lakes	3.8	0.9	0.5	0.2	0.6	0.1	0.2	1.5	1.0
NBeG	6.3	1.4	1.1	1.2	0.6	0.8	0.6	2.0	1.8
Unity	4.6	0.9	2.2	0.7	0.9	0.3	2.6	1.0	1.5
Upper Nile	4.0	0.8	1.3	1.3	1.1	0.6	1.8	1.5	1.1
Warrap	6.3	2.3	2.1	1.4	1.5	1.7	1.2	1.1	4.0
WBeG	4.7	1.8	0.4	0.7	2.2	0.2	0.7	2.1	2.8
EEQ	3.6	1.3	0.2	0.9	2.2	1.4	1.8	0.9	2.1
South Sudan	4.7	1.2	1.1	0.8	1.5	0.9	1.4	1.2	1.9

3.3 Household hunger

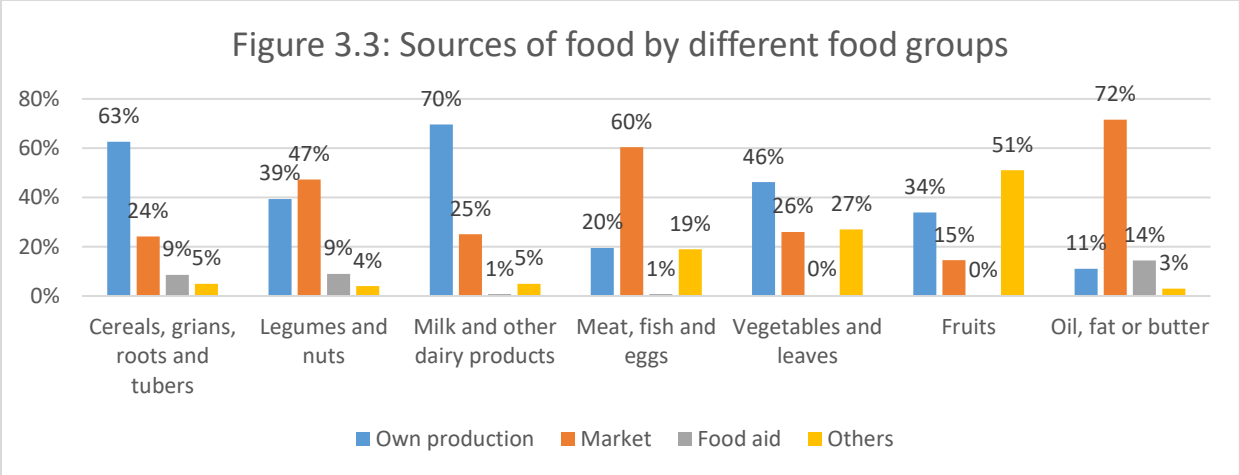
According to the Household Hunger Scale⁶, 63 percent of households across the country faced moderate (14 percent) to severe (50 percent) hunger in December 2018. This is 9 percent higher than the levels experienced by households during the same time last year (December 2017). This is consistent with the overall deterioration in the food security situation.

The highest proportion of households facing severe hunger was reported in Lakes state (74 percent) and Upper Nile state (73 percent). When comparing the situation of household facing severe hunger at county level, Panyijiar (100 percent) of Unity state, Yirol West (98 percent) of Lakes state, Canal/ Pigi (94 percent) in Jonglei state and Panyikang (93 percent) in Upper Nile state show an extremely worrisome situation.

3.4 Sources of Food

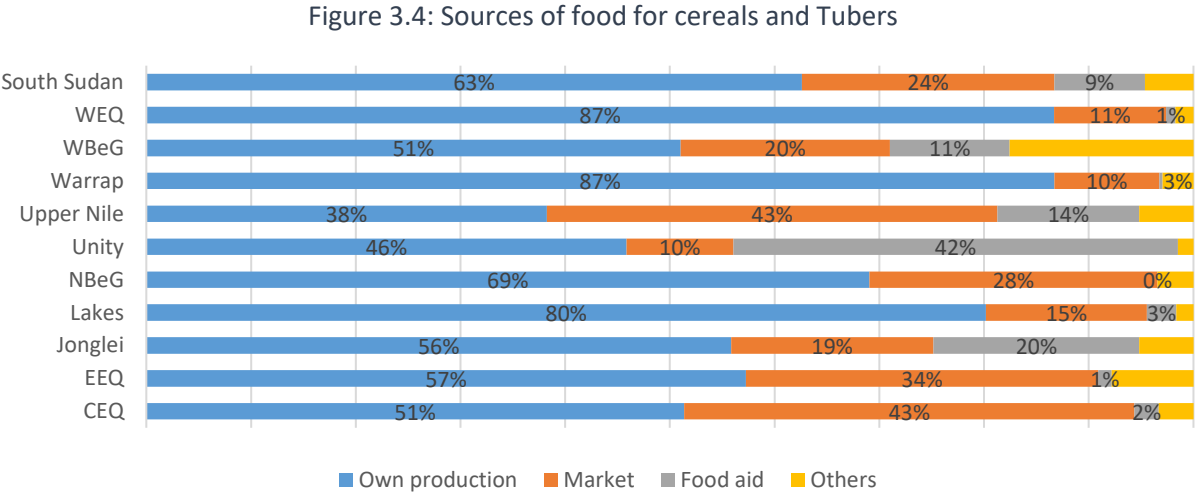
Markets constituted the main source of food for the majority of households (72 percent) in December 2018. About 24 percent of households sourced their cereals and tubers consumed in the week preceding the survey from the market, while 63 percent obtained the cereals and tubers from their own stock. Food assistance was the main source of cereals for 14 percent of households.

⁶ The Household Hunger Scale (HHS) is a household food deprivation scale based on the idea that the experience of household food deprivation causes predictable reactions that can be captured by a survey and summarized in a scale. The HHS score ranges from 0 – 6 with a higher score indicating more severe hunger in the household. Standard thresholds then categorize these scores by little to no hunger/ slight (0-1 HHS), moderate hunger (2 – 3 HHS) and severe hunger (4 – 6 HHS) in the household.



Markets continue to be a significant food source for most of the population even during the harvest season. At least 24 percent of the households purchased cereals and tubers consumed during the week prior to the survey from the market. The highest market dependency was found in Upper Nile and Central Equatoria (43 percent each); where households purchased the cereals and tubers consumed from the market and the lowest was reported in Warrap and Unity state (10 percent each) (Figure 3.4).

Food assistance is the third main source of cereals and tubers for households in rural areas. About 9 percent of the households surveyed reported that the cereals consumed during the week preceding the survey were from food assistance. Given the severity of the food insecurity and levels of humanitarian intervention; the highest proportion of households reporting food assistance as a source of cereal was found in Unity (42 percent), Jonglei (20 percent), Upper Nile (14 percent) and Western Bahr el Ghazal (11 percent). This is consistent with the proportion of households who received assistance in these states.

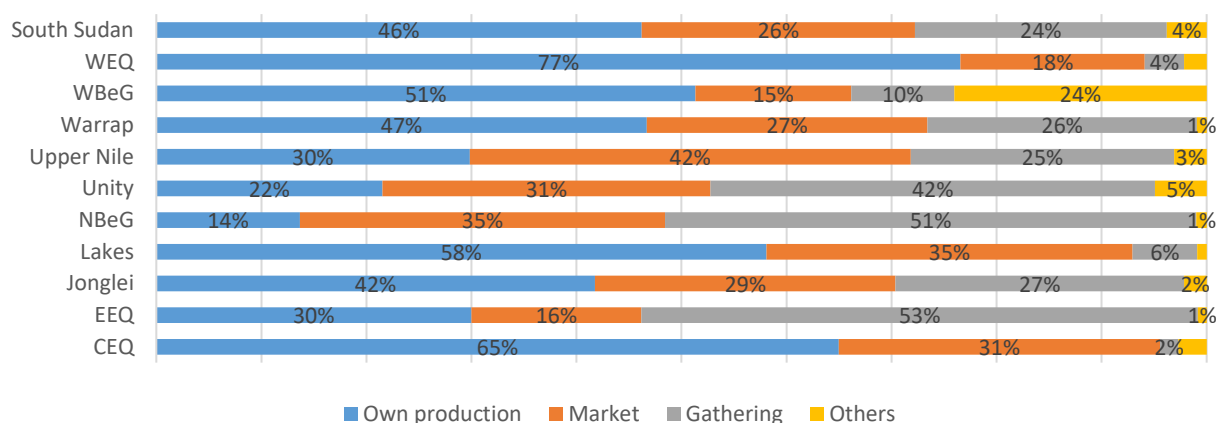


Milk and other dairy products, vegetables and fruits are mostly sourced from households’ own production. In December 2018, 70 percent of households consumed milk and dairy products from their own farms. Similarly, 46 percent and 34 percent of households sourced their vegetables and fruits respectively from their own production.

Market was the main source for legumes, meat and oil. About 47 percent of the households purchased the pulses and nuts they consumed in the week prior to the assessment from the market. Some 60 percent of the households who consumed meat, fish and eggs also reported market as the main source. Up to 72 percent of households purchased oil, fats or butter from market.

The proportion of households who reported own production as the main source of cereals and tubers was higher in Western Equatoria (87 percent), Warrap (87 percent), Lakes (80 percent) and Northern Bahr el Ghazal states (69 percent). Conversely, the lowest proportions were found in Upper Nile, where only 38 percent consumed own stocks of cereals and tubers, followed by Unity state (46 percent), Central Equatoria (51 percent) and Western Bahr el Ghazal (51 Percent) (Figure 3.4).

Figure 3.5: Sources of food for vegetable and leaves



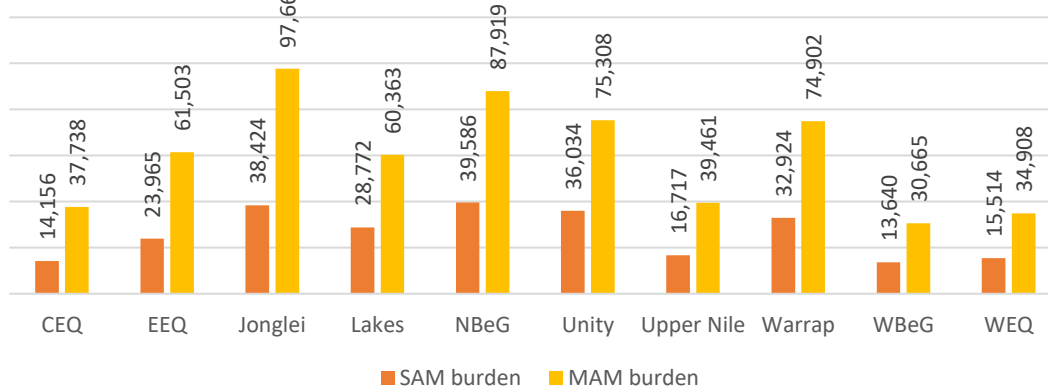
The proportion of households who reported gathering as the main source of vegetable and leaves consumption was highest in Eastern Equatoria (53 percent), Northern Bahr el Ghazal (51 percent) and Unity (42 percent). It was lowest in Central Equatoria (2 percent), Western Equatoria (4 percent) and Lakes state (6 percent) (Figure 3.5).

4 Nutrition status of children (0-59 months) and women (15 to 49 years)

4.1 IPC nutrition trends

Based on the IPC Acute Malnutrition⁷, all 78 counties were included in the analysis. Of those included, 42 are classified as Serious (Acute Malnutrition Phase 3) and above. The Counties of Akobo, Ayod, Canal Pigi, Pibor, Duk, Uror (Jonglei), Abiemnhom, Panyijiar and Pariang (Unity), Twic (Warrap) and Awerial (Lakes) are classified as Critical (IPC Acute Malnutrition Phase 4). No county was classified as Extremely Critical (IPC Acute Malnutrition Phase 5). A total of 860,168 children aged 6-59 months (under-five) are expected to suffer from acute malnutrition in 2019 based on the results of the SMART nutrition surveys, Food Security and Nutrition Monitoring System (FSNMS), and admission trends from 2018. A 250,000 drop in the burden of acute malnutrition was observed in 2019 as compared to 2018. High burden of acute malnutrition is observed in the Greater Upper Nile, Northern Bahr el Ghazal and Warrap states. This warrants particular focus.

Figure 4.1: Burden of acute malnutrition in children 6-59 months, 2019



Poor quality and dietary diversity contributed to the high level of acute malnutrition in South Sudan (Minimum Acceptable Diet: <5 percent, Minimum dietary diversity: <15 percent). Caring and feeding practices of children directly affected the nutritional status of children under two years of age and, ultimately, impacted child survival. Additionally, high prevalence of diseases (up to 30 percent), food insecurity and conflict (including inter communal conflict in some counties) contributed to high level of acute malnutrition.

4.2 Child nutrition

4.2.1 Acute malnutrition

The sampling design in FSNMS Round 23 was informed by food security indicators, representative at county level. A total of 9 clusters, with 12 households per cluster were selected from each

⁷ IPC Acute Malnutrition analysis is based on county based SMART surveys of September to December 2018 and re-analysis of FSNMS data of November-December 2018.

county. The assessment covers all former 79 counties. However, the coverage in Kajokeji, Yei, Morobo, and Nagero counties was partial due access constraints.

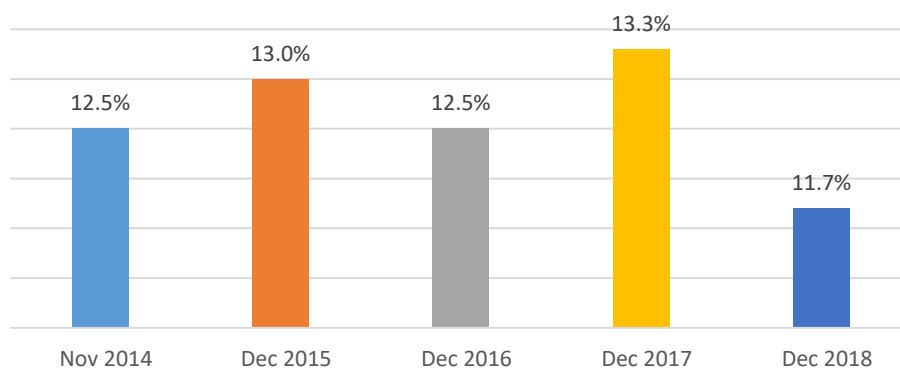
Anthropometric data was collected from a total of 10,472 children (49 percent girls and 51 percent boys) aged 0 to 59 months. The overall sex ratio of boys to girls falls within the acceptable range. All children under-five present in the household were included in the survey. About six percent of children had flagged data on Weight-for-Height. Moreover, data from Fangak, Koch, Longochuk and Maiwut was dropped due to poor quality data. Acute malnutrition was analysed based on the Weight-for-Height index and/or the presence of bilateral pitting oedema while MUAC was used for women. The final analysis on prevalence of acute malnutrition was based on 9,759 children aged 0-59 months. Weighted estimates were undertaken at state and national level to provide estimates for the different indicators measured.

The prevalence of Global Acute Malnutrition (GAM) and Severe acute malnutrition (SAM) was determined based on the Weight-for-Height and/or oedema. Global acute malnutrition (GAM) is defined as <-2 z scores weight-for-height and/or oedema while severe acute malnutrition (SAM) is defined as <-3z scores Weight-for-Height and/or oedema).

At the national level, the current assessment found GAM and SAM prevalence for children 0-59 months at 11.6 and 2.3 percent respectively. Excluding children below 6 months, the national prevalence of GAM and SAM for children 6-59 months remains almost the same, 11.7 and 2.3 percent respectively. The prevalence of acute malnutrition was significantly (P=0.0017) higher among boys (12.4 percent) than among girls (10.5).

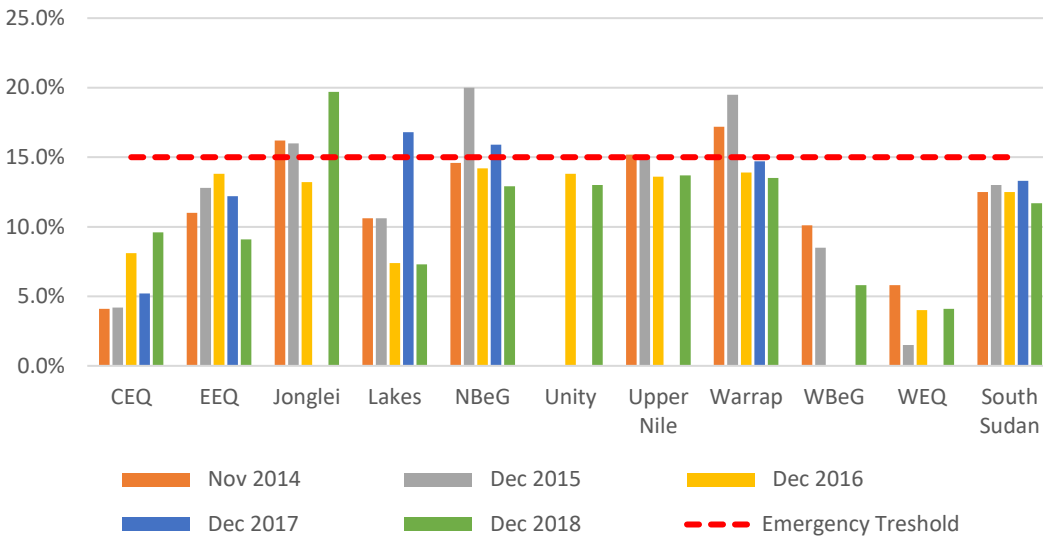
Trends of seasonal GAM (post-harvest) prevalence from November 2014 to December 2018 are shown in figure 4.2. The trend in the first four years (2014 – 2017) was about the same. However, a significant reduction was observed in December 2018.

Figure 4.2: Post-harvest trend of Global Acute Malnutrition (GAM) at National level



At State level, the GAM prevalence is shown in figure 4.3. In the current assessment, the GAM prevalence was above the 15 percent emergency threshold only in Jonglei. The highest GAM rate was recorded in Jonglei (19.5 percent) followed by Upper Nile (14 percent) and Warrap (13.3 percent). Compared to the previous FSNMS rounds of the same period, there have been some improvements in the nutritional situation in majority of the States, even in former Jonglei state, though this still shows a very worrisome situation.

Figure 4.3: Post-harvest Trend of Global Acute Malnutrition by state

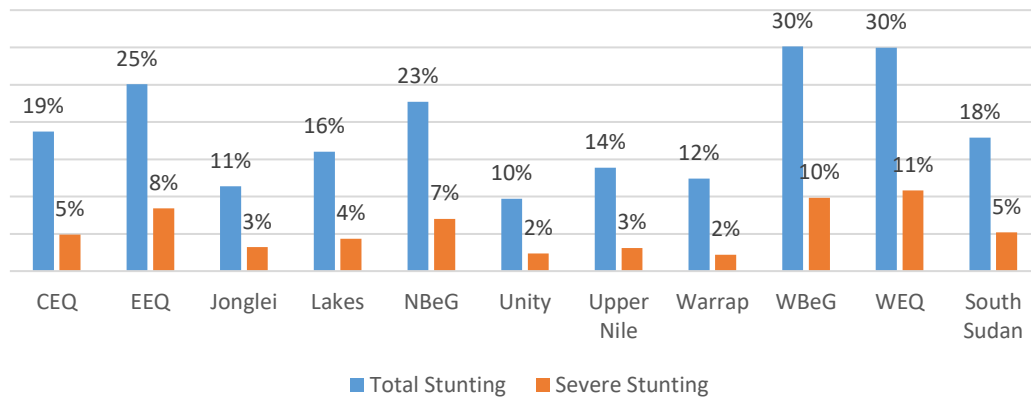


4.2.2 Stunting

Children whose Height-for-Age Z-score is below minus two standard deviations from the median of the reference population are considered short for their age (stunted) and chronically malnourished. The final analysis on the prevalence of acute malnutrition was based on 8,9239 children.

Nationally, 17.9 percent of children under age five are stunted, and 5.2 percent of children are severely stunted. The current result of 17.9 percent is considered as medium public health significance as per the new WHO classification for Stunting. The current rate was similar to that of August 2018 (17.1 percent). The prevalence of stunting was higher among boys (19.8 percent) than girls (16.1 percent) and the difference was statistically significant. As it is shown in figure 4.4, the highest Stunting rate was recorded in Western Bahr el Ghazal (30.1 percent) followed by Wester Equatoria (30 percent), Eastern Equatoria (25.1 percent), and Norther Bahr el Ghazal (22.7 percent). The lowest prevalence was observed in Unity (9.7 percent), and Jonglei (11.4 percent).

Figure 4.4: Prevalence of stunting in Children 0 - 59 months

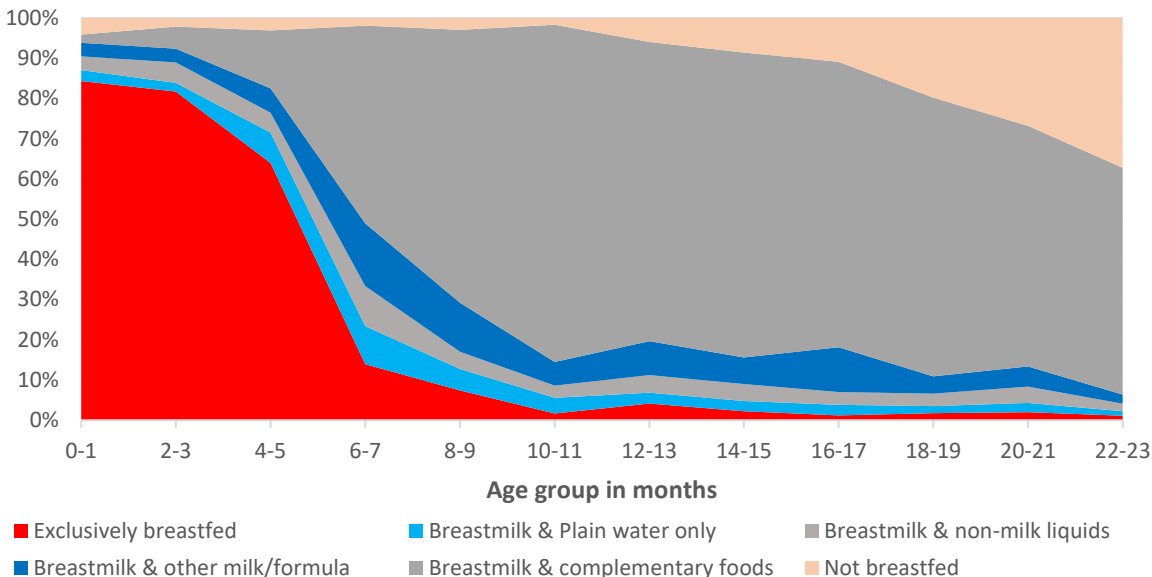


4.2.3 IYCF practices

Information on infant and young child feeding practices was collected from caregivers of children aged 0-23 months using a standard 24 hours' recall method. The assessment used WHO-recommended IYCF indicators of breastfeeding and complementary feeding. The key breastfeeding indicators includes; early initiation of breastfeeding, exclusive breastfeeding, and continued breastfeeding at one and two years of age whereas complementary feeding indicators are minimum dietary diversity, minimum meal frequency, and minimum acceptable diet among children aged 6 to 23.9 months. As part of the assessment, the caregivers were asked what the children received in the 24-hour preceding the survey.

A total of 3,907 children age 0 to 23 months were assessed, out of which 48 percent were girls. The breastfeeding graph by age is shown in figure 4.5. The graph provides a visual presentation of the overall feeding patterns among children aged 0-23 months. The graph shows that the majority of children, between 0-5 months, were exclusively breastfed. The exclusive breastfeeding (EBF) rate was highest (about 84 percent) at the 0-1-month age group and decreased to 64 percent at 4-5 months. The other findings revealed that breastfeeding throughout the first year of life was a universal practice. During the first six months, the introduction plain water, animal milk and complementary foods was observed. The findings also show that about one-third of children aged two years (20-23-month-old interval) were not breastfed.

Figure 4.5: Breastfeeding practices by age



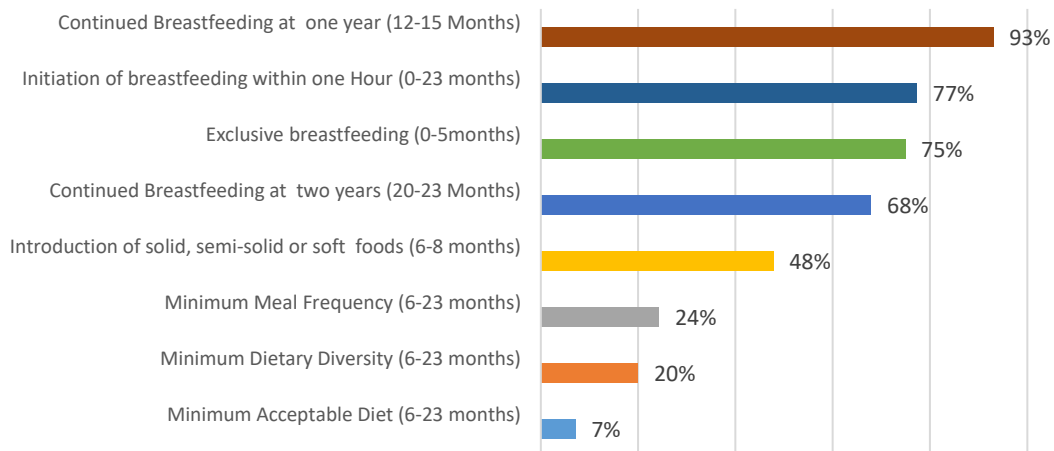
The key IYCF indicators are shown in figure 4.6. The findings are revealed that 77 percent of newborn baby were reported to have been breastfed within one hour of birth. About three-fourth children age 0-5.9 months were exclusively breastfed (74.9). The current result was similar to that of August 2018 FSNMS survey finding (74.1 percent). The rate of exclusive breastfeeding gradually decreases as the child grows older, from 84 percent at 0-1 month's age to 64 percent at 4-5 months.

Continued breastfeeding rates were considerably high. Continued breastfeeding at one year refers to the proportion of children 12 – 15.9 months of age who are breast-fed. The assessment found that breastfeeding at one year was universal at 93 percent, whereas breastfeeding at two years (children 20 – 23 months) was 67.9 percent.

Complementary feeding practices were very sub-optimal. Less than half of all children (47.7 percent) 6-8 months of age were fed solid/semisolid foods. Only 20 percent of children 6-23 months received diversified foods. Dietary diversity is defined as the number of different foods or food groups consumed over a given period. The minimum dietary diversity implies consumption of at least four out of the seven food groups.

Nearly a quarter of children 6-23 months (24.3 percent) met their minimum desired meal frequency. Meal frequency is considered a proxy for energy intake from foods other than breast milk. The Minimum Acceptable Diet (MAD) is the composite indicator of dietary diversity and meal frequency. Only 7.1 percent met the minimum acceptable diet. That the sample was small to disaggregate data by states.

Figure 4.6: IYCF indicators on breastfeeding and complementary feeding status

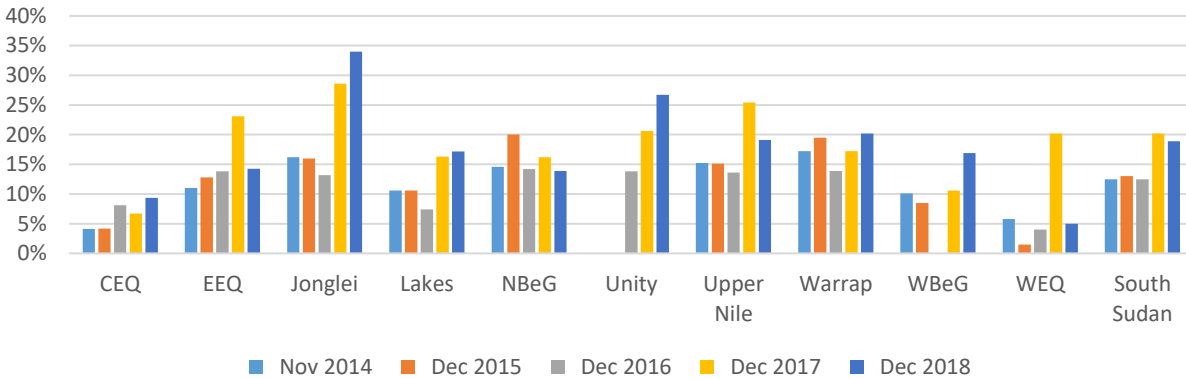


4.3 Women nutrition

The nutritional status of women was assessed using Mid-Upper Arm Circumference (MUAC). A total of 7616 women aged 15 to 49 were measured. Women with MUAC <23cm were classified as acutely malnourished.

The findings of maternal nutritional status are shown in Figure 4.7. At national level, 18.9 percent of women of reproductive age were found to be malnourished. The highest prevalence was reported in Jonglei (34 percent), Unity (26.7 percent), and Warrap (20.2 percent). The lowest prevalence was reported in Western Equatoria with 5 percent. Wasting was 18.8 percent among pregnant women and does not differ significantly from wasting among non-pregnant women (19.2 percent). Compared to the same season of 2016 and 2017, the situation of wasting in most part of the States is deteriorating. The highest prevalence of wasting among women coincided with states with the highest levels of acute malnutrition among children 0 to 59 months. This was prevalent in the following states: Jonglei, Unity, Upper Nile and Warrap States.

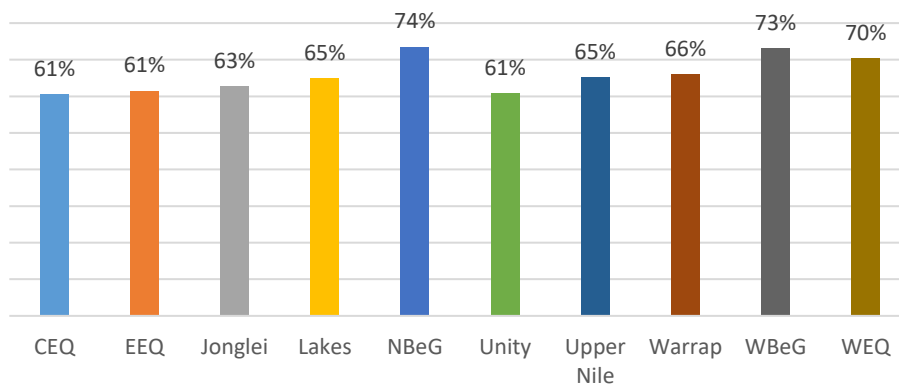
Figure 4.7: Post-harvest trends of wasting among women of reproductive age (between 15 to 49 years)



4.4 Retrospective morbidity

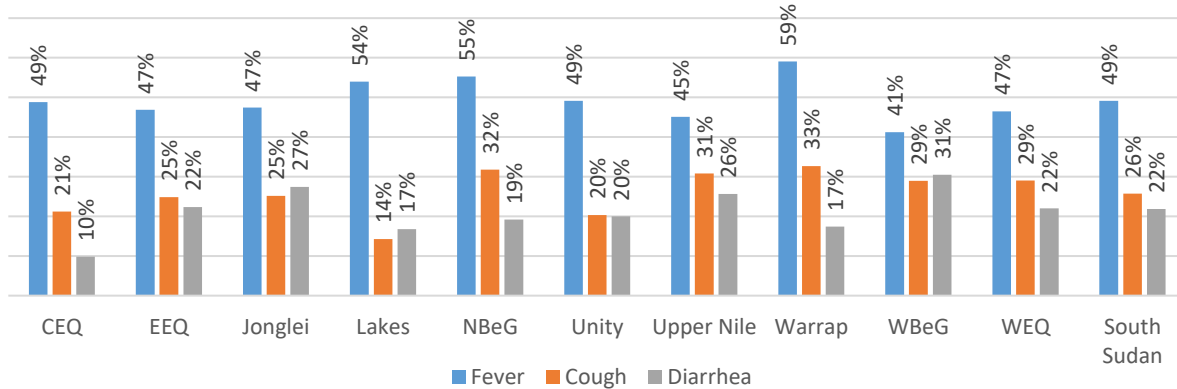
Morbidity data was collected from caregivers of children aged (0-59 months) from the sampled households. The interviews were based on retrospective two-week recall prior to the survey data collection. A total of 10,472 children aged 0 to 59 months were assessed, out of which 49 percent were girls. About two-thirds of total surveyed children were reportedly sick from one or more illnesses in the two weeks prior to the survey data collection. The highest prevalence of illness was found in Norther Bahr el Ghazal and Western Bahr el Ghazal whereas the lowest was observed in Central Equatoria and Jonglei. The statistical analysis shows that illness was associated with acute malnutrition (odds ratio, OR, 1.22 (1.0624-1.4 95 percent CI). This implies that children with illness are 1.22 times likely to develop malnutrition. Therefore, strengthening disease prevention measures may contribute to improvement of the nutrition situation in South Sudan.

Figure 4.8: Prevalence of illness



State-level morbidity prevalence is shown in Figure 4.8. The prevalence of major illnesses reported among the surveyed children include: fever (49 percent), Cough/ARI (26 percent) and Diarrhea (22 percent). The prevalence of fever/malaria in all ten former States is consistently high. Children who had fever and diarrhea two weeks prior to survey were more at risk to be malnourished than those who were not sick with (odds ratio, OR, 1.1968 (1.0515-1.3622 95 percent CI), and 1.4485 (1.2515 – 1.6765 95 percent CI) respectively.

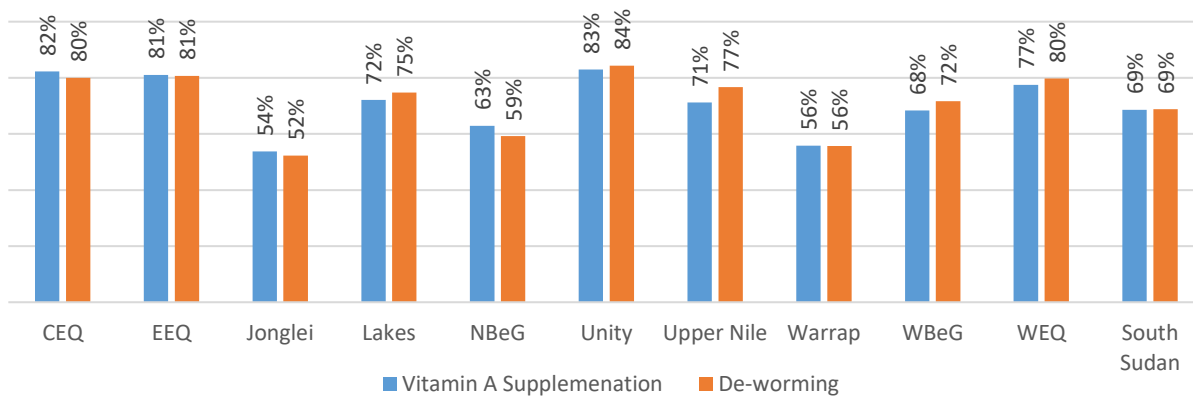
Figure 4.9: Prevalence of morbidity among children under 5 years of age



4.5 Vitamin A supplement and deworming

Data on vitamin A and deworming was collected for children aged 6-59 months and 12-59 months respectively. Caregivers were asked whether the child received Vitamin A and deworming tablets in the past six months. The total number of children assessed for Vitamin A and deworming was 9,825 and 8,774 respectively. Nationally, 69 percent of the children 6-59 months reported being given vitamin A supplementation in the last 6 months. The coverage of de-worming was also the same at 69 percent. Relatively speaking, the coverage in Unity and Central Equatoria was better. The coverage in Jonglei and Warrap was very low, only about half of the children received Vitamin A and De-worming. However, when comparing the reported rate of vitamin A coverage between 2010 and 2018, a remarkable improvement is noted from 4 percent in 2010 to 69 percent in 2018.

Figure 4.10: Vitamin A and De-worming coverage



5 Household profile

5.1 Food insecure household profile

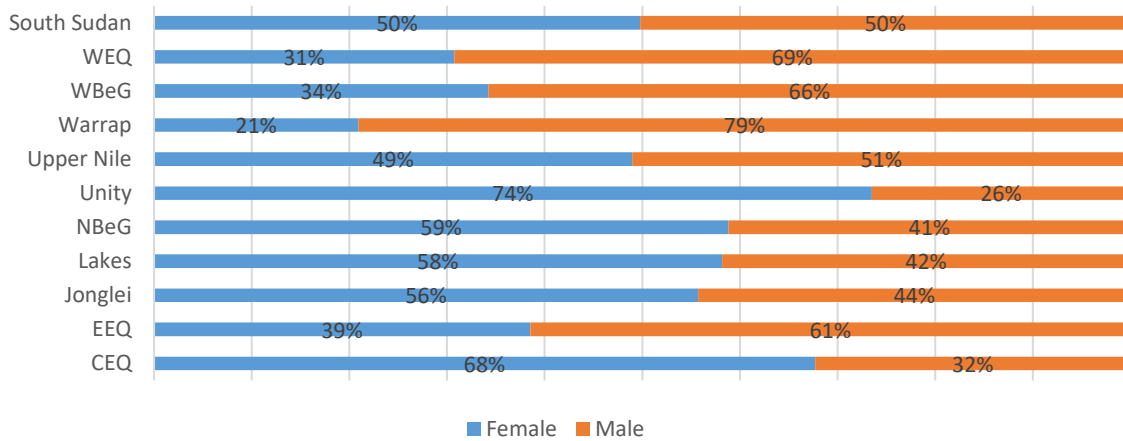
5.2 Household characteristics

Overall, the gender distribution of the surveyed households was found to be equal (i.e. 50 percent male and female headed families each). A high proportion of the female-headed households were found in Unity state (74 percent), Central Equatoria (68 percent), Northern Bahr el Ghazal state (59 percent) and Lakes (59 percent). In contrast more than three quarters (79 percent) of the households in Warrap were male-headed, followed by Western Equatoria (69 percent) and Western Bahr el Ghazal (66 percent). The results revealed high proportion of female-headed households in the conflict-affected states when compared to the relatively stable states (figure 5.1).

Table 5.1: Household characteristics

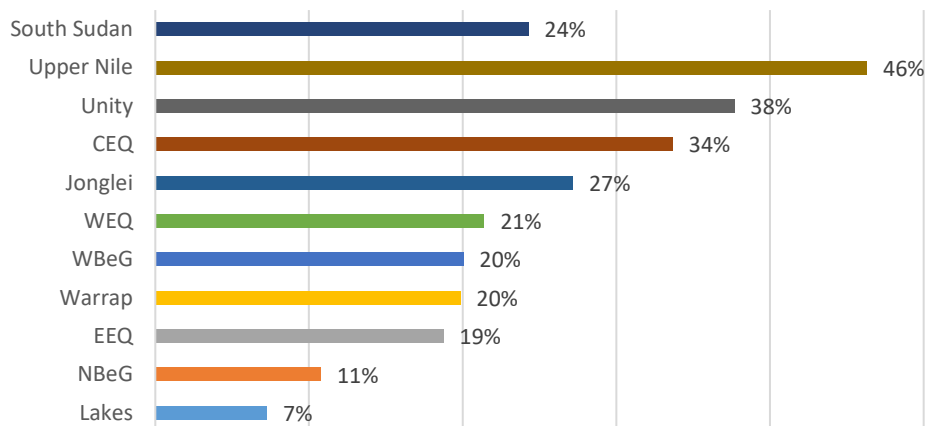
Average HH size	7.1
Head of the household	Male (50 percent), Female (50 percent)
Age of the HH head	41.6 years (mean)
Education of HH head	No formal education (71 percent), Up to primary education (from 2 to 8 years (20 percent), Above primary education (9 percent)
Residence status	Resident (91.2 percent), IDPs (6.5 percent), Returnees (2.2 percent)
Households hosting IDPs/ refugees	7 percent
HH vulnerability	Household having at least one physically disable member (12 percent), Household having at least one mentally disable member (5 percent), Household having at least one chronically ill member (8 percent), Household having at least one injured member (4 percent)

Figure 5.1: Sex of the head of household



About seven percent of the households were IDP households, two percent were returnees and 91 percent were residents. The highest proportion of IDPs was found in Western Bahr el Ghazal (37 percent) followed by Central Equatoria (15 percent) and Unity state (5 percent).

Fig 5.2: Households reporting atleast one member migrating in the past one year



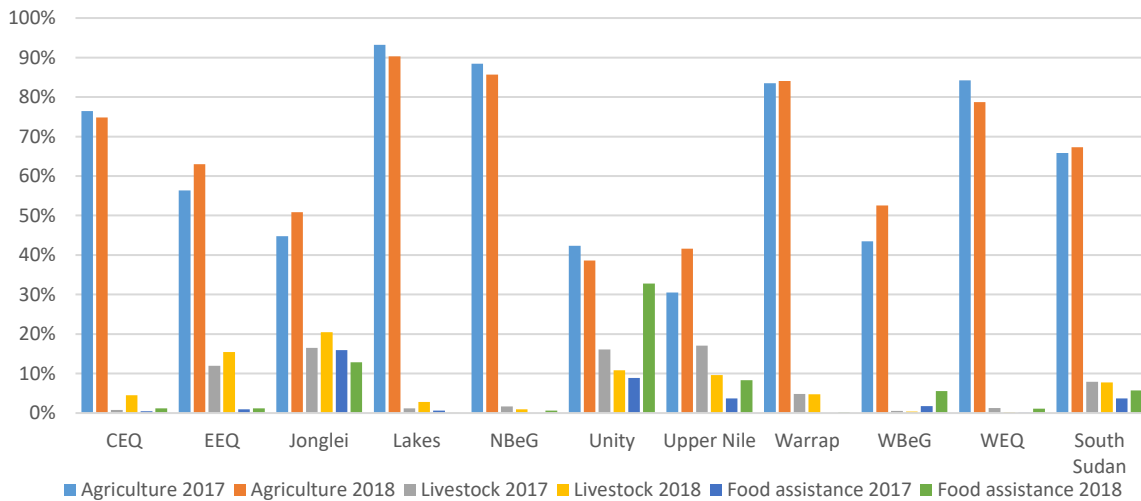
About 12 percent of the households had at least one disabled member with five percent of the households reporting at least one mentally disabled member in the family. Eight percent of the households had chronically ill members and another three percent reported individuals who were injured during recent conflicts. The proportion of the disabled household members was highest in Unity state (18 percent) and Western Equatoria state (16 percent) while the proportion was lowest in Lakes State (6 percent) and Upper Nile state (9 percent).

6 Livelihoods, Income and expenditure

6.1 Main source of livelihoods

Overall, 67 percent of households reported agriculture as the primary source of income, followed by livestock (8 percent), food assistance (6 percent), labour i.e. both skilled and casual (5 percent), petty trade (4 percent) and sale of firewood/charcoal (4 percent). Other sources of livelihood include formal employment (2 percent), gathering and hunting (3 percent) and 2 percent were classified as other. Livelihoods and income sources varied from one state to another.

Figure 6.1: Main livelihoods change in Dec 2018 compare to Dec 2017



There has been a slight increase (1 percent) in households' depending on agriculture compared to last year, whilst livestock has remained almost the same, as main sources of livelihoods. The proportion of households dependent on agriculture decreased in Central Equatoria, Lakes, Northern Bahr el Ghazal, unity and Western Equatoria when compared to the same time last year. Livestock as second main source of livelihood has decreased in Upper Nile, Unity, Northern Bahr el Ghazal, Western Bahr el Ghazal and Western Equatoria when compared to the same time last year. On the other hand, food assistance was reported as the third main source of livelihoods and has significantly increased in Unity state (33 percent reported in December 2018 compare to 9 percent reported in December 2017) (Figure 6.1).

Lakes had the highest proportion of households (90 percent) reporting agriculture as the main livelihood, followed by Northern Bahr el Ghazal (86 percent), Warrap (84 percent) and Western Equatoria (79 percent). The proportion was lowest in Unity (39 percent), followed by Upper Nile (42 percent), Jonglei (51 percent), and Western Bahr el Ghazal (53 percent). The percentage for Central Equatoria (75 percent) is comparatively low given the security-based restriction of access to farms and displacement.

Livestock was the second most important source of livelihoods in Jonglei (20 percent), Eastern Equatoria (15 percent), Unity (11 percent), and Upper Nile state (10 percent). The situation is

different in Western Bahr el Ghazal and Western Equatoria where no one reported livestock as one of their sources of income. The proportion of households reporting Livestock as one of the main livelihoods sources was found to be very low in (Warrap (5 percent), Central Equatoria (4

Figure 6.2: Livelihoods types by state



percent), Lakes (3 percent) and Norther Bahr el Ghazal (1 percent). This reduced the contribution of livestock as one of the main sources of income and is attributed to repeated cases of violence, looting of livestock and displacement (Figure 6.2).

6.2 Monthly income and expenditure

The conflict-related disruption of livelihoods, coupled with the ongoing economic downturn, have significantly affected households' incomes. Some 42 percent of households reported reduced income over the past year. The main reason for the reduction is the disruption of income sources as a result of the ongoing conflict (Figure 6.3).

About 40 percent of the households reported the complete disruption of their income sources whereas 22 percent reported partial disruption. Other reasons for reduced income cited by the households include a change in market conditions (16 percent), the closing of workplaces (2 percent), a lack of access to workplace (6 percent), inflation (4 percent), and various other reasons which account for 10 percent (Figure 6.4).

Figure 6.3: Current income compared to last year

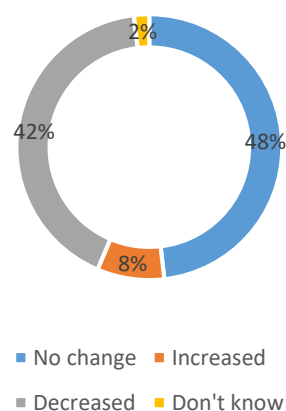
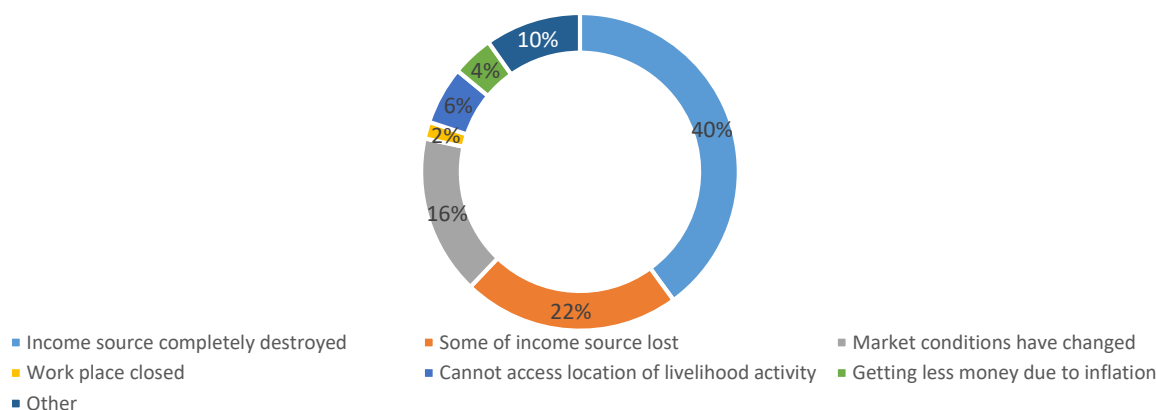
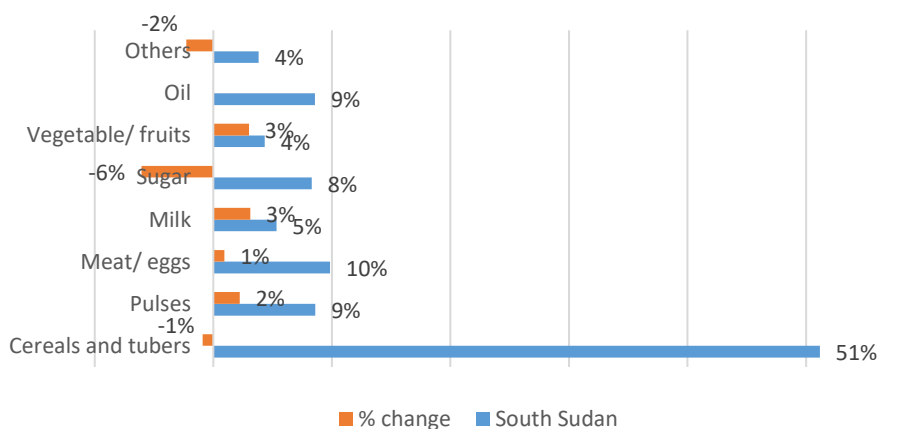


Figure 6.4: Reasons for reduced income



More than half of the households (56 percent) were found to have a high to very high share⁸ of expenditure on food, limiting their ability to meet other non-food needs. Of these households, 43 percent spent over 75 percent on food and 13 percent spent between 60 to 75 percent on food.

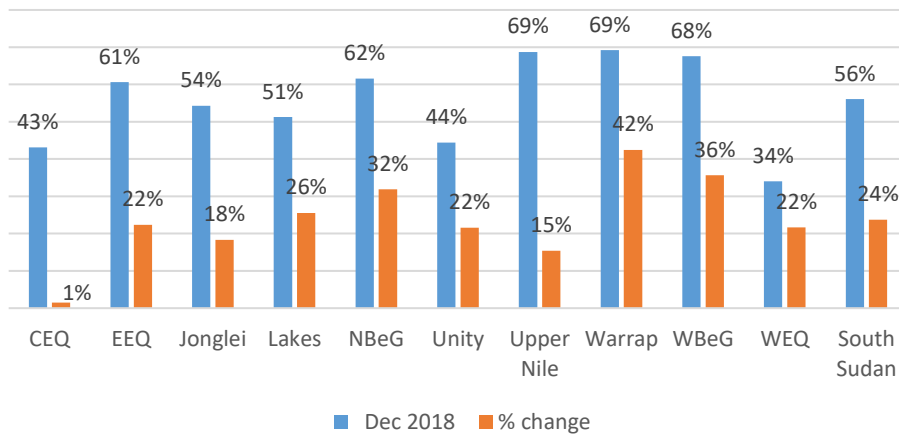
Figure 6.5: Expenditure on food items in Dec 2018 compared to Dec 2017



Overall, 63 percent of households' expenditure went to food and about half (51 percent) of the money spent on food was used to purchase cereals. General food expenditure on different food groups has remained almost the same across the country, whereas cereals have decreased by 1 percent whilst pulses have increased by 2 percent compared to December 2017. The proportion of households with high to very high food insecurity has increased in December 2018 (56 percent) compared to December 2017 (32 percent) across all states, except Warrap which has also shown a substantial increase in households whose main livelihood is agriculture.

⁸ Food expenditure share categories (food expenditure as a percentage of a total expenditure): low (below 50 percent) – medium (from 50 percent to 65 percent), high (from 65 percent to 75 percent) and very high (above 75 percent).

Figure 6.6: HH with high to very high share in food expenditure in Dec 2018 compare to Dec 2017

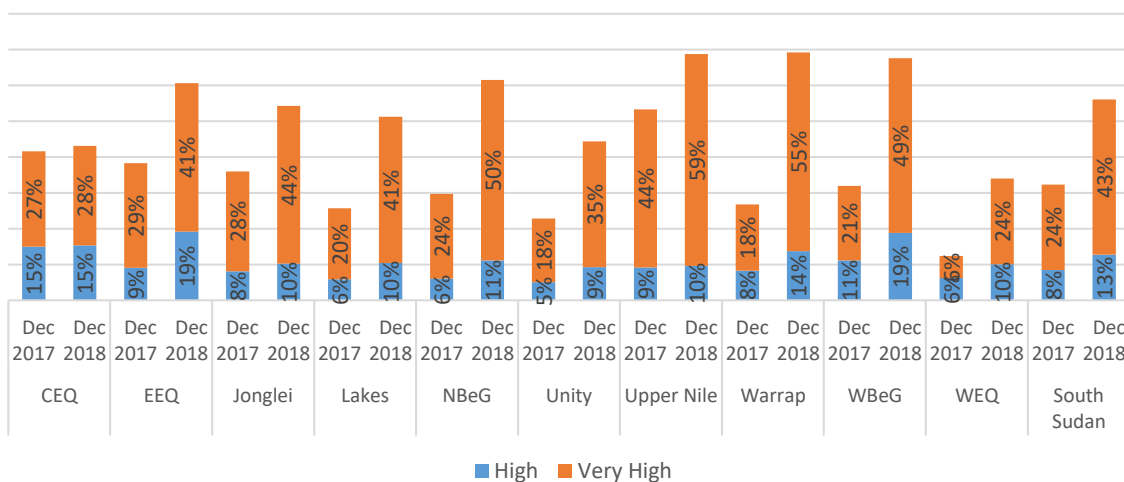


Households spending a high proportion of income on food were mainly observed in Upper Nile (59 percent), Warrap (55 percent), Northern Bahr el Ghazal (50 percent) and Jonglei (44 percent).

The highest food expenditure share was found in Upper Nile (72 percent) followed by Western Bahr el Ghazal (70 percent), Warrap (69 percent) and Northern Bahr el Ghazal (68 percent). Heavy reliance on the markets and the high expenditure share on food aggregated by the economic crisis for is the main driver of vulnerability to food insecurity.

Conversely, the lowest food expenditure share (50 percent) and the proportion of households spending highly (24 percent) on food were found in Central Equatoria (Figure 6.6).

Figure 6.7: Households with high to very high expenditure share on food in Dec 2018 compared to Dec 2017



7 Agriculture

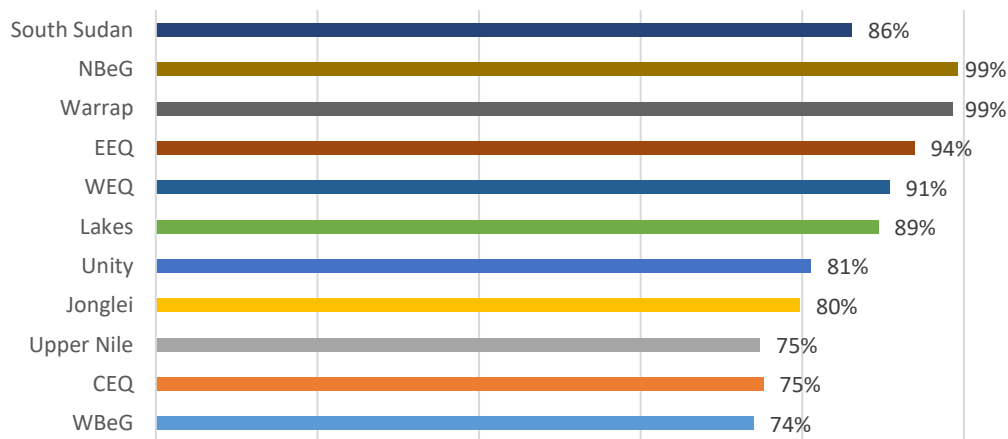
In South Sudan, most households are subsistence farmers or agro-pastoralists, with access to land not being a limiting factor in agricultural production. The area cultivated often depends on a household's ability to farm the land as opposed to access-related issues.

Overall, there has been a slight increase (1 percent) in households having access to land for cultivation compared to December 2017. However, there has been a significant decrease for households in Central Equatoria (by 12 percent), Western Bahr el Ghazal (by 8 percent) and Western Equatoria (by 4 percent) having access to land for cultivation compared to December 2017. This decrease is attributed to the insecurity experienced during the cropping season.

7.1 Access to land for cultivation

Overall, 86 percent of households reported having access to land for cultivation at the time of the survey. This proportion was highest in Northern Bahr el Ghazal (99 percent), Warrap (99 percent), Eastern Equatoria (94 percent), Western Equatoria (91 percent), Lakes (89 percent), Unity (81 percent), and Jonglei (80 percent). In Central Equatoria and Western Bahr el Ghazal; the proportion of households reported having access to land were 75 percent and 74 percent respectively (Figure 7.1).

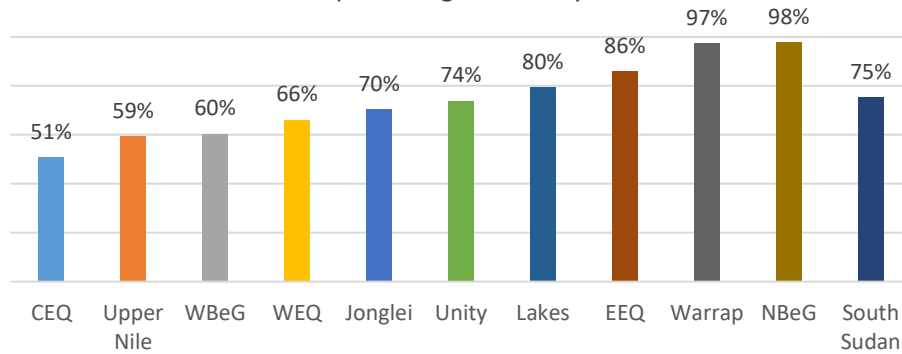
Figure 7.1: Households having access to land for cultivation



Of the households that reported not having access to land for cultivation, 62 percent cited insecurity as a major constraint to accessing land. About 16 percent had recently been displaced while about 7 percent were recent returnees and were yet to be allocated land for cultivation followed by 15 percent of households reporting other reasons.

Although access to agricultural land is not a major issue in South Sudan, agricultural practices are rudimentary and do not necessarily result in optimal utilization of the available land. During the survey period, 75 percent of households who had access to land had cultivated in the previous season.

Figure 7.2: Households who cultivated their land in the season preceding the survey



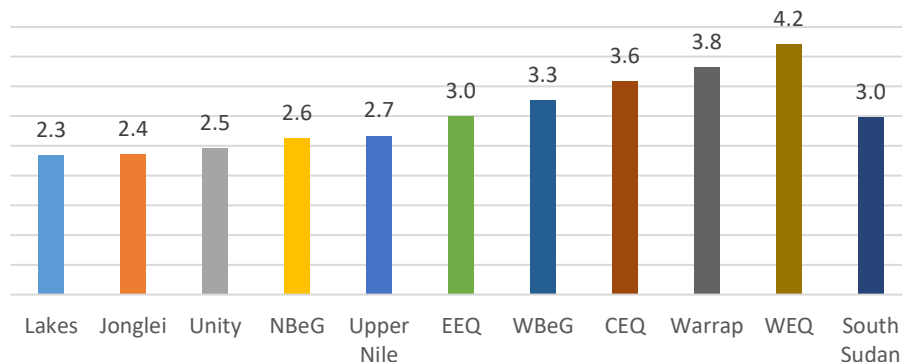
The proportion of households who actually cultivated their land in the previous season was highest in Northern Bahr el Ghazal (98 percent), Warrap (97 percent) and Eastern Equatoria (86 percent). Central Equatoria and Upper Nile states reported less than half of the sampled households having cultivated their land during the last season because of insecurity and displacement related reasons (figure 7.2).

More than half of the respondents are subsistence farmers cultivating one Feddan or fewer of cereals. Despite the ongoing crisis, about two thirds (61 percent) of respondent farmers relied on their own seed stocks while others (32 percent) purchased seeds from the market. Other reported sources of seeds include non-government organizations (NGOs) (12 percent), the Food and Agriculture Organization (FAO) (10 percent) and gifts (13 percent). Similarly, among the households that planted vegetables, 63 percent relied on their own seed stock while others (38 percent) purchased seeds from the market. Some, 19 percent and 14 percent of the respondent farmers obtained their vegetable seeds from NGOs and FAO respectively. This explains the resilience of the households in protracted crisis environments where they devise means to hoard the little resources at their disposal before external support arrives.

South Sudan is a structurally food deficit country where, even in a good production year, imports are needed to fill the cereal gap. This situation has been aggravated by the protracted conflict.

As reported by the households, an average farming household in South Sudan can currently produce food (cereals) sufficient for their own consumption needs for only 3 months of the year.

Figure 7.3: Food self sufficiency in months for farming households



This self-sufficiency is highest in Western Equatoria at 4.8 months and lowest in Lakes at 2.4 months, closely followed by Jonglei State at 2.5 months (Figure 7.3).

When households were asked about their intentions to use their expected production, almost all of the respondents (99 percent) said that they would use it for their own consumption. Only 8 percent said they would sell it in the market; and about 6 percent indicated that they would share their cereal produce with relatives and friends. This shows that even with farmers who do not produce enough for their own consumption to last the whole year, they still sell some of their produce to be able to acquire other non-cereal foods as well as cover non-food needs, thus highlighting the need for these households to make extremely difficult choices. The same trend was observed in all ten former states.

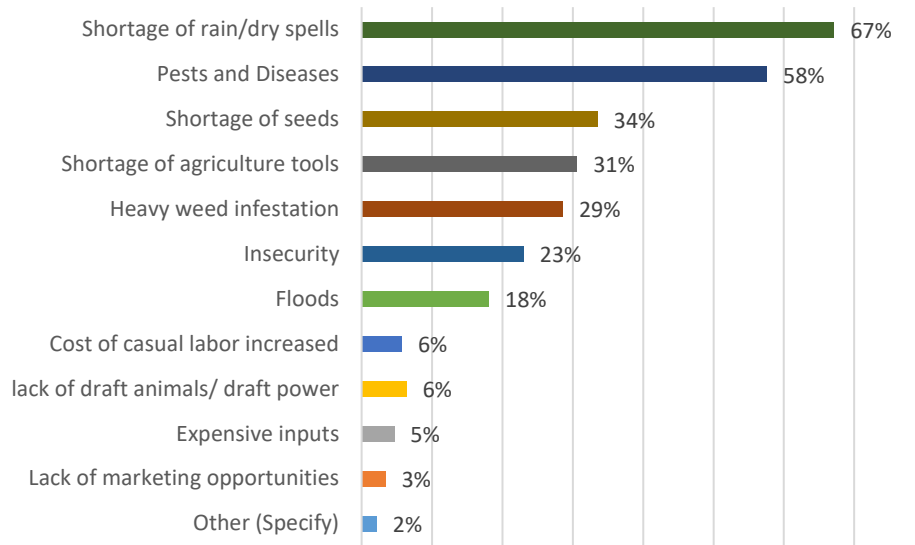
Upon completion of their harvested food stocks, 71 percent of the respondents indicated that they would get additional food from the market, about a third (30 percent) would rely on humanitarian aid and 20 percent expect support in the form of gifts from relatives and friends.

7.2 Challenges to agricultural production

Shortage of rainfall was cited as the main challenge to farming by 67 percent of households, followed by pests and diseases (58 percent), shortage of agricultural seeds (34 percent) and tools (31 percent), heavy weeds infestation (29 percent), and insecurity (23 percent) (Figure 7.4).

Eastern Equatoria had the largest proportion (88 percent) of households reporting shortage of rains as the main challenge, followed by Upper Nile (85 percent), Warrap and Western Bahr el Ghazal (82 percent each). Western Equatoria had relatively high proportions of households (80 percent) reporting crop pests and diseases as the main challenge followed by Warrap (68 percent), Eastern Equatoria and Upper Nile State (67 percent each).

Figure 7.4: Main challanges to agriculture

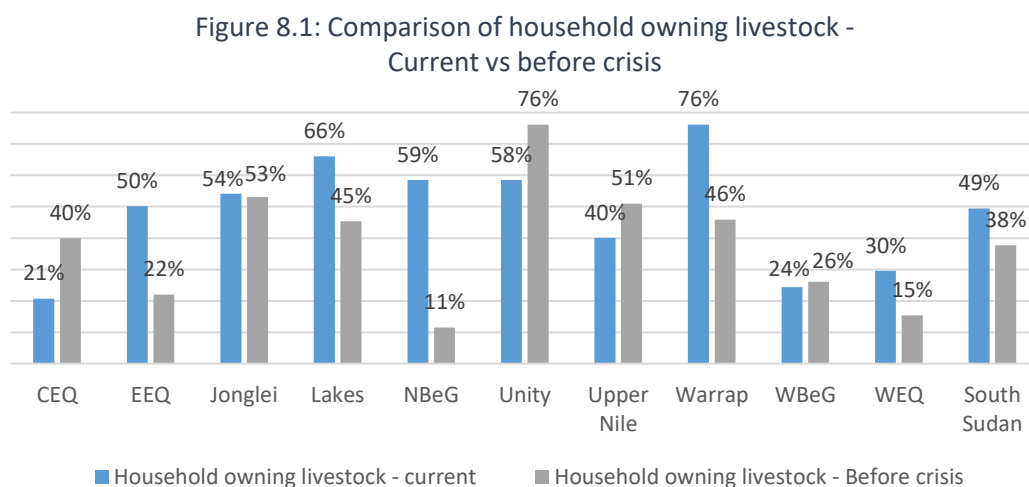


8 Livestock

Livestock is an important contributor to household food security in rural areas of South Sudan by providing milk and meat products as well as income through sales. The situation for livestock ownership has slightly decreased as compared to same time last year with 49 percent of households reporting owning livestock during the time of survey (Dec 2018), a decrease of 5 percent from 54 percent ownership at the same time last year (Dec 2017).

8.1 Average livestock ownership

During the time of survey, the proportion of households owning livestock was highest in Warrap (76 percent), followed by Lakes (66 percent) and Northern Bahr el Ghazal (59 percent), and was lowest in Central Equatoria (21 percent) followed by Western Bahr el Ghazal (24 percent). This represents an overall slight increase in livestock ownership overall as compared to the pre-crisis situation (Figure 8.1).

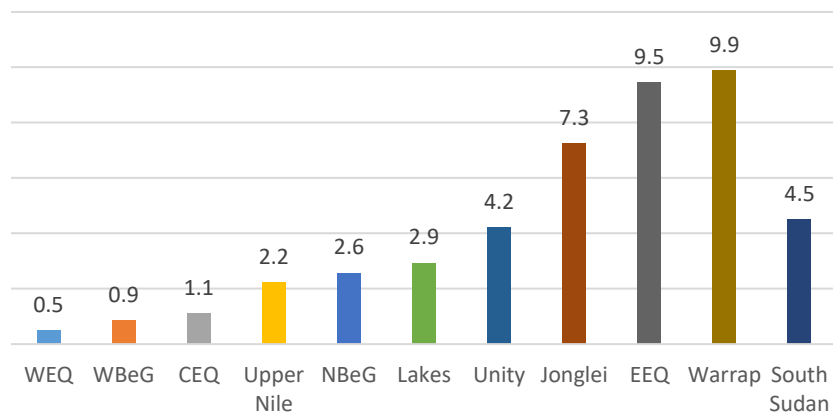


Overall, 38 percent of the surveyed households reported owning livestock before the crisis in December 2013. Unity, Jonglei and Upper Nile states had the highest proportion of households (76 percent, 53 percent and 51 percent respectively) who owned livestock before the crisis. Whereas Northern Bahr el Ghazal (11 percent) and Western Equatoria (15 percent) reported having the lowest proportion of livestock before the crisis. These trends are different from the current situation whereby Warrap has the highest proportion of households owning livestock (76 percent) (Figure 8.1).

In South Sudan, an average livestock-rearing household would own 4.5 TLU⁹ of livestock. Warrap state was found to have the highest livestock ownership at 9.9 TLU, followed by Eastern Equatoria at 9.5 TLU, while it was lowest in Western Equatoria, Western Bahr el Ghazal, and Central Equatoria (0.5 TLU, 0.9 TLU and 1.1 TLU respectively), where livestock keepers traditionally own smaller herds (Figure 8.2).

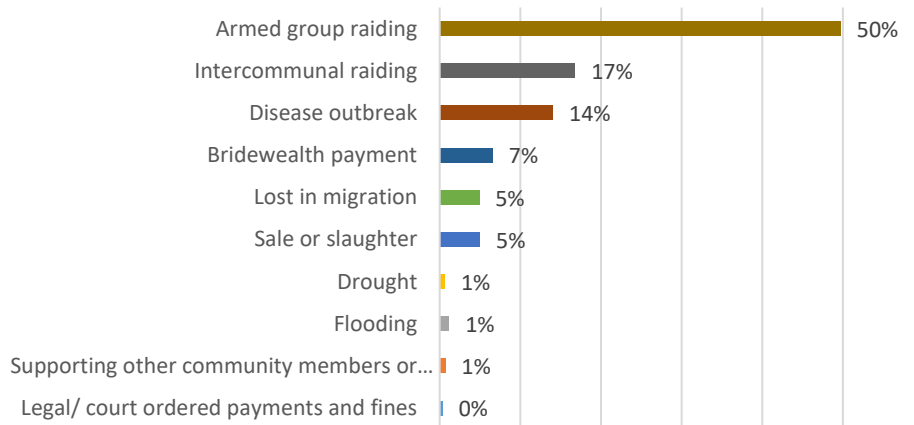
⁹ Values for TLU are as follows: Camel=1, cattle=0.7, goat/sheep=0.1 and poultry=0.01. Source FAO (1987), Livestock Production in tropical Africa.

Figure 8.2: Average Tropical Livestock Ownership (TLU) of households keeping livestock



The households that did not own livestock at the time of the survey but had livestock before the crisis in 2013 were asked to cite the main reasons for the loss of livestock. Overall, cattle raiding, both intercommunal and armed, was the main cause of livestock loss, followed by disease outbreaks (figure 8.3).

Figure 8.3: Reasons for loss of livestock owned currently compared to the situation before crisis

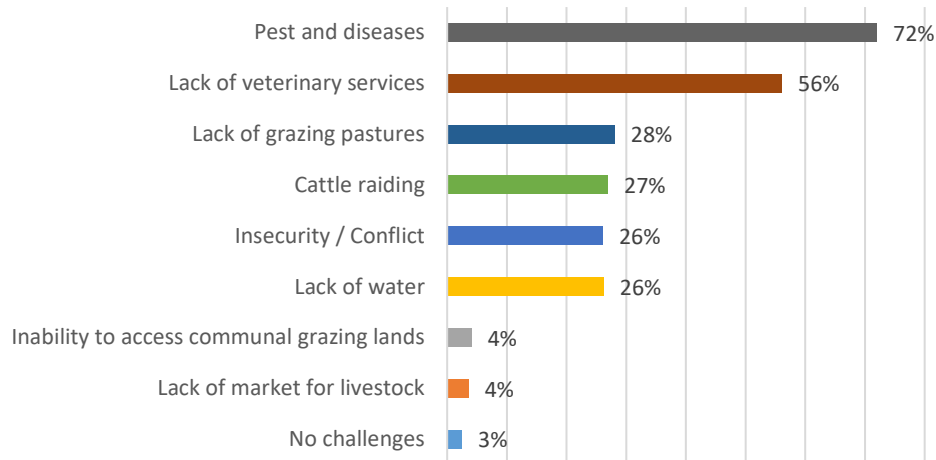


Households were asked about the changes in livestock ownership compared to same time last year; about 41 percent of households reported a major decrease while 22 percent of households reported a minor decrease. About 23 percent of households reported no change in livestock ownership, whereas 13 percent reported some minor increase. This is quite evident in the context of the prevailing drought and insecurity conditions in South Sudan.

8.2 Challenges in livestock management

The reasons for decreases in livestock ownership include disease outbreaks (72 percent), lack of veterinary services (56 percent), lack of grazing pastures (28 percent), cattle raiding (27 percent), ongoing insecurity/ conflict and lack of water (26 percent each). Other reasons such as inability to access the communal grazing land, lack of market for livestock etc. were cumulatively reported by 8 percent of the respondents (Figure 8.3).

Figure 8.3: Challenges to livestock keeping



The main challenges in rearing livestock were mainly pests and diseases (70 percent), lack of veterinary services (56 percent), cattle raiding (32 percent), insecurity and conflict (30 percent), lack of forage (28 percent), and lack of water for livestock (27 percent).

9 WASH

9.1 Severity mapping¹⁰

The WASH situation remains concerning across the entire country. Regardless of displacement status or location, the average severity of WASH needs across South Sudan was reported level 4 (Alert). Nevertheless, important differences were observed between population groups, settings and regions and the different composite indicators. Greater Upper Nile (GUN)¹¹ and Great Bahr el Ghazal (GBeG)¹² also had severity rankings of Level 4, though the severity per indicator varied in the regions. Greater Equatoria (GE) had the lowest overall severity ranking at 3.5.¹³

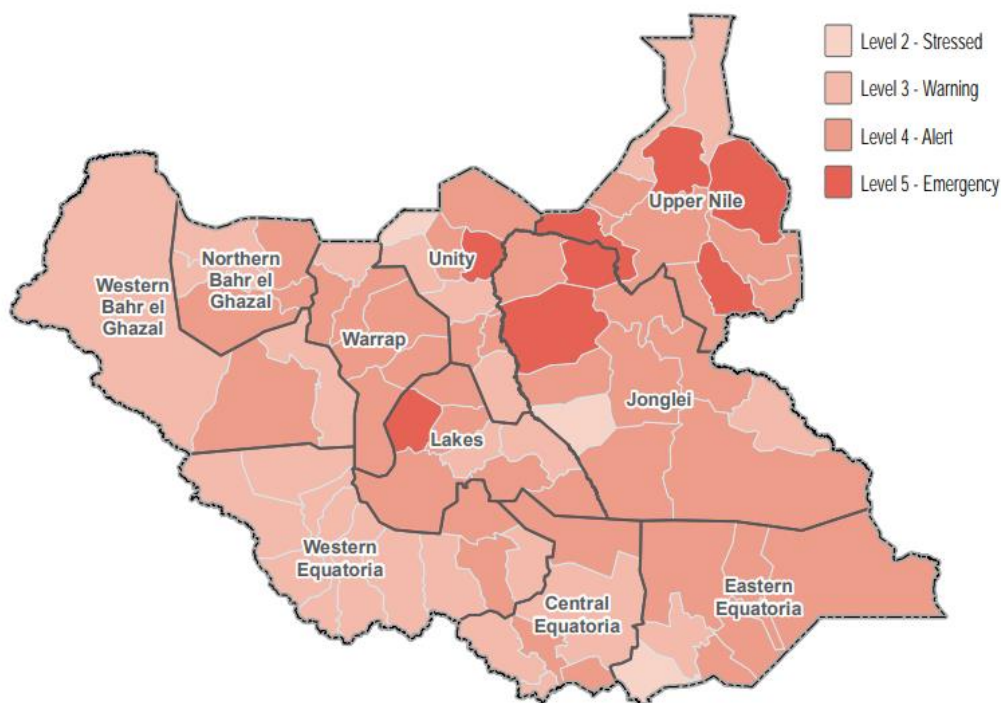


Figure 9.1: WASH severity map

9.2 Access to water

Households across the country reported low access to an improved water source in less than 30 minutes without protection concerns. The lowest proportion of households accessing this type of

¹⁰ Four core WASH indicators were used to rank WASH severity, ranking from level 1 (normal) to level 5 (emergency). The final severity ranking was created by calculating the average level from the four, with all parameters given equal weight: 1. Water - Safe access to and use of an improved water source (borehole, tap-stand, water yard) in less than 30 minutes as a main source of drinking water (composite indicator). 2. Sanitation - Having access to a latrine (private, shared, or communal/institutional). 3. NFI - Owning a jerrycan or bucket with a lid and soap, and that every member of the HH slept under a mosquito net (composite indicator). 4. Health - Having one or more household members affected by self-reported water or vector borne disease in the two weeks prior to data collection

¹¹ GUN states include: Unity, Jonglei, and Upper Nile.

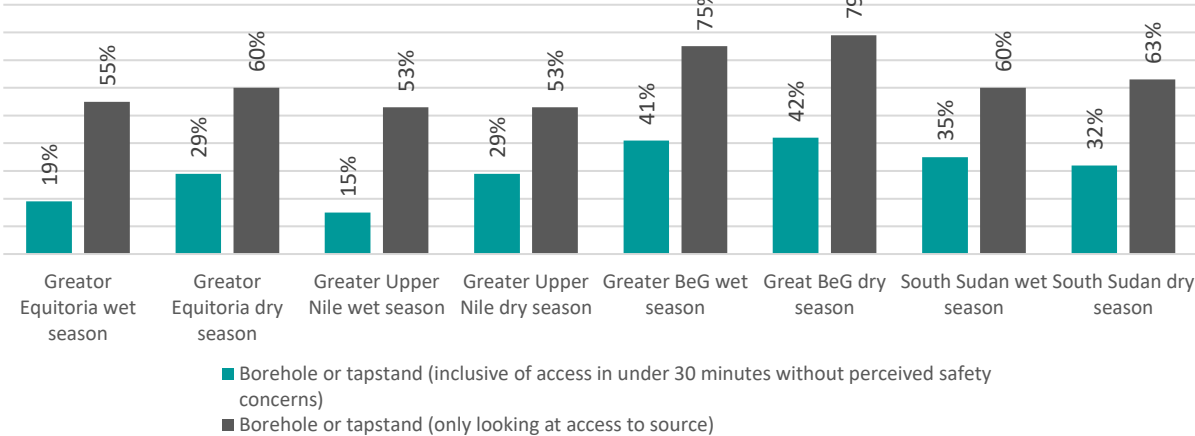
¹² GBeG states includes: Lakes, Warrap, Northern Bahr el Ghazal, and Western Bahr el Ghazal.

¹³ GE states includes: Central Equatoria, Western Equatoria, and Eastern Equatoria.

drinking water was in the Greater Upper Nile States and the highest in Greater Bahr el Ghazal States (Figure 9.2). The low proportion in the Greater Equatoria region came from Central Equatoria and Western Equatoria, where perceptions of insecurity preventing access and insufficient boreholes were reported as the primary reasons why access was low. Across the country, when only looking at the source of water being a borehole or tap stand, without considering perceptions of safety and time spent accessing the water points, access almost doubled in both seasons.

Counties reporting a significant decrease in access to a borehole or tap stand with an access in less than 30 minutes, and had not reported perceived safety concerns when accessing the water source between the wet and dry season were spread throughout the country. Ayod County saw the proportion of households with access to source of drinking water drop from 34 percent in the wet season to 8 percent in the dry, and Bor South from 67 percent in wet season to 32 percent in the dry season. In addition to increased reliance on surface water and time spent accessing water, during the dry season, the Bor-Ayod Corridor had the highest reported protection concerns related to water access across the country (42 percent to 47 percent). This was mainly reportedly due to perceptions of increased violence (primarily reported to be gender based violence) which lead to females requesting males accompanying them for additional protection.

Figure 9.2: Access to water in December 2018 compared to July 2018



In the Greater Bahr el Ghazal states; access to water from wet to dry season starkly decreased in Gogrial East (66 percent to 22 percent) and Gogrial West (45 percent to 20 percent), Rumbek Centre (74 percent to 37 percent) and Tonj North (66 percent to 35 percent). These decreases stemmed from households indicating that an increased amount of time was required to access boreholes, which was reportedly due to broken boreholes and insufficient access to spare parts.

9.3 Access to sanitation

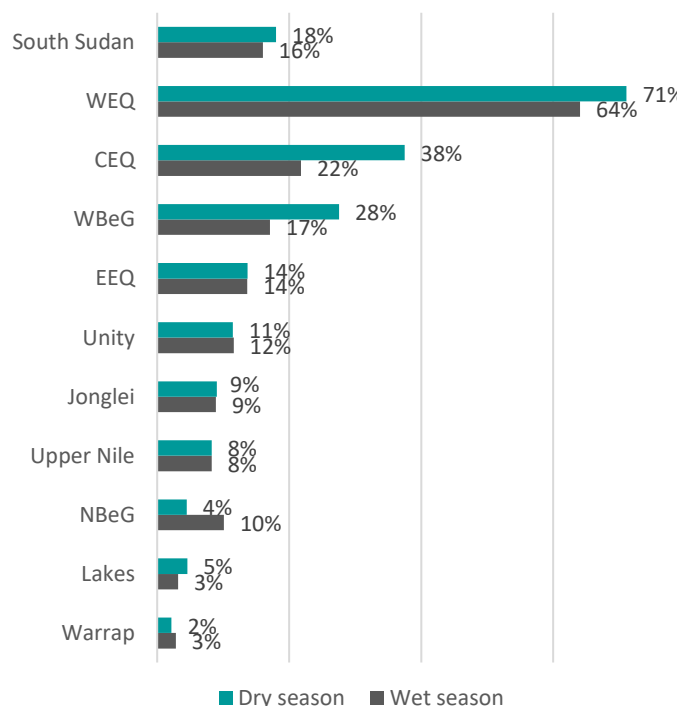
Across South Sudan, limited access to and use of latrines remained constant during both wet and dry seasons (21 percent reporting access and 17 percent reporting always using a latrine). Counties that saw a higher proportion of households reportedly always using latrines, primarily

in Central Equatoria and Western Equatoria, traditionally have had more widespread sanitation infrastructure and established cultural practices around latrine use. However, access and usage gaps were most commonly found in Western Equatoria. This gap could be attributed to households reporting the presence of a latrine but that insecurity in 2018 damaged sanitation infrastructure and limited access, in particular in Mundri East (45 percent latrine access and 30 percent latrines use), Mundri West (37 percent access and 24 percent use), and Nagero (82 percent access to 70 percent use). The lower proportion of households using latrines in

the Greater Kapoeta area, is likely due to the absence of infrastructure and cultural practices, brought down the Greater Equatoria average.

When excluding Western and Central Equatoria, the national average proportion of households reportedly using a latrine in both the wet and dry seasons was 9 percent. Twelve counties had an average of 0 percent of households reportedly using a latrine (Kapoeta East and Kapoeta South, Yirol West, Rubkona, Maban, Panyikang, Tonj South, East and North, Urur, Gogrial East, and Nyirol). This low proportion of households with access to latrines across the country, in particular households with no access at all, highlighted that the need for both increased sanitation infrastructure and sensitization remains a sanitation priority.

Figure 9.3: Latrine presence in December 2018 compared to July 2018

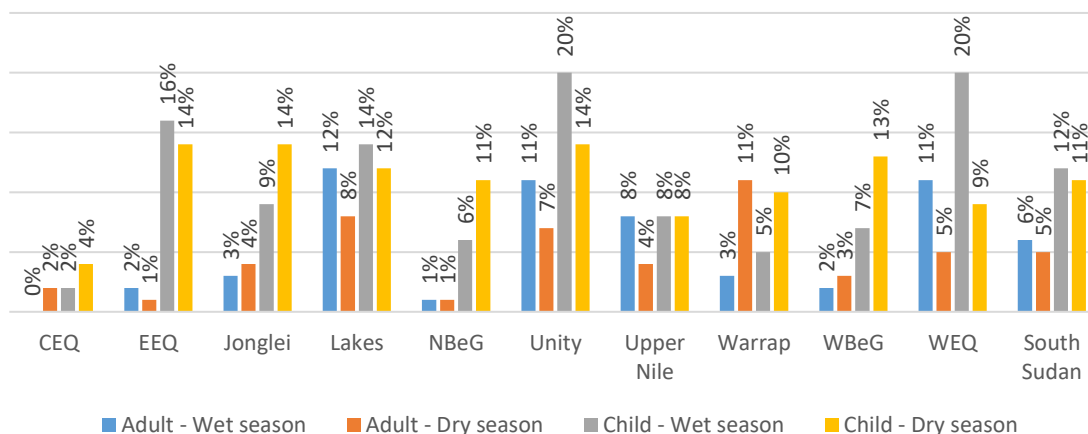


9.4 Self-diagnosed water and vector borne diseases

In 2018, 74 percent of households reported a self-diagnosed vector or water-borne disease in the two weeks prior to data collection in December 2018. Malaria remained the most prevalent self-diagnosed water or vector borne disease, followed by fever then Acute Watery Diarrhea (AWD) (Figure 9.3). When broken down into age groups, it was more commonly found that children under 5 years of age would fall ill as opposed to adults (Figure 9.3). The biggest decrease in households reporting that a member was ill being in Northern Bahr el Ghazal (70 percent in the dry to 83 percent in the wet season), potentially due to heavy flooding during the rainy season, and reportedly low access to health care services. The largest decrease in households reporting one member of the household being ill was in Western Equatoria (84 percent in the dry season to 69 percent in the wet season). Nagero, however, recorded the highest proportion of households

reporting a member had acute watery diarrhea (71 percent during both the wet and dry seasons), potentially due to unsafe drinking water and unhygienic food preparation, commonly left uncovered, making it more likely to become contaminated.

Figure 9.3: Self-reported cases of Acute Watery Diarrhea in December 2018 compared to July 2018



9.5 Access to WASH non-food items

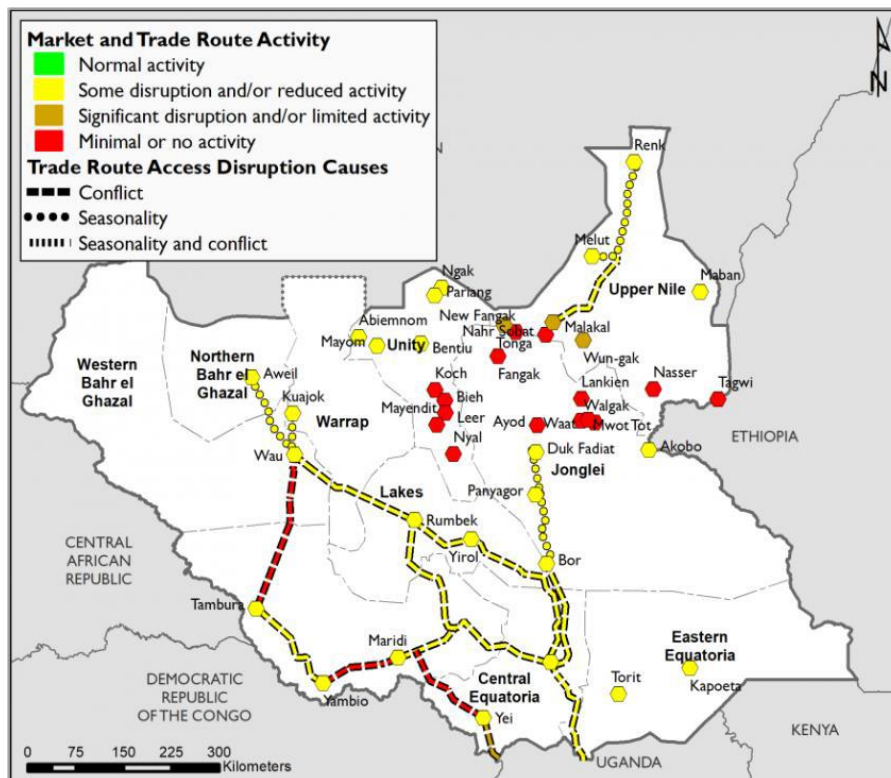
The high prevalence of households reporting a member of households being ill is likely not only connected to poor access to improved water but also limited WASH non-food items (NFIs). Throughout both seasons only 14 percent of households reported access to all three WASH NFIs. While three quarters of the population reported access to at least one jerrycan or bucket, this left a quarter of households without access to a jerrycan or bucket that can be sealed once water was collected. Even if water is collected from an improved water source, inadequate storage conditions can lead to an increase in the microbial contamination of water stored within, thus a higher risk of an infectious diseases. The risk of contracting a water-borne disease is further compounded by limited access to the key sanitation NFI, soap, with only 20 percent of HHs reporting owning soap. The prevalence of malaria throughout both seasons may also be linked with 44 percent of the population sleeping without a mosquito net, as sleeping under a mosquito net decreases the potential of catching malaria or other vector-borne diseases. Increased access to WASH NFIs could act as a strong mitigation against vector and water-borne diseases.

10 Markets and household food access

10.1 Physical access to market

Hostilities, inter-communal violence and cattle-raiding continued to cause displacement and to restrict humanitarian access, mainly in the former Central Equatoria, Western Bahr el Ghazal, Unity, Jonglei and Upper Nile states. By the end of 2018, about 1.9 million people remained internally displaced across the country. The lack of security in the country has limited the movement of locally produced agricultural products from where they are produced to demanded areas. Specifically, the movement of goods was heavily restricted in Greater Equatoria states, which is traditionally considered the food basket of the country. On the other hand, insecurity along the main trade routes forced transporters to charge high transport costs, which has contributed to the increasing cost of goods in the market. Overall, despite some recent improvements, trade and marketing activities remain lower than their pre-conflict levels as insecurity prevailing in several areas hinders transport and marketing of food items and households' physical access to the markets. Figure 10.1 shows the situation of trade routes in the country¹⁴.

Figure 10.1. South Sudan - Market and trade functioning, October 2018



Source: FEWS NET, South Sudan

¹⁴ FAO/WFP Crop and Food Security Assessment Mission to South Sudan, 15 March 2019

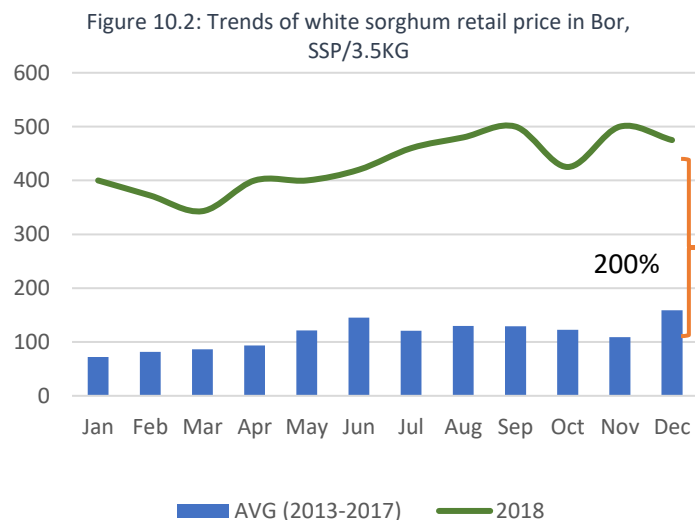
10.2 Food availability in the market

The two dominant sources of staples are markets and households' own crop production. Supply to markets comes both from local production and imports, mainly from neighboring countries, namely Uganda and Sudan. In December 2018, about 64.5 percent of households depend on own production, 23.4 percent on market, 7.7 percent on food assistance, and the remaining 4.3 from other sources. These figures vary by season: in the post-harvest period (October-December) the households depend more on their own production, and dependence on markets increases and reaches a peak in the lean season (June-August), as the household's stocks are exhausted. After the main harvest, the availability of food commodities in the market is less problematic, but prices are at elevated levels. On the other hand, locations with security challenges suffer from a tight supply of food commodities at all times.

10.3 Price outlook

In December, cereal prices showed mixed behavior, with observed dominance of stability and further decreases across many markets in comparison with the preceding months. Improved supply from local and major exporting countries, namely Uganda and Sudan, coupled with improvements in dry-season road access have contributed to the observed stability of prices. Yambio had the lowest sorghum price in December, fetching SSP 150 per 3.5 kilograms while Mingkaman had the highest price, SSP 650 per 3.5 kilograms. In Bor, white sorghum price was SSP 475 per 3.5 kilograms, representing five percent drop compared to November 2018; however, it has increased by 200 percent compared to the five-year average (see Figure 1). Similarly, Wau, Rumbek and Aweil markets presented higher prices for white sorghum than December 2017 within ranges of 40 to 90 percent, and prices rose by 205 to 340 percent compared to the five-year monthly average. In Juba, the behavior of white sorghum was also the same as other markets, 180 percent above the five-year average, although it was 13 percent lower than December 2017 levels.

Western Equatoria is one of the breadbaskets of the country, producing a variety of grains. One kilogram of field beans was exchanged at SSP 200 in Yambio, while it costed SSP 675 in Bunj market, Upper Nile state. Compared to the five-year average, the retail price of field beans increased by 127 to 445 percent in markets of Aweil, Wau, Rumbek, Bor and Juba. In the same vein, price rose in these markets as compared to December 2017, the lowest in Juba (8 percent) and the highest in Rumbek (69 percent).



Terms of trade between the average goat and sorghum have improved across markets as compared to December 2017, resulting in an improved purchasing power of livestock-dependent households. The seasonal stability / drop in cereal prices has contributed to the improved terms

of trade. An average-sized goat was exchanged for 78 kilograms of sorghum in Mingkaman to 217 kilograms in Juba, representing 150 and 291 percent increases compared to December 2017. In Torit and Kapoeta South, where maize grain is a staple, the terms of trade stood at 153 and 178 kilograms, representing an increment of 31 and 155 percent compared to December 2017.

The CFSAM report indicates that households always rely on markets to a significant degree and generally exhaust their stocks around the second quarter of the year following the harvest. Given this fact, coupled with the observed prices stability in major supply markets of Uganda, prices of cereals in most markets expected to remain stable at elevated levels in the first three months of 2019. However, as the local currency continued to depreciate, food items exclusively dependent on imports, such as cooking oil and wheat flour, will continue to increase moderately.

11 Macroeconomic crisis affecting food security

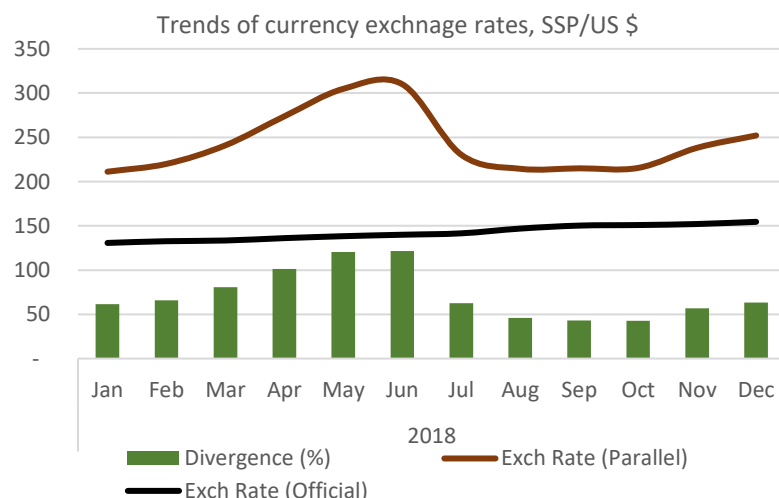
11.1 Macro-economic situation

In South Sudan, the macro-economic situation has been continually impacted by hyper-inflation, scarcity of hard currency, depreciation of local currency, reduced crude oil revenues, disruption of trade routes and other issues affecting the performance of the economy. As a consequence of the severe impact of the protracted conflict, the country has been displaying, since mid-2016, all the signs of macro-economic collapse, with output contracting, hyper-inflation and depreciation of the local currency in the parallel market. Despite some encouraging developments beginning in mid-2018 following the signing of the peace agreement, which boosted investors' confidence over greater political stability and the resumption of oil production, the macroeconomic situation has remained dire. The country's real Gross Domestic Product (GDP) contracted by approximately 11 percent in 2015 and 2016, by about seven percent in 2017 and by a further 3.5 percent in 2018¹⁵.

11.2 Trends of inflation and currency exchange rate

According to the National Bureau of Statistics, the consumer price index (CPI)¹⁶ or cost of living has increased by 40 percent in December 2018, compared to 118 percent in December 2017. Similarly, food consumer price index in December 2018 was 30 percent, while it was 74 percent in December 2017.

The economic crisis in the country has impacted the purchasing power of the South Sudan Pound (SSP). In July 2018, the local currency appreciated by 25, jumping from SSP 310 per one US dollar to SSP 230, and further appreciated, reaching SSP 215 per US dollar from August to October 2018. However, the exchange rate started its usual depreciation in November 2018, and transacted at SSP 238.21, a depreciation of 11 percent from the previous month. In December, exchange rate was at SSP 252.10 per US dollar, depreciation of 6 percent compared to November 2018. Compared to December 2017, the exchange rate depreciated by 33, and by 310 percent against the five years' monthly average (2013-2017). On the other hand, the official exchange rate in December 2018 was SSP 154.54 for one US Dollar, 22 percent lower than one year ago and about 238 percent depreciation compared to five years' average. The spread between parallel and official markets increased to 63 percent, from 50 percent in December 2017. For a country that relies heavily on



¹⁵ FSIN Global Report on Food Crises 2019.

¹⁶ Consumer Price Index (CPI) measures the average change in the price paid by consumers for a fixed market basket of goods and services. In South Sudan, the food component of the index comprises the highest weight, 71.39 percent, and the overall inflation rate is largely driven by the change in the prices of food commodities.

imports of staple foods, the depreciation of local currency has negative implications for the purchasing power of households living with inelastic incomes.

12 Assistance received

Approximately one third of the country's population received at least some form of assistance in October – December 2018. Most of the households reported receiving lifesaving food assistance.

12.1 Types of assistance received

Overall, 32 percent of households across the country reported receiving at least some form of assistance in the past 3 months of data collection (data collected in November and December 2018). Almost all the households reported receiving general food distribution (GFD) (Figure 12.1).

Other assistance received by the households included health/medicines (6 percent), agricultural inputs (3 percent), food for assets (2 percent), Agricultural tools (2 percent), Nutrition support (2 percent). Other assistance such as veterinary support, food for school children, shelter material, cash for work, fishing gear, and household utensils were reported at 1 percent each.

Overall, when comparing the situation of assistance received as reported by the households, 30 percent reported receiving some kind of assistance in December 2018, against similar numbers (30 and 35 percent respectively) in December 2017 and December 2016.

The highest proportion of households receiving assistance was found in Jonglei, Western Bahr el Ghazal, Unity, Eastern Equatoria and Upper Nile states. Significant increases in terms of households reported receiving assistance were observed in Unity (60 percent), Jonglei (57 percent), and

Figure 12.1: Type of assistance received

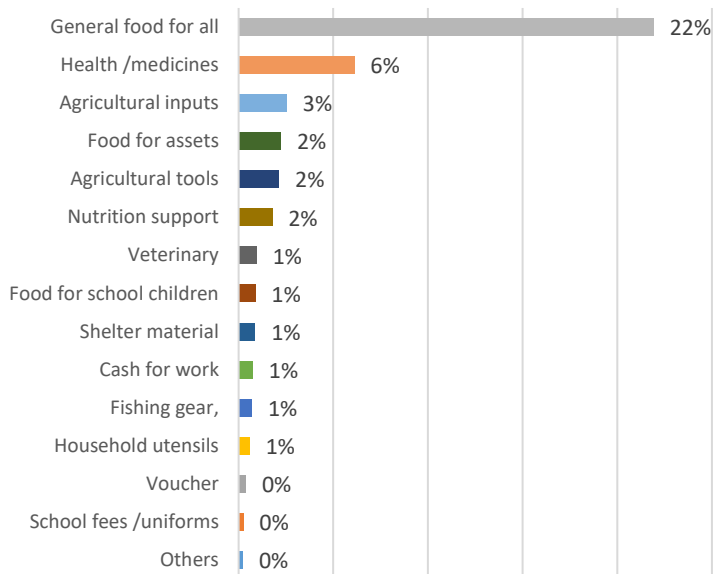
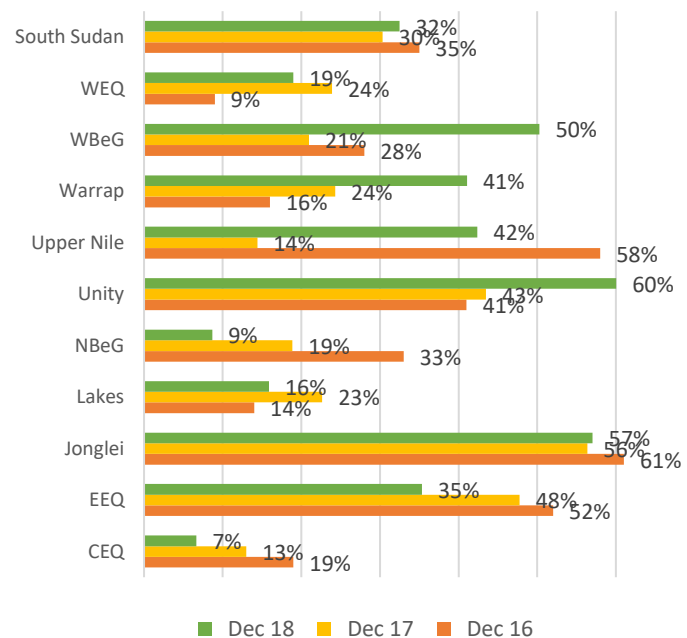


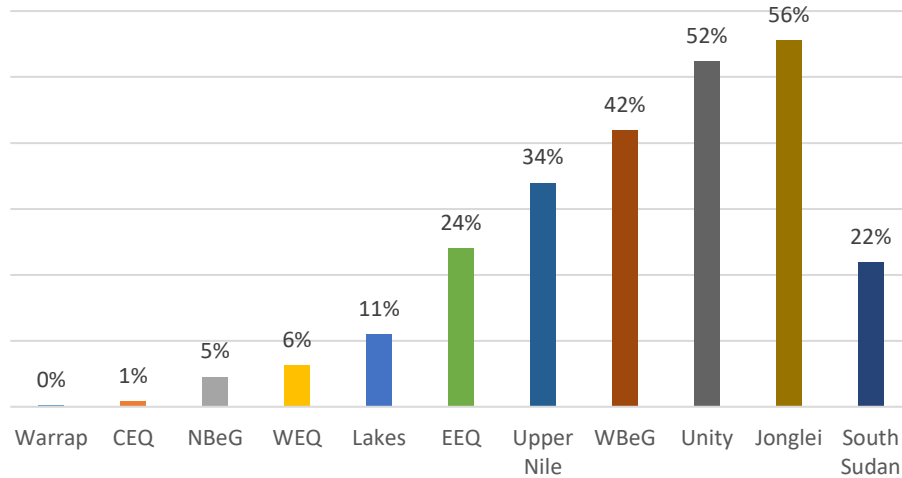
Figure 12.2: Households reported receiving assistance



Western Bahr el Ghazal (50 percent) that is evident with improved access to security sensitive areas (Figure 12.2).

Comparing the state level situation for GFD; Jonglei has reported the highest households (56 percent) reported receiving food assistance followed by Unity (52 percent), Western Bahr el Ghazal (42 percent), Upper Nile (34 percent) and Eastern Equatoria state (24 percent) (Figure 12.3).

Figure 12.3: Households receiving General Food Distribution



Overall, households receiving humanitarian assistance were found to be better off in terms of food consumption than those who did not receive any assistance. Households receiving humanitarian assistance are less likely (44 percent as compared to 55 percent) to present a poor food consumption and more likely (29 percent compared to 20 percent) to have acceptable food consumption (Table 12.1).

Table 12.1: Has any of the household members received any form of assistance in the past 3 months?					
No			Yes		
Food Consumption Group			Food Consumption Group		
Poor	Borderline	Acceptable	Poor	Borderline	Acceptable
55%	25%	20%	44%	26%	29%

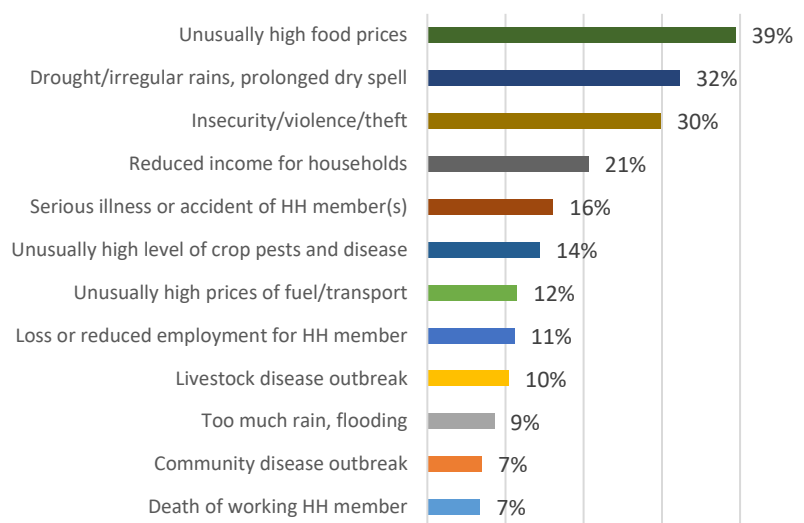
13 Shocks and Coping

High food prices remain the leading shock experienced by households in July/August 2018 followed by insecurity and drought/irregular rains. High food prices are the result of the ongoing macro-economic situation. Approximately one-third of households resorted to each Emergency (30 percent) or Crisis (36 percent) coping strategies. Gathering of wild foods more than usual during the lean season due to shortage of food or money to buy food is reported as the most frequently adapted emergency coping strategy by households to meet their food requirements. Crisis coping included increased fishing, hunting and gathering as well as reduced essential non-food expenses such as health, education, celebrations.

13.1 Shocks

High food prices (39 percent), drought/irregular rains and prolonged dry spell (32 percent), insecurity and violence (30 percent), reduced income for households (21 percent), serious illness or accident of household members (16 percent) as well as unusual high level of crop pests and disease (14 percent) were the most prominent household-level shocks in the past six months prior to the survey (figure 13.1).

Figure 13.1: Shocks



13.2 Livelihoods based coping

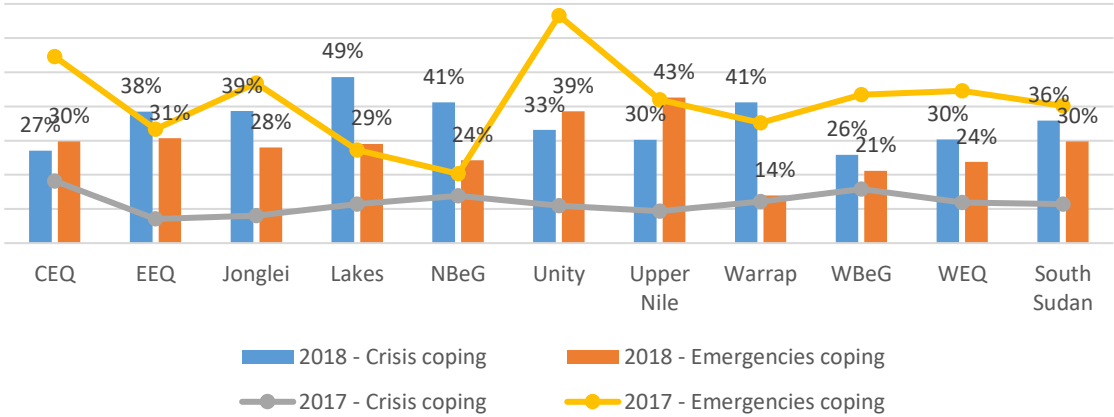
The high level of food insecurity and shocks is also reflected in the severity of household coping mechanisms. Livelihood-based coping strategies—particularly the emergency and crisis strategies practiced by households—are likely to erode their resilience and thus have possible long-term consequences.

Overall, 66 percent of households were either resorting to emergency coping strategies (30 percent) or crisis coping strategies (36 percent) while only 10 percent were practicing stress coping strategies¹⁷. Comparing the situation to last year, it has worsened by 26 percent (11 percent crisis and 29 percent emergency).

¹⁷ Examples of stress coping strategies include sending households members to eat elsewhere or selling more animals than usual; crisis coping strategies include more distress practices such as withdrawing children from school, selling productive assets or reducing essential non-food costs; while emergency strategies use extreme practices such as migration of entire household, engaging in risky income generating activities or begging.

Unity (43 percent) and Upper Nile state (39 percent) reported the highest incidence of emergency coping strategies. Whereas Lakes (49 percent), Northern Bahr el Ghazal (41 percent) and Warrap (41 percent) had the highest reported incidence of stress livelihood coping (figure 13.2).

Figure 13.2: Households adopting emergency and crisis coping strategies in December 2017 and December 2018



13.3 Reduced coping strategies

The high level of food insecurity in the country coupled with shocks are also reflected in the severity of household coping mechanisms. Food-based coping strategies can be an indicator of their severe food insecurity and deteriorating nutrition status.

The precarious food security situation in the face of such shocks led to households following several coping strategies. A significant proportion of households (90 percent) were found to be adopting at least one food-based coping strategy in the seven days prior to data collection. Common strategies included limiting or reducing portion size at meals (79 percent), reducing the number of meals eaten in a day (78 percent), relying on less preferred or less expensive food (75 percent), reducing consumption by adult members in order for smaller children to eat (70 percent) and borrowing food or relying on help from friends/relatives (45 percent).

14 Conclusion and recommendation

Overall, to address the protracted food deficit, humanitarian food assistance must be increased in the short term, coupled with livelihood support such as improving market access and provision of seeds & tools (farm inputs) to stimulate production back to former surplus levels, at least in the more productive and stable counties that are engaged in large-scale farming. Further, in less agriculturally productive locations, support to small-scale subsistence producers must be maintained and/or scaled-up.

The survey revealed that the main challenges in rearing livestock (which are also the same reasons for the decrease in livestock ownership) include disease outbreaks and lack of veterinary services. As such, scaling up of veterinary support (animal health services such as treatment and vaccination) could go a long way toward improving livestock productivity and mitigating loss.

Throughout the wet and dry seasons of 2018, only a third of households assessed reported access to an improved water source, and 21 percent reported access to sanitation facilities. Throughout both seasons the most prominent WASH needs were most commonly found in Greater Upper Nile (Upper Nile State, Unity and Jonglei) counties. The Panyikang, Canal, Fangak triangle as well as counties along the Nile and Sobat Rivers reportedly had the highest proportion of households that were continually dependent on unprotected water sources and had limited or no access to latrines and WASH NFIs. This may have impacted the high proportion of households (74 percent) reporting having a water of vector-borne disease, with malaria the most commonly reported (74 percent), followed by fever (56 percent) and AWD (20 percent).

Overall, the WASH situation throughout South Sudan remains very concerning. Households are likely to experience similar WASH conditions to those experienced during the 2018 wet season (FSNMS Round 22). Further, high levels of AWD and minimal access to water is likely to contribute to poor food utilization and the seasonal increase in malnutrition. It is recommended that WASH actors continue to monitor the situation and identify partners on the ground that can support with WASH interventions.

Annexes

1. Methodological notes

The Food Security and Nutrition Monitoring System (FSNMS) is a nationwide exercise established to monitor key food security indicators, acute and chronic malnutrition rates among children below 5 years and mothers as well as identifying geographic areas and socio-economic groups that are food insecure.

The twenty third round of the FSNMS was conducted in November - December 2018. It involved surveys of households across the country with a sampling plan provided by the National Bureau of Statistics in order to obtain statistically representative results on food security at county level. The sampling size was designed by considering 95 percent confidence interval, a margin of error of 10 percent. Random selection of clusters or enumeration areas (EA) was done at the first stage of a two-stage stratified and households were randomly selected at the second stage. During this round, nine clusters or enumeration areas (EA) were selected in each county and 12 households were selected per enumeration area making the total of 105 households per county.

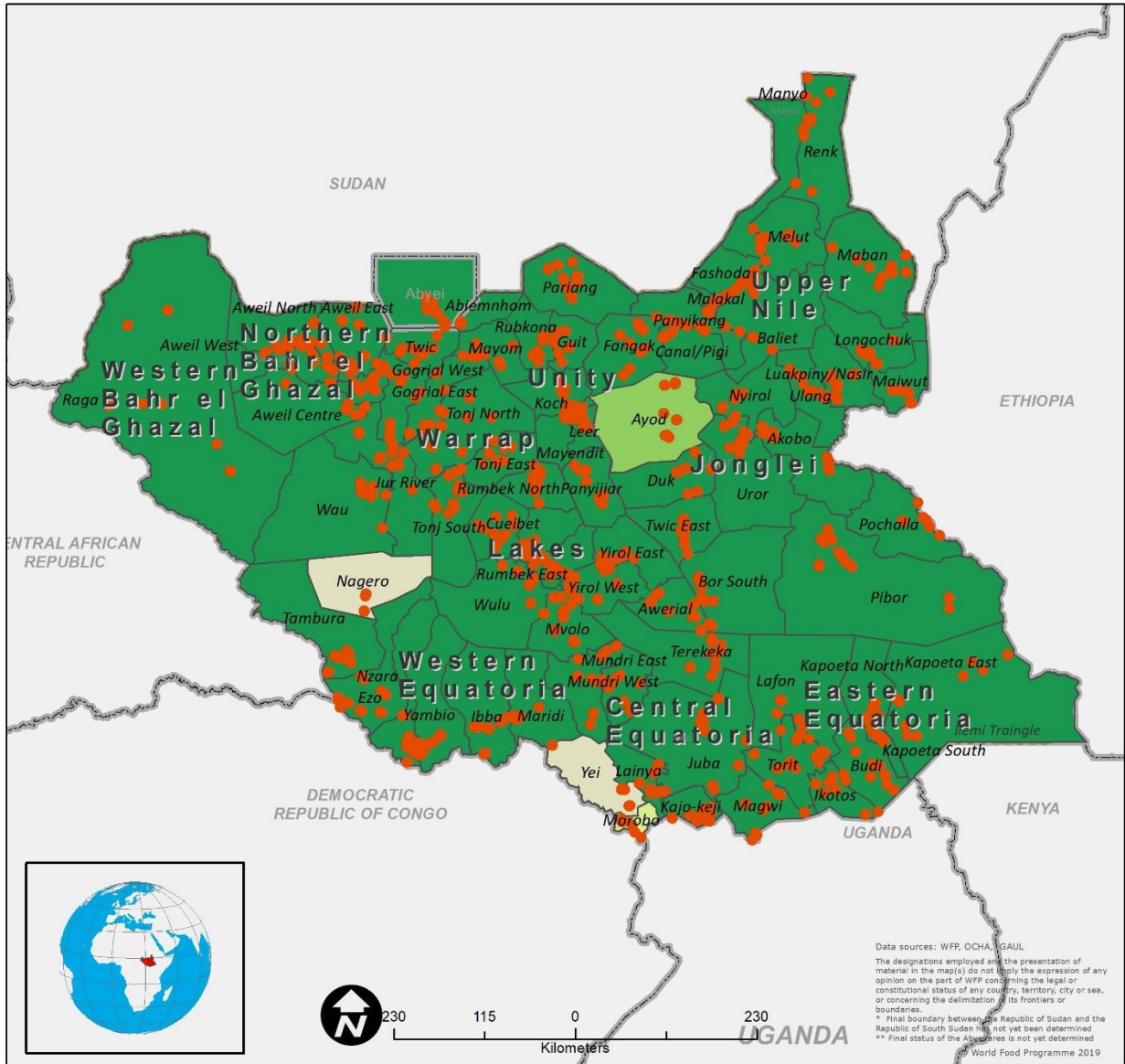
The survey instrument consisted of food security and nutrition modules including anthropometry of children under five. Training of enumerators was provided in 33 locations across the country was preceded by training of Trainers (ToT) in Juba in November 2018. The trainings were facilitated by WFP, FAO, UNICEF and FEWSNET colleagues. Electronic tablets were used for data collection in the field and uploading data into the online server.

The Open Data Kit (ODK) was used as the data collection tool, programmed with high quality data checks to ensure high quality data at the time of data collection. Once the data was uploaded, regular data quality checks were carried and feedback was provided to the teams in the field to further improve the quality of data. The data was online plotted on the map using Tableau through which real time data collection monitoring was ensured and regular updates were shared with the partners and teams on the ground.

Access constraints due to insecurity delayed or prevented data collection from few countries across the country. However, access situation in the round 23 (December 2018) improved compared to the round 22 (July 2018). While access to Jonglei, Upper Nile and Unity previously known for elevated risk of insecurity improves, access to Central Equatoria and Western Equatoria became a challenge during the twenty third round of the FSNMS in December 2018. Insecurity affected access to Lainya, Yei and Morobo counties in Central Equatoria and Nagero county of Western Equatoria. FSNMS movements around Yei and Lainya was suspended and teams recalled due to the fighting and build-up around of forces in Yei. These challenges resulted in partial data collection in these counties.

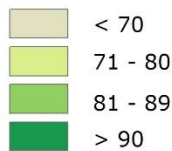
The total number of households surveyed was 8,378 due to the access restrictions by insecurity. Only 55 households were surveyed in Yei. Other counties with limited security; the number of households include Nagero (70 households), Morobo (72 households), and Ayod (85).

A map showing household level coverage for FSNMS round 23.



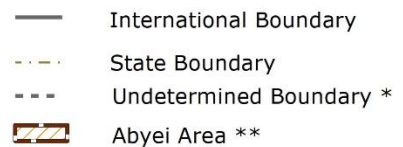
Prepared by: Food Security and Programme Response Analysis Unit
 Map Reference:
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 Date Created: 5/15/2019
 Contact: dio.dafrista@wfp.org

Coverage per County (# of Questionnaire)



● FSNMS R23 HH Interview

Boundaries



Data sources: WFP, OCHA, GAUL
 The designations employed and the presentation of material in the map(s) do not imply the expression of any opinion on the part of WFP concerning the legal or constitutional status of any country, territory, city or sea, or concerning the delimitation of its frontiers or boundaries.
 * Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined
 ** Final status of the Abyei Area is not yet determined
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2. Main food security outcome indicators by state and county

	Food Consumption Group				HDDS categories adj			Household Hunger Scale				rCSI				Livelihoods coping					Expenditure							
	Mean	Poor	Borderline	Acceptable	Low HDDS	Medium HDDS	High HDDS	None	Slight	Moderate	Severe Emergency	Mean	No to low coping	Medium coping	High coping	Mean	HH not adopting coping strategies	Stress coping strategies	Crisis coping strategies	Emergencies coping strategies	Mean - percentage share	No Expenditure	Low	Medium	High	Very High		
CEQ	Juba	18.7	70%	28%	2%	97%	0%	3%	8%	6%	9%	77%	11.3	2%	82%	17%	2.4	22%	12%	28%	38%	51%	1%	46%	19%	16%	18%	
	Kajo-keji	21.4	82%	13%	5%	77%	19%	4%	32%	15%	14%	39%	2.4	80%	19%	2%	2.1	28%	9%	22%	41%	33%	34%	25%	18%	9%	15%	
	Lainya	15.4	82%	15%	3%	95%	4%	1%	2%	6%	17%	74%	9.4	6%	87%	6%	2.6	36%	19%	28%	19%	66%	3%	27%	5%	10%	55%	
	Morobo	24.4	35%	57%	8%	26%	25%	49%	7%	14%	19%	60%	9.6	3%	93%	4%	3.0	4%	15%	7%	71%	10%	73%	0%	7%	15%	26%	51%
	Terekeka	30.4	86%	13%	1%	100%	0%	0%	4%	3%	14%	79%	13.5	2%	70%	28%	2.5	43%	9%	4%	43%	60%	6%	25%	19%	14%	36%	
Yei	14.6	89%	11%	0%	93%	7%	0%	13%	4%	15%	69%	20.9	5%	35%	60%	2.1	40%	25%	24%	11%	54%	4%	40%	16%	18%	22%		
EEQ	Budi	34.1	20%	39%	41%	60%	33%	7%	24%	14%	24%	37%	24.3	23%	17%	60%	2.8	24%	14%	34%	28%	70%	5%	10%	21%	17%	48%	
	Ikotos	27.7	45%	36%	19%	67%	23%	10%	35%	6%	15%	44%	12.6	28%	49%	23%	2.3	37%	11%	46%	6%	61%	0%	26%	25%	26%	23%	
	Kapoeta East	40.6	28%	16%	56%	89%	10%	1%	5%	4%	13%	79%	16.8	6%	64%	31%	3.3	1%	5%	33%	61%	71%	2%	7%	20%	24%	47%	
	Kapoeta North	35.9	30%	23%	47%	65%	22%	13%	0%	0%	14%	86%	17.7	1%	56%	43%	3.2	0%	4%	21%	75%	63%	0%	24%	21%	17%	39%	
	Kapoeta South	33.6	41%	21%	38%	74%	25%	1%	2%	19%	10%	69%	29.6	0%	19%	81%	3.3	6%	9%	52%	33%	75%	0%	1%	16%	27%	56%	
	Lafon	32.6	36%	28%	36%	69%	30%	1%	61%	3%	13%	23%	12.3	32%	31%	36%	2.7	28%	22%	45%	5%	71%	0%	14%	15%	20%	51%	
	Magwi	26.5	26%	62%	12%	49%	37%	14%	91%	2%	4%	4%	5.5	57%	38%	5%	2.0	47%	3%	49%	1%	52%	4%	42%	23%	8%	23%	
	Torit	24.4	40%	49%	1%	80%	17%	4%	60%	18%	19%	4%	13.1	2%	82%	16%	3.0	28%	8%	27%	37%	74%	0%	8%	18%	19%	56%	
	Akobo	22.6	52%	29%	19%	87%	10%	3%	4%	0%	21%	76%	15.8	3%	64%	33%	2.6	17%	9%	51%	22%	57%	7%	34%	12%	8%	40%	
	Ayod	19.7	66%	19%	15%	51%	16%	33%	27%	13%	25%	35%	8.4	45%	38%	18%	2.8	58%	5%	14%	24%	79%	0%	6%	13%	9%	72%	
	Bor South	24.3	53%	30%	18%	75%	19%	6%	32%	8%	15%	44%	15.3	14%	56%	31%	2.8	5%	6%	70%	19%	62%	0%	27%	21%	18%	34%	
	Canal/Pigi	21.2	76%	17%	7%	98%	1%	1%	1%	1%	4%	94%	15.8	0%	64%	36%	3.3	3%	7%	31%	59%	72%	10%	8%	13%	4%	65%	
	Duk	18.4	70%	22%	8%	96%	4%	0%	11%	5%	5%	26%	10.7	1%	90%	9%	2.7	12%	10%	60%	18%	65%	12%	20%	12%	5%	52%	
Fangak	32.9	45%	36%	19%	84%	14%	2%	14%	4%	17%	66%	12.9	4%	83%	13%	2.7	15%	5%	46%	35%	47%	30%	14%	15%	12%	30%		
Nyiroi	22.2	65%	21%	14%	100%	0%	0%	71%	2%	12%	15%	8.3	19%	81%	1%	1.7	65%	7%	10%	18%	31%	49%	19%	7%	4%	21%		
Pibor	32.2	43%	13%	45%	58%	13%	28%	13%	9%	13%	65%	17.7	11%	58%	32%	3.2	4%	12%	22%	62%	74%	4%	17%	8%	7%	64%		
Pochalla	34.9	19%	41%	39%	39%	19%	41%	27%	43%	8%	22%	13.5	0%	91%	9%	2.5	64%	30%	4%	2%	84%	0%	3%	6%	13%	78%		
Twic East	31.3	25%	39%	36%	61%	27%	13%	11%	6%	14%	70%	15.6	4%	66%	30%	2.3	14%	17%	45%	25%	45%	5%	50%	17%	12%	17%		
Uror	12.9	85%	13%	3%	95%	5%	0%	75%	6%	10%	9%	11.9	3%	95%	3%	2.8	10%	1%	67%	22%	40%	51%	6%	0%	6%	37%		
Lakes	Aweril	35.1	86%	13%	1%	98%	2%	0%	23%	9%	7%	60%	9.9	0%	91%	9%	2.3	10%	9%	28%	53%	32%	36%	29%	17%	3%	16%	
	Cueibet	17.1	91%	6%	3%	99%	1%	0%	2%	3%	1%	84%	8.3	1%	98%	1%	2.5	23%	6%	33%	37%	50%	14%	35%	10%	7%	34%	
	Rumbek Centre	20.4	65%	25%	10%	97%	3%	0%	10%	17%	21%	52%	7.7	18%	79%	3%	3.1	17%	4%	66%	13%	78%	0%	11%	8%	14%	67%	
	Rumbek East	15.2	86%	12%	2%	100%	0%	0%	2%	6%	13%	79%	10.9	2%	97%	1%	2.5	43%	2%	36%	19%	65%	2%	25%	15%	15%	42%	
	Rumbek North	23.0	50%	38%	12%	73%	19%	8%	7%	2%	10%	82%	11.4	1%	97%	2%	2.1	8%	17%	59%	17%	29%	58%	9%	3%	6%	24%	
	Wulu	20.6	69%	23%	7%	88%	12%	0%	11%	6%	15%	69%	11.8	19%	69%	12%	2.9	6%	6%	69%	19%	66%	2%	21%	15%	21%	41%	
	Yriol East	22.7	84%	7%	8%	100%	0%	0%	6%	2%	5%	87%	12.6	3%	81%	16%	2.2	8%	11%	32%	48%	27%	39%	36%	8%	3%	15%	
Yriol West	14.6	78%	19%	3%	84%	12%	4%	0%	0%	2%	98%	12.8	2%	87%	11%	3.1	2%	6%	64%	29%	69%	12%	7%	11%	14%	57%		
NBeG	Aweil Centre	20.9	68%	15%	18%	90%	5%	6%	24%	27%	23%	26%	7.4	11%	89%	0%	2.6	9%	7%	58%	25%	52%	3%	44%	13%	11%	29%	
	Aweil East	20.6	63%	19%	18%	98%	2%	0%	7%	5%	4%	84%	15.6	6%	59%	35%	3.1	22%	20%	22%	35%	83%	2%	9%	5%	4%	81%	
	Aweil North	45.3	16%	20%	64%	44%	26%	30%	45%	6%	5%	45%	12.8	8%	71%	21%	2.6	25%	7%	49%	20%	61%	2%	25%	25%	18%	30%	
	Aweil South	28.3	42%	25%	33%	77%	19%	5%	30%	9%	30%	31%	10.3	11%	82%	7%	2.3	37%	28%	23%	11%	57%	2%	34%	16%	15%	34%	
	Aweil West	29.2	32%	39%	29%	73%	26%	1%	39%	18%	24%	19%	5.6	41%	57%	2%	2.8	13%	4%	54%	30%	62%	2%	24%	23%	15%	36%	
	Unity	Abiemnhom	45.9	12%	19%	69%	35%	37%	28%	36%	17%	20%	26%	11.7	4%	85%	11%	2.8	30%	12%	15%	43%	67%	0%	15%	27%	16%	41%
Guit	24.1	41%	40%	19%	93%	6%	1%	10%	6%	6%	77%	15.9	3%	59%	38%	2.4	6%	8%	47%	39%	37%	20%	44%	14%	5%	18%		
Koch	22.1	73%	17%	11%	94%	6%	0%	20%	0%	6%	74%	10.0	19%	67%	14%	2.9	8%	6%	28%	58%	61%	12%	21%	22%	7%	39%		
Leer	29.5	39%	31%	29%	77%	3%	63%	1%	13%	23%	5.8	40%	53%	7%	2.4	43%	7%	38%	13%	64%	0%	29%	22%	9%	40%			
Mayendit	21.6	62%	27%	11%	89%	10%	1%	7%	2%	26%	65%	12.7	8%	63%	29%	2.3	31%	13%	40%	16%	57%	1%	41%	20%	12%	26%		
Mayom	29.7	44%	19%	37%	53%	31%	17%	11%	14%	10%	65%	10.2	6%	94%	1%	2.6	11%	3%	22%	64%	48%	8%	48%	12%	10%	21%		
Panyijiar	19.8	70%	16%	13%	97%	2%	1%	0%	100%	11.6	20%	58%	21%	3.2	2%	0%	35%	63%	67%	7%	25%	7%	9%	52%				
Pariang	38.0	24%	15%	61%	63%	34%	3%	59%	5%	6%	31%	13.6	11%	66%	23%	2.2	38%	24%	28%	10%	58%	11%	28%	11%	11%	40%		
Rubkona	26.6	47%	39%	14%	92%	6%	3%	23%	13%	13%	51%	10.8	19%	72%	9%	2.9	8%	6%	46%	41%	54%	32%	12%	6%	1%	49%		
Upper Nile	Baliet	16.0	91%	7%	2%	97%	1%	2%	19%	4%	6%	72%	6.5	19%	81%	0%	3.3	16%	0%	16%	69%	52%	29%	18%	12%	0%	41%	
	Fashoda	31.8	31%	33%	36%	58%	22%	20%	16%	3%	6%	76%	12.1	6%	88%	6%	2.7	31%	3%	32%	34%	61%	6%	31%	6%	6%	51%	
	Longochuk	23.7	52%	30%	17%	77%	19%	4%	5%	4%	9%	82%	9.7	2%	98%	0%	3.7	2%	4%	30%	65%	96%	0%	1%	2%	5%	92%	
	LuakpinyNasir	21.8	67%	21%	12%	88%	10%	2%	5%	2%	9%	84%	9.7	14%	80%	6%	2.5	35%	24%	25%	16%	68%	13%	15%	4%	3%	64%	
	Maban	20.4	64%	29%	7%	78%	13%	9%	1%	4%	40%	56%	13.5	1%	80%	19%	3.3	1%	4%	51%	44%	78%	0%	11%	15%	8%	65%	
	Maiwit	27.7	46%	20%	35%	67%	19%	14%	0%	2%	13%	85%	9.7	0%	99%	1%	3.7	1%	1%	21%	77%	88%	3%	3%	2%	2%	89%	
	Malakal	28.8	46%	22%	32%	64%	23%	13%	3%	4%	4%	89%	10.3	11%	76%	12%	2.8	36%	5%	11%	47%	68%	1%	18%				

3. Prevalence of acute malnutrition (WFH and MUAC) by state

	Emergency threshold	Aug 2014	Nov 2014	Mar 2015	Jul 2015	Dec 2015	Jun 2016	Dec 2016	Aug 2017	Dec 2017	Aug 2018	Dec 2018
CEQ	15%	13.50%	4.10%	7.20%	3.70%	4.20%	6.40%	8.10%	15.30%	5.20%	8.20%	9.6%
EEQ	15%	11.80%	11.00%	10.00%	11.10%	12.80%	15.20%	13.80%	20.40%	12.20%	11.80%	8.6%
Jonglei	15%	13.80%	16.20%	19.50%		16.00%	17.70%	13.20%	22.60%		19.40%	19.5%
Lakes	15%	14.40%	10.60%	12.20%	14.40%	10.60%	12.60%	7.40%	21.70%	16.80%	12.20%	7.2%
NBeG	15%	13.90%	14.60%	19.70%	24.20%	20.00%	33.30%	14.20%	17.70%	15.90%	11.70%	12.6%
Unity	15%	17.10%		19.00%			26.20%	13.80%	23.80%		16.60%	13.1%
Upper Nile	15%	16.60%	15.20%	15.40%		15.10%	16.70%	13.60%	18.80%		16.30%	14.0%
Warrap	15%	14.80%	17.20%	21.20%	17.60%	19.50%	23.10%	13.90%	22.00%	14.70%	15.30%	13.3%
WBeG	15%	16.90%	10.10%	12.00%	12.10%	8.50%	20.60%		19.60%		10.40%	5.4%
WEQ	15%	8.00%	5.80%	1.80%	5.90%	1.50%	5.20%	4.00%	4.70%		4.20%	4.2%
South Sudan	15%	15.90%	12.50%	16.70%	13.00%	13.00%	18.10%	12.50%	16.90%	13.30%	13.30%	11.60%

4. Trends of wasting among women of reproductive age (15 to 49 years) by state

	Emergency threshold	Aug 2014	Nov 2014	Mar 2015	Jul 2015	Dec 2015	Jun 2016	Dec 2016	Aug 2017	Dec 2017	Aug 2018	Dec 2018
CEQ	15%	13.50%	4.10%	7.20%	3.70%	4.20%	6.40%	8.10%	15.30%	6.70%	6.40%	9.4%
EEQ	15%	11.80%	11.00%	10.00%	11.10%	12.80%	15.20%	13.80%	20.40%	23.10%	24.30%	14.3%
Jonglei	15%	13.80%	16.20%	19.50%		16.00%	17.70%	13.20%	22.60%	28.60%	31.60%	34.0%
Lakes	15%	14.40%	10.60%	12.20%	14.40%	10.60%	12.60%	7.40%	21.70%	16.30%	24.70%	17.2%
NBeG	15%	13.90%	14.60%	19.70%	24.20%	20.00%	33.30%	14.20%	17.70%	16.20%	15.50%	13.9%
Upper Nile	15%	16.60%	15.20%	15.40%		15.10%	16.70%	13.60%	18.80%	25.40%	32.70%	26.7%
Warrap	15%	14.80%	17.20%	21.20%	17.60%	19.50%	23.10%	13.90%	22.00%	17.20%	23.00%	19.1%
WBeG	15%	16.90%	10.10%	12.00%	12.10%	8.50%	20.60%		19.60%	10.60%	15.70%	20.2%
WEQ	15%	8.00%	5.80%	1.80%	5.90%	1.50%	5.20%	4.00%	4.70%	20.20%	12.10%	16.9%
Unity	15%	17.10%		19.00%			26.20%	13.80%	23.80%	20.60%	20.80%	5.0%
South Sudan	15%	15.90%	12.50%	16.70%	13.00%	13.00%	18.10%	12.50%	16.90%	20.20%	23.80%	18.90%