

South Sudan Food Security Monitoring

A collaborative activity of FSTS, RRC, MAF, MoH, FAO, WFP, UNICEF and UNHCR

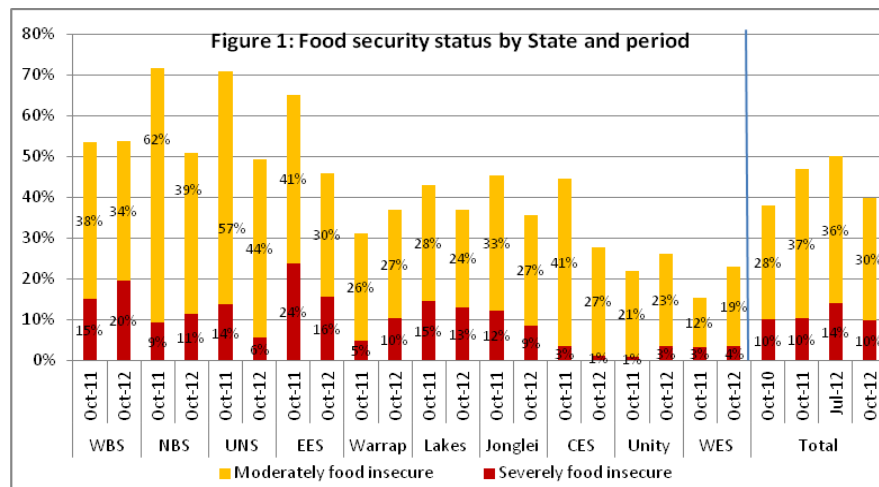
Round 8, October 2012

Highlights

- All major key food security indicators showed a seasonal improvement compared to June 2012, though marginally compared to October 2011. For example, 10% and 30% of the assessed households are respectively severely and moderately food insecure compared to 14% and 36% respectively in June 2011 and 10% and 37% respectively in October 2011. Equally, the share of expenditure on food is currently estimated at 48% from a high of 55% in October 2011. Reliance on market as a source of food had reduced to 48% from 53% in October 2011.
- Reasons for improvement include good harvest prospects; reduction in food prices; increased market availability following good harvest and resumption of trade flows following the lifting of trade embargo between Juba and Khartoum government among others.
- There however, remain major disparities in food security indicators across states with the Northern and Western Bahr el Ghazal, Eastern Equatoria and Upper Nile showing the highest levels of food insecurity. These States have poor market integration and experience relatively low agricultural production prospects.
- Prevalence of Global Acute Malnutrition (GAM) using Mid Upper Arm Circumference (MUAC) was lowest at 8.6% from a high of 20% in June 2012 and 11% in October 2011.
- There is an improvement (currently 88% compared to 81% in 2010) in the level of participation in food production and also in the cultivated area (measured by feddans¹).

Food security situation

Food security is a composite indicator that includes information on food consumption (Food Consumption Score), coping strategies (Coping Strategy Index), relative expenditure on food and reliability and sustainability of income sources. By cross tabulation of these indicators, households are classified into three food security groups: *severely food insecure, moderately food insecure and food secure*.



Results showed that 30% of the assessed households are moderately food insecure and about 10% are severely food insecure. It indicates slight overall improvement in food insecurity with 7.2% less food insecure households compared to October 2011 and 11.3% less than June 2012. **Figure 1** shows the percentages of moderate and severe food insecurity for October 2012 by state, compared to October 2011.

With the exception of northern border states of NBS, WBS, Warrap and Unity that showed increase in the proportions of severely food insecure populations, the rest showed a decline in the severely food insecure compared to the same month in 2011. Equally, the proportions of moderately food insecure declined in all states compared to previous year, except Western Equatoria State. The returnees² had significantly higher level of the food insecure households (49%) than the local populations (39%), the same was observed among women-headed households, a possible indication of gender-based vulnerabilities.

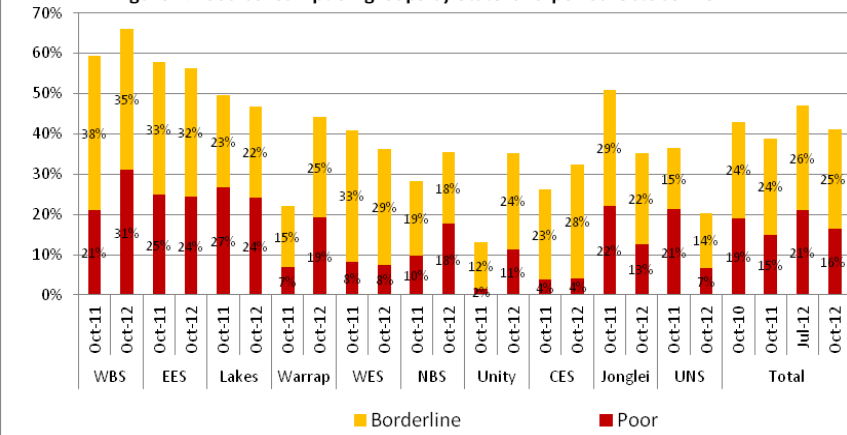
Food consumption

Food Consumption Score (FCS), based on seven-day recall period, shows that about 40% of the households had inadequate food consumption score with some 16% indicating poor food consumption score (i.e. a lopsided dietary intake mainly consisting of cereals that is inadequate to meet the requirements for a healthy life). **Figure 2** represents the percentages of households with poor and borderline FCS for October 2012 compared to October 2011. There were about 2% more households with poor food consumption compared to October 2011, but some 5% less than in June 2012.

¹ 1 feddan is roughly 1 acre or 0.96 acres

² Returnees are defined as those who returned to the country within the last 12 months, and accounted for about 3% of the sampled households.

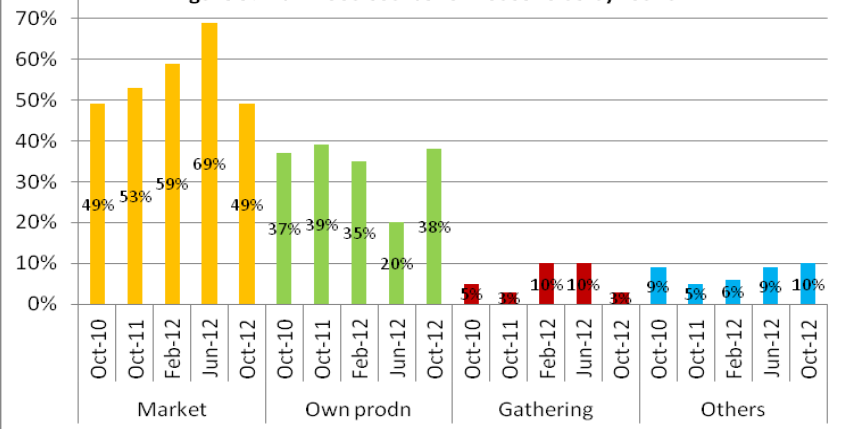
Figure 2: Food consumption groups by State and period-October 2012



poor food consumption group (21%) compared to the food secure (15%). There was no difference in food consumption scores based on the gender of household heads.

Generally, the frequency in consumption of all food items improved in October 2012 as compared to February and June, though similar to the same period of 2010 and 2011. The diet of the households is largely composed of cereals/staples, pulses, fruits and vegetables.

Figure 3: Main food source for households by round



increased agricultural activities in 2012.

The proportions of households with poor food consumption score declined most in Upper Nile and Jonglei States by 12% and 9% respectively compared to October 2011. However, there was an increase in the proportion of poor food consumption group in Warrap, WBS NBS, and Unity States by 12%, 10%, 8% and 9% respectively compared to October 2011. Generally, food consumption results are related to general food security status: 97% of severely food insecure households had poor food consumption scores whereas none of the food secure households had poor FCS. Conversely, whereas only 1% of the severely food insecure had acceptable FCS, 70% of the food secure households had acceptable FCS. Female-headed households showed higher proportions in

The consumption of iron rich foods and oil/fats that assists in absorption is very poor. Only 11% and 17% of the households consume iron-rich foods and oil/fats respectively for 6-7 days in a week.

In general, market is a major source of cereals throughout the year (Figure 3). However, there are variations on food sources depending on the season with market reliance peaking in June whereas dependence on own production is highest in October, i.e. during the post-harvest period. The present reliance on market is similar to the same period in 2010 though slightly lower than in 2011. This could imply improved accessibility to food items through other means like own production resulting from

Agriculture

Overall, the proportion of households that cultivated has increased from 80% in the 2010 agricultural cycle to the current 88%. The main staples cultivated remain sorghum (88%), ground nuts (70%), maize (68%), and sesame (53%). Similar order was observed in the previous years. Jonglei State has shown a more steady growth in proportions of households participating in staple food crop cultivation from 69% in 2010 to the current 81%. IDPs and returnees (accounting for roughly 4% of the assessed households) were significantly less likely to have participated in any crop production (and none for crops like groundnut and sesame) than the residents who participate in cultivation of all staples.

Whereas sorghum is predominant in all states with exception of Upper Nile the proportion of households participating in maize production is much higher in Central and Western Equatoria, followed by Western Bahr el Ghazal at 96%, 95% and 81% respectively. Participation in groundnut cultivation was also highest in Central and Western Equatoria (96%) followed by Lakes at 88%. With exception of participation in maize cultivation, Upper Nile indicates the lowest involvement in production of all other staple food commodities.

Compared to the same season last year, area under cultivation, increased for all crops. On average, households were cultivating sorghum on 1.7 feddans compared to 1.3 feddans in the previous year's season. Likewise area cultivated under maize increased from 0.5 feddans in 2011 to 0.6 feddans in 2012. Areas under maize cultivation have only marginally improved by only 4%.

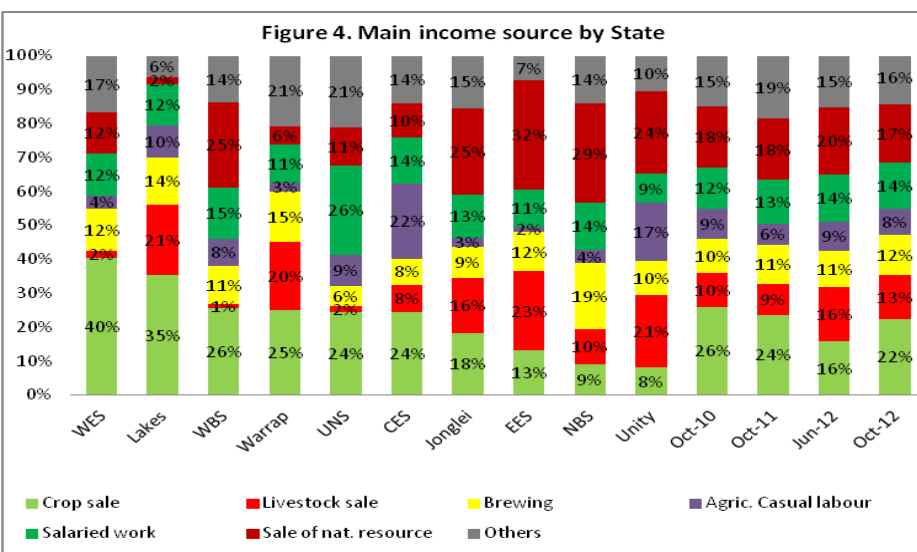
The food secure households were more likely to have cultivated a larger land size for all crops. They were likely to have 2.3 and 1.3 times as large a plot under cultivation for maize and sorghum respectively than the food insecure households.

Table 1: Percentages of households that cultivated by crop and total in October 2011 and 2012

	Percentage of households that cultivated various crops since 2010													
	Cultivated in 2012 Season						2010 season	Cultivated in 2011 Season						
	Any	Sorghum	Maize	G/nuts	Sesame	Others	Any	Any	Sorghum	Maize	G/nuts	Sesame	Others	
WES	97%	95%	95%	96%	88%	86%	98%	91%	96%	96%	85%	81%		
EES	88%	92%	25%	67%	50%	27%	86%	92%	89%	22%	63%	42%	14%	
Jonglei	81%	78%	64%	4%	1%	36%	69%	78%	75%	60%	2%	1%	36%	
Lakes	88%	90%	33%	88%	32%	10%	92%	88%	87%	32%	84%	27%	11%	
UNS	56%	54%	55%	1%	2%	1%	52%	30%	38%	51%	0%	0%	1%	
WBS	92%	96%	81%	95%	90%	81%	85%	88%	94%	77%	93%	82%	67%	
NBS	96%	96%	29%	69%	72%	14%	87%	88%	94%	23%	60%	53%	5%	
Warrap	86%	88%	69%	58%	55%	4%	91%	100%	86%	59%	53%	46%	3%	
CES	97%	95%	96%	96%	92%	84%	82%	94%	95%	95%	90%	82%		
Unity	93%	87%	78%	10%	0%	6%	73%	84%	83%	74%	8%	0%	0%	
Total	88%	88%	68%	70%	53%	41%	80%	83%	84%	64%	64%	44%	33%	

Income sources

As shown in **figure 4**, the main income sources for households at this time of the year are: sale of crops (22%), sale of natural resources (17%), salaried work (14%) and sale of livestock (13%).



The sale of natural resources such as grass, charcoal and firewood, was more likely to be used by households in June than any other source of income. Western Equatoria and Lakes record the highest proportion of households reporting sale of crops in October 2012, as was also the case in 2010 and 2011.. This observation is corroborated by CFSAM findings which show that these states have relatively higher production levels.

The sale of natural resources is the main source in EES, NBS and WBS, similar to observations in previous rounds. Sale of livestock is, however,

relatively more important in Eastern Equatoria, Unity, Warrap and Lakes which are the main pastoral and agro-pastoral areas. Upper Nile, Central Equatoria and Lakes tend to show a more diversified income source compared to other states. Similar to 2011, sale of natural resources remains the main income activity of severely food insecure households (31%), against the 13% of the food secure populations. Over a half (53%) of food secure households rely on crop and livestock sales and salaried work, compare to only a third (36%) of the severely food insecure who relied on these activities are the main of income.

Eastern Equatoria, Northern Bahr el Ghazal and Unity States have the lowest proportions (only 8-13%) of households that relied on sale of crops as a main income source, underlying the minimal crop production and their reliance of livestock. Over 10% of the

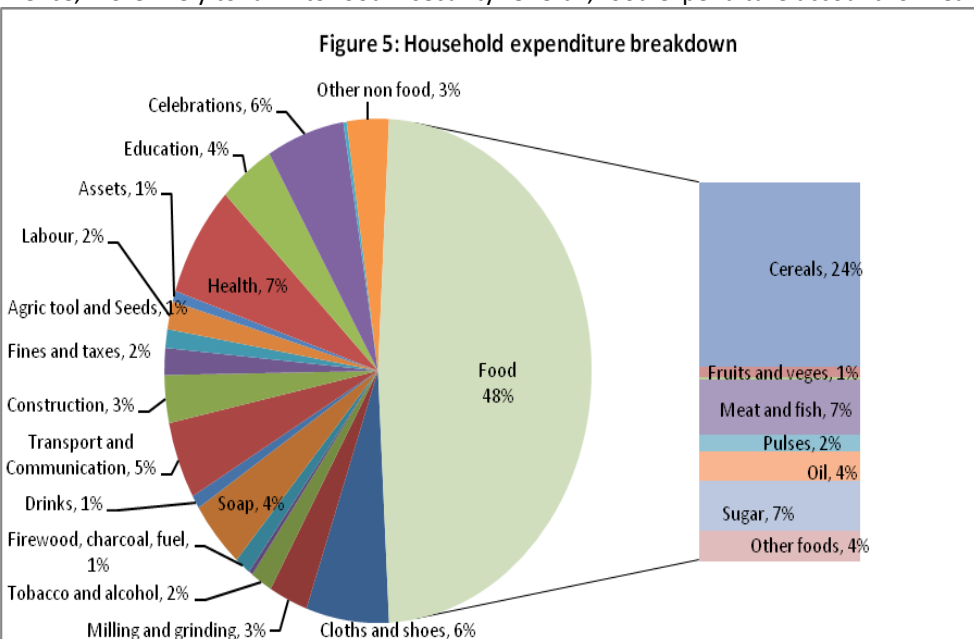
households indicated brewing of alcohol as a main source of income. Northern Bahr el Ghazal indicates the highest proportion of households that report brewing as a main source of income. Sale of firewood, charcoal and grass (with poor reliability and sustainability) is highest in Eastern Equatoria and in NBS and WBS with ¼ to ½ of the households depending on them as their main source.

The households were also classified based on reliability and sustainability³ of their income sources. The proportion of households with poor reliability and sustainability of income is 30% compared to 34% in October last year, while a third of the households reported (33%) good income reliability and sustainability, similar to the previous year’s observation. Income sources had not changed significantly since June 2012.

Both the IDPs and returnees were significantly more likely to depend on income sources that are unreliable and unsustainable compared to the local residents (50-52% for IDPs and returnees versus only 29% for residents). Similarly, the severely food insecure were nearly three times more likely to rely on unreliable and unsustainable income sources than the food insecure households (53% vs 18%). In October 2011, severely food insecure households were at least four times more likely to have relied on unreliable and unsustainable income sources (56% vs 13%).

Expenditure (income proxy) and purchasing power

Generally, households with high share of expenditure on food and/or staple, are highly vulnerable to income or price shocks and, hence, more likely to fall into food insecurity. Overall, food expenditure account for nearly a half of a household’s total expenditure as shown in **Figure 5**. However, this is considerably lower than the 63% recorded in June 2012 and 55% recorded in October 2011 but similar to the average for October 2010. Similarly the share of expenditure on cereals that currently accounts for 24% is a significant decline from a high of 37% observed in June 2012 but similar to the levels witnessed in October 2010.



Other major expenditure items at household level include health (7%), celebrations (6%), transport and communications (5%), education (4%) and construction (3%). Expenditures on celebrations including alcoholic drinks which tend to increase during post-harvest increased to 6% from 2% in June 2012

Northern Bahr el Ghazal, Eastern Equatoria and Upper Nile presented the highest (an average of nearly 60%) share of expenditure on food. As shown in **Table 2**, the most dramatic declines in the share of expenditure on food and cereals are Northern Bahr el Ghazal, Warrap and Jonglei States, where combined effects of border-closure with Sudan and the poor market integration due to bad roads especially in the rainy season severely undermined food access. On the other hand, the Greater Equatoria and Upper Nile States experienced the least changes in expenditure shares between June and October 2012. Generally, the share of expenditure on food follows the seasonal agricultural pattern which the proportion of shares on cereals and food in general rising to its peak in June but easing off by October.

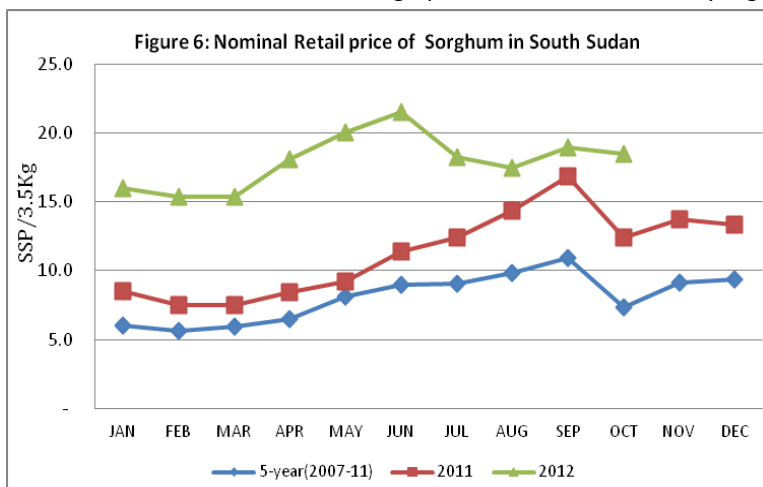
³ Sale of natural resources such as grass, charcoal and firewood are considered as unreliable/unsustainable and therefore poor while sale of crops, salaried work, livestock and petty trading are considered fairly reliable and sustainable and therefore good. Those income sources that fall in between good and poor have medium reliability.

Table 2: Share of expenditures on food and cereals (October 2010 to 2012)

	Relative food expenditure (% share on food)						Staples expenditure (% share on cereals)					
	Oct-10	Jun-11	Oct-11	Feb-12	Jun-12	Oct-12	Oct-10	Jun-11	Oct-11	Feb-12	Jun-12	Oct-12
WES		47%	39%	39%	45%	44%		11%	9%	5%	16%	9%
EES	57%	69%	65%	53%	56%	57%	34%	50%	49%	20%	40%	35%
Jonglei	53%	61%	53%	60%	66%	51%	25%	40%	23%	32%	39%	21%
Lakes	55%	62%	52%	49%	61%	48%	39%	50%	33%	28%	43%	32%
UNS	39%	49%	63%	54%	60%	61%	13%	21%	30%	27%	31%	29%
WBS	43%	53%	57%	76%	64%	56%	20%	28%	31%	39%	36%	34%
NBS	51%	62%	63%	72%	76%	51%	16%	35%	35%	45%	55%	19%
Warrap	45%	59%	53%	66%	61%	40%	19%	39%	29%	32%	46%	9%
CES		50%	53%	46%	49%	46%		25%	21%	14%	21%	18%
Unity	38%		53%	61%	54%	43%	17%		26%	47%	42%	23%
All	48%	57%	55%	57%	60%	48%	23%	33%	29%	29%	37%	24%

Market

The prices of essential food commodities such as white sorghum, maize grain and wheat flour are witnessing a downward trend in most markets in South Sudan, though prices remain substantially higher than the 5-year average. This downward trend is expected to continue through December, mainly attributed to the increased post-harvest seasonal availability of food and the expected improved market access as roads dry up. Sorghum in particular has witnessed a steady decline in price since September (Figure 6) in all markets except Bentiu and Rumbek where price of sorghum is still indicating an upward trajectory at SSP23 and SSP27 each per 3.5kg respectively for the two markets by October 2012. These prices are 93% to 122% higher than the long term average (2007 -2011). The price upsurge in Rumbek is attributed to the unusually late harvest in Lakes State and poor road network during the rainy seasons whereas the huge number of refugees and poor connectivity to markets due to bad roads in Unity state has pushed up the demand for food commodities.



The price of wheat is also relatively stable though is still up to 300% higher than the five-year average in some markets like Bor and Bentiu. As with sorghum, prices of wheat remain high in Rumbek attributed to scarcity of food due to poor road conditions.

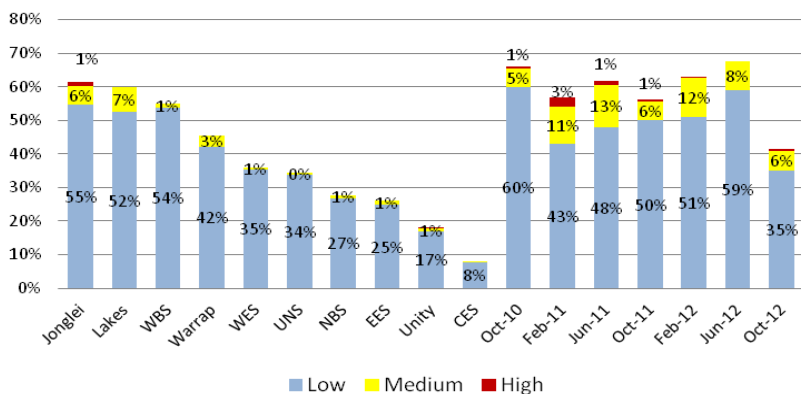
Although the petrol price was relatively stable in October, diesel which is commonly used in transport remained scarce resulting in volatility of prices throughout the country contributing to sustained high costs of transport.

Coping strategies index and shocks experienced by households

Overall, only 39% of the households indicated that they use at least some coping strategy during the week preceding the assessment compared to 70% in June this year. This is also lower than October 2011 when 50% reported some level of coping but similar to 2010 when some 41% of the households reported the use of a coping strategy.

There were geographical disparities on the level of coping. Whereas roughly 4 to 5 in 10 households in Jonglei, Lakes and Western Bahr el Ghazal had utilized some level of coping, only one in 10 had been coping in Central Equatoria and two in 10 in Unity, the least likely states to have coping strategies (Figure 7).

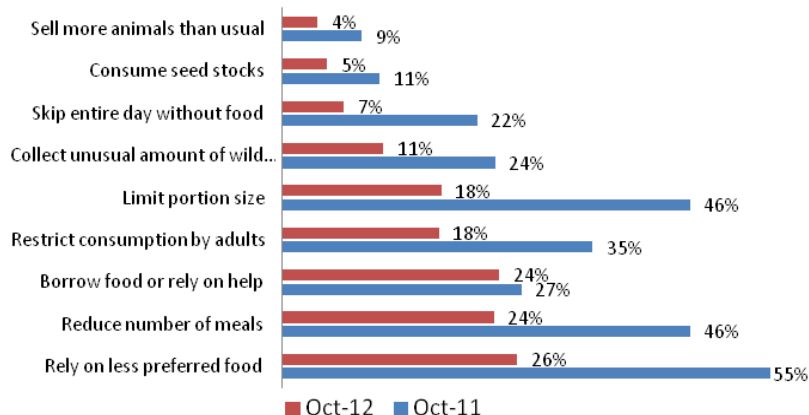
Figure 7: Coping strategy index categories by State and Round



The frequency of using any coping strategy decreased in October 2012 compared to previous years/seasons. The most dramatic reductions were seen in use of adverse diet-related coping strategies such as that of skipping a whole day's meal (68%), and limiting meal portions (61%) followed by sell of animals (56%) and consumption of seed stocks (55%). The mean coping strategy index is 8 compared to 19 in June this year and 14.6 in October 2011. This underscores the improvement in food security situation thereby reducing the need to cope, an expected observation during post harvest.

Similar to previous observations, the commonest coping strategies includes the consumption of less preferred food, followed by reducing the number of meals and borrowing. The sale of livestock and seed stock consumption are the least used coping strategies (Figure 8).

Figure 8: Percentage of households that adopted coping strategies October 2012



Human sickness and high food prices remained the most frequently reported shock by households in October 2012. Although food prices indicate a downward trajectory, the prices are still considerably higher than the same period last year.

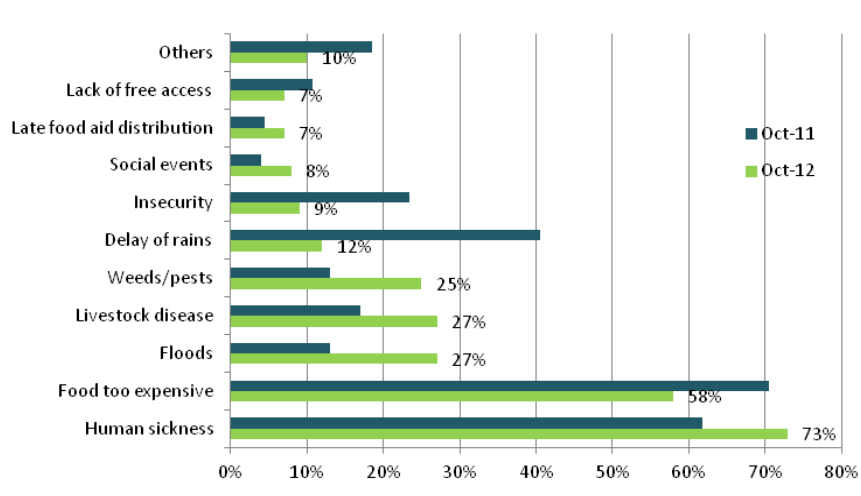
On average, about 58% of households reported high food prices as the major shock from a peak of 80% in June 2012 and 70% in October 2011. As shown in Figure 9, other shocks that noted a significant decline from October 2011 to now include delay in rains (reported by 41% of households to current level of 12%),

insecurity/violence (from 23% to 9%) and lack of free access (from 11% to 7%).

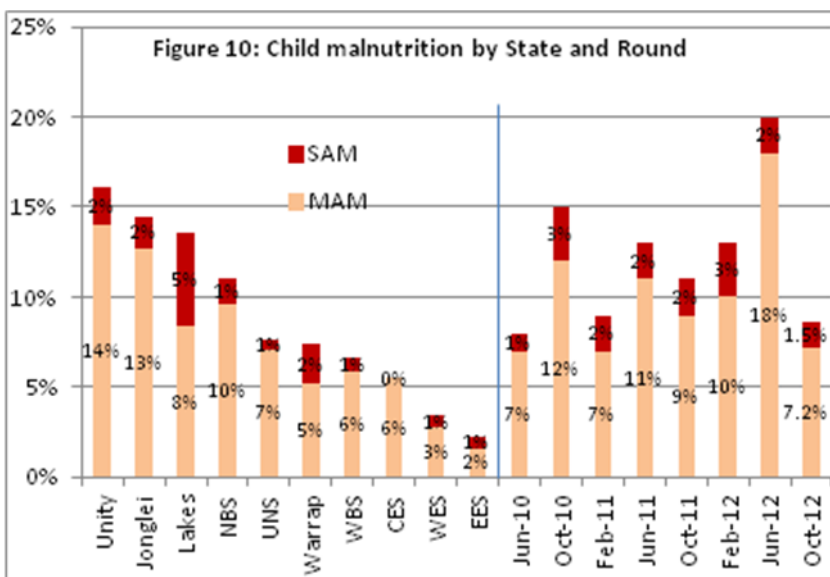
Border states of Warrap, the Greater Bahr el Ghazal and Upper Nile reported the highest (70% to 81%) occurrence of high food prices as a major shock compared to Central and Western Equatoria where only 35% and 42% respectively reported the same as shock. It is notable that CES and WES are close to Uganda border which became the main source of food items following the imposition of trade embargo between Khartoum and Juba. However, the long distance and poor road network covered to transport food to Sudan border states of Warrap, Unity, and the Bahr el Ghazals makes prices to remain relatively high.

Livestock disease and floods have emerged as major shocks compared to previous seasons reported by 27% respectively during the October season. Livestock disease was the most common in Unity (55%), Warrap (39%), and Eastern Equatoria (35%) States whereas floods were Unity (84%) and Jonglei (59%). These are also the states with the highest occurrence of child illnesses and showed relatively poor food security indicators.

Figure 9: main shocks reported by households in October 2012

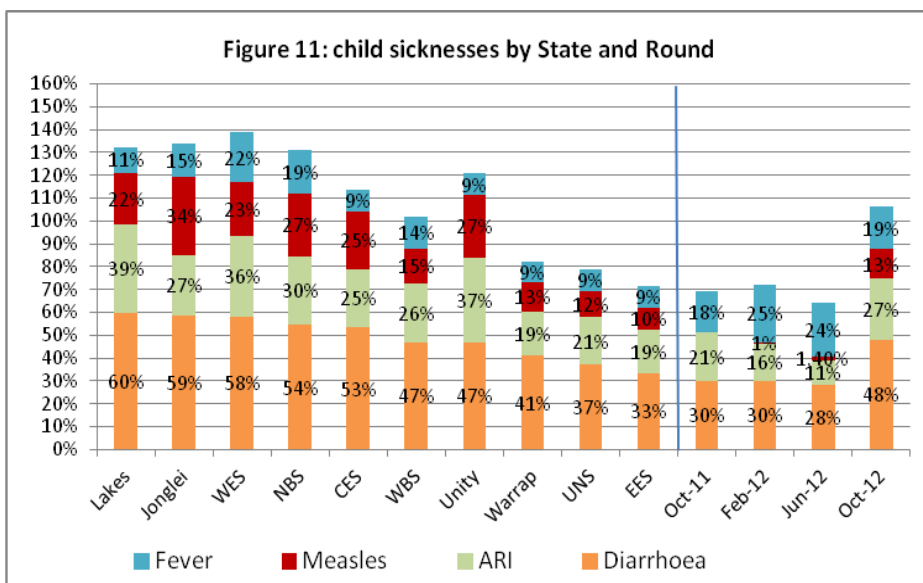


Mid-Upper Arm Circumference (MUAC) and child nutrition



Some 8.6% of 3,422 children (6-59 months) measured in October 2012 FSMS are acutely malnourished according to MUAC thresholds of MUAC <125cm for GAM (Figure 10). This shows a significant improvement from a high GAM rate of 20% (based on MUAC measurements) in June this year. It is also one of the lowest prevalence (using MUAC recorded since the inception of FSMS. With exception of 2010 that showed the highest levels of acute malnutrition (using MUAC) in October, prevalence of acute malnutrition tends to be highest around June but gradually (based on MUAC assessment during the FSMS) declines to its lowest in October. Severe acute malnutrition using MUAC cut-off of < 115mm) is consistently around 2%. Among the states the highest prevalence of acute malnutrition (based on MUAC) is seen in Unity, Jonglei, Lakes and Northern Bahr el Ghazal in that order while the lowest prevalence is recorded in the Greater Equatoria just about 5% or less. Severe acute malnutrition is significantly higher in Lakes State than any other state. Reasons for this need further investigation.

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A total of 2,397 non-pregnant women aged between 15 and 49 years were measured, of whom some 11% were acutely malnourished based on MUAC <230mm. About one percent showed severe acute malnutrition (MUAC <210cm). These rates represent a decrease from the June this year that showed a prevalence of 20% and 2% for GAM and SAM among women respectively. The highest prevalence of acute malnutrition (GAM) among women was witnessed in NBS and Unity states at 19% and 16% respectively while the rest of the states recorded prevalences around 10%. Severe acute malnutrition among women was generally low in all states with the highest level recorded in NBS and Jonglei at 2%.

Of the 2052 children aged 6-24 months surveyed, 60% were still breastfeeding with variations among states: WES had the highest percentage at 75% and Unity the lowest 41%. Some 29% of the under 2s had adequate dietary diversity (consumed 4 or more food groups), an improvement from the 19% reported in June 2012 but slightly lower than the 32% reported in October 2011. WES showed the highest proportion (47%) of children aged 6-24 months with adequate dietary diversity while Unity State had the lowest (15%). The most consumed foods by 6-24 months are cereals/tubers (75%) while the least consumed were eggs (14%) and fruits & vegetables (19%).

Some 46% of the children under 2 years had experienced illness in the two weeks preceding the assessment. There was minimal variation across states. Overall there is a much higher incidence of diarrhoea, ARI and fever in October 2012 compared to October 2011 (Figure 11), probably a reflection of the effects of increased rainfall with its attendant health challenges in an environment where preventative health care is a challenge. Incidences of measles were highest in Northern Bahr el Ghazal, Jonglei and Unity where nearly a third of the under 2 year olds (34%, 27% respectively for the three States) were affected by the disease. On the other hand, ARI was commonest in Lakes (39%) and WES (36%). Diarrhoea was common in all states though relatively higher in Lakes, Jonglei and Western Equatoria State. In general, illnesses have a major contribution to acute malnutrition. The assessment indicates that a child suffering from any of the illnesses was at 6 times more likely to have been severely malnourished (SAM of 2.8% versus 0.4%) and 3 times more

likely to have been moderately malnourished (MAM of 13% versus 4% for those that had not suffered any illness).

Assistance received

About 44% percent of the assessed households reported receiving at least one form of assistance in the past three months, similar to what was reported in June 2012 but higher than in February 2012 (21%) and the same period in 2011 (25%). Out of the households that received some assistance, about 71% received food assistance, 28% seeds or tools, 24% vitamin A and 23% other kind of aid. The highest percentage of households who received any assistance was in Jonglei state (82%), WBS (77%), EES (62%) and Warrap (57%) while the least recipients of any humanitarian assistance were Western Equatoria and Upper Nile States respectively at 8% and 11%. Food assistance was more likely to be received in Jonglei and Northern Bahr el Ghazal (reported by more than 90% of the households). However vitamin A supplementation was more likely to have been received in Warrap, Western Equatoria and Central Equatoria (reported by 49%, 48% and 43% of the households respectively). Households that had received food assistance within three months of the survey had marginally better mean food consumption score (mean of 41) than those who were not receiving food assistance (39)

Food security Outlook

The improvement in key food security indicators observed in October 2012 is seasonal. There remains structural challenges that contribute to food insecurity in South Sudan such as poor road linkages to markets, low domestic production, erratic weather changes, inter-ethnic conflicts, high numbers of vulnerable populations that are not in the mainstream production system (returnees, IDPs and refugees) etc. In fact the returnee-refugee challenge poses a major challenge since some of their skills and capabilities are not readily met by their new residential areas. On the other hand, the continuing inter-ethnic conflicts resulting from competition over resources in addition to the challenges occasioned by the demilitarization of 14 miles along the Sudan border states has potential to affect the food security situation in the concerned states. Thus, heightened monitoring in addition to humanitarian and livelihood assistance to the most vulnerable is still foreseen the 2013.

Methodology

Similar methodology⁴ developed in the previous rounds continued to be used with a total of 10 clusters (sentinel sites) selected from all the ten states and 25 randomly selected households interviewed from each site. One community/key informant questionnaire and two trader checklists (where applicable) were administered at each site to provide supplementary information.

During the 8th round, all the sentinel sites were assessed with exception of one in Jonglei that necessitated a replacement.

Food consumption was derived using a seven-day recall period and the food items were weighted based on their nutritional value to establish a food consumption score that classifies the households having either acceptable, borderline or poor food consumption.

The coping strategies index was derived from the severity and the frequency of the coping strategies applied by households in the last seven days prior to the assessment. More severe coping strategies are often those with irreversible effects on the households' livelihoods. Based on this, households have been categorized as having low, medium and high coping.

Household food security categories were established according to a composite index derived from household food access (income and relative food expenditure), food consumption and coping strategies.

State abbreviations

Western Equatoria (WES), Eastern Equatoria (EES), Central Equatoria (CES), Upper Nile (UNS), Western Bahr el Ghazal (WBS), Northern Bahr el Ghazal (NBS)

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The FSMS partners:



⁴ Reference to the methodology section of the previous rounds of FSMS