South Sudan Food Security Monitoring

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

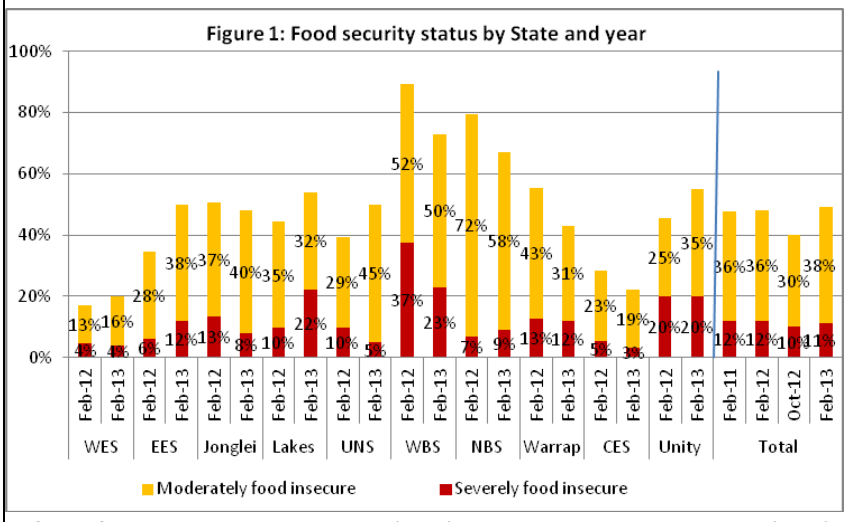
Round 9, February 2013

Highlights

- After the post-harvest improvement in food security indicators in October 2012, the food security situation is worsening as the lean season approaches. Since October 2012, the moderately food insecure has increased from 30% to 38%. The Global Acute Malnutrition (GAM) using Mid-Upper Arm Circumference (MUAC) also increased from 9% to 11% during the same period.
- The incidence of severe food insecurity has more than doubled since February 2012 in Lakes and Eastern Equatoria States while the situation continues to remain largely precarious in NBS and WBS.
- The deteriorating food security situation is attributed to diminishing household food supplies as the lean season approaches as well as localized heightened insecurity especially in Jonglei.

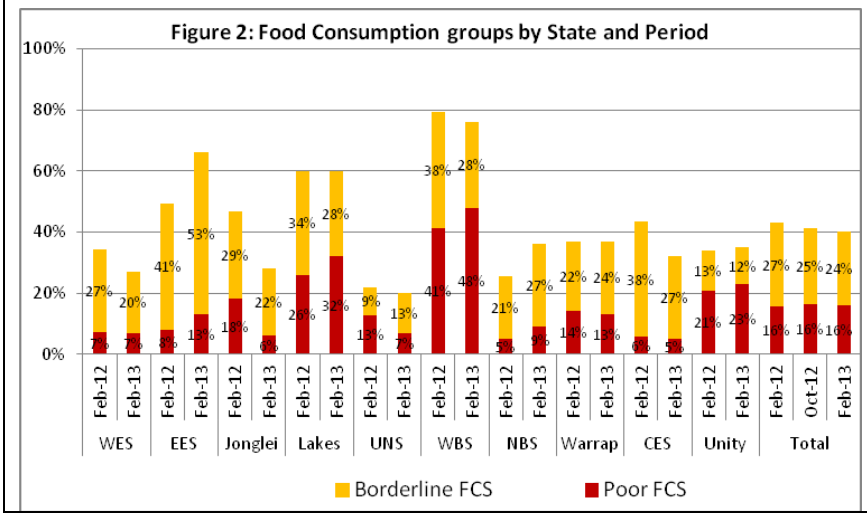
Food security situation

For better understanding of food security situation, households are classified into three food security groups: *severely food insecure, moderately food insecure and food secure* (refer to methodology section on last page of this publication).



Some 11% of the assessed households are severely food insecure and 38% are moderately food insecure. It indicates deterioration from the October 2012 levels **(Figure 1)**. Although, the levels of food insecurity are similar to those recorded during the same period in 2012 and 2011. There are however, significant changes within some States since the same period last year. Western Bahr el Ghazal, Lakes and Unity have the highest number of food insecure while Central and Western Equatoria have the lowest. The incidences of severe food insecurity in Lakes and Eastern Equatoria have more than doubled since February 2012while significant reductions has been observed in Warrap, NBS and WBS. The returnees[1] had significantly higher level of the food insecure households (64%) than the local populations (49%) while 57% of women-headed households were also food insecure compared to 48% of their male counterparts, indicating a possibility of gender-based vulnerabilities.

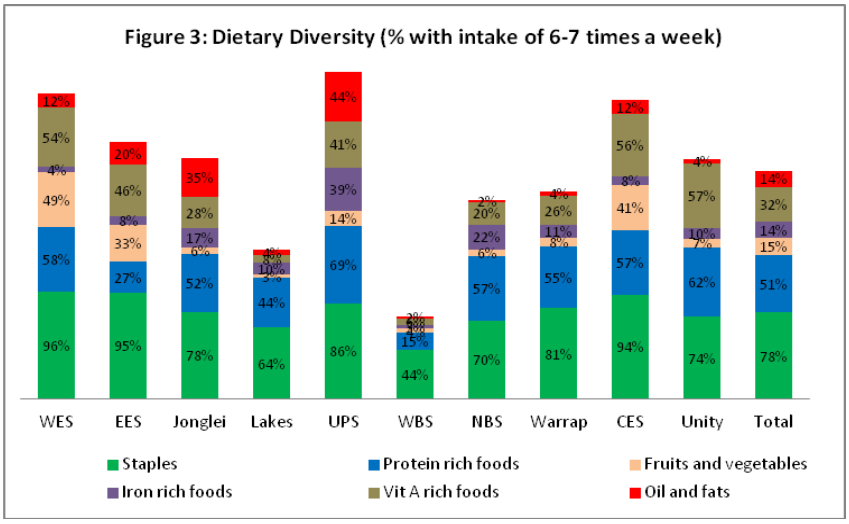
Food consumption



Food Consumption Score (FCS), based on seven-day recall period, shows that about 40% of the households have inadequate food consumption score with some 16% indicating poor food consumption score (i.e. a lopsided dietary intake mainly consisting of cereals which is inadequate to meet the requirements for a healthy life). Nationally, there is minimal variation in levels of food consumption during the same period in previous two years (**Figure 2**). However, food consumption worsened in NBS, EES WBS and Lakes States with proportions of the poor food consumption group rising in the last year. For instance the poor food consumption group increased by 62% in EES between February last year and now. The assessment reveals that poor food consumption is one for the factors

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

explaining the deteriorating food security situation. For instance, whereas 92% of severely food insecure households had poor food consumption scores whereas none of the food secure households had poor FCS.



The diet of the households is largely composed of cereals/staples and proteins with 78% and 51% consuming these items respectively in adequate frequency (least 6-7 times in a week) while the consumption of vitamin A andiron rich foods, oil and fats is grossly inadequate in terms of frequency **(Figure 3).** The lowest intake of all food groups is observed in WBS and Lakes, States that also indicate highest incidences of severe food insecurity. Conversely CES, WES and Upper Nile indicate relatively better levels of dietary diversity. This underscores poor dietary diversity as a factor contributing to food insecurity.

Market is currently the main source of cereals, accounting for 56% followed by own production at 28%. However, there are significant geographical differences with regard to where households source their food. For instance, whereas own production accounted for less than 25% in most states, it accounted for 62% in WES, the only area that had been recording consistent surplus local production in the country. With expectation of price hikes during the rainy season, dependence on markets will heighten vulnerability of residents in most states.

Agriculture

Some 83% of the households had cultivated in 2012 cycle while at least one in ten indicate interest to cultivate in the 2013 season. The main staples cultivated in previous season remained sorghum (73%), ground nuts (38%), maize (31%) and sesame (18%). IDPs and returnees (accounting for 4.5% of the assessed households) were significantly less likely to cultivate than the residents Only 36% of returnees cultivated in 2012 against 85% of residents. Sorghum is predominant in all states, but the proportion of households participating in maize production is much higher in Central (55%) and Western Equatoria (53%) and Unity (75%). Participation in groundnut cultivation was also highest in Central and Western Equatoria. All households had exhausted stocks of maize from previous harvest with exception of those in CES, WES and Abyei whose remaining stock could last them another month. On the other hand, all states still had minimal stock of sorghum to last them one month with exception of WES, CES and Warrap whose stocks could last up to 2-3 months while Jonglei had no stock left.

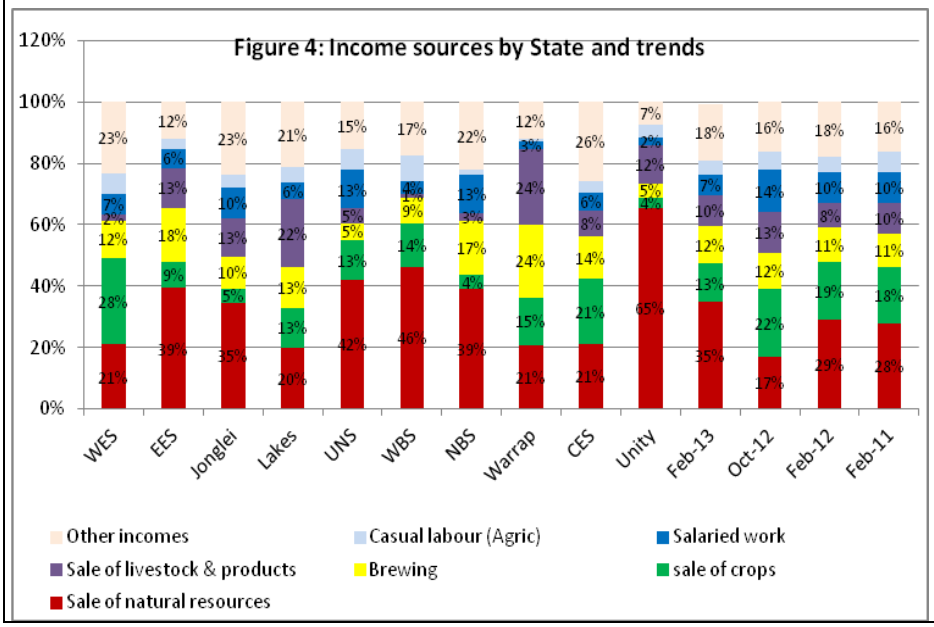
Both food insecurity and malnutrition are highest within households that did not cultivate in previous season. For example, whereas 61% of those not involved in staple food production were either severely or moderately food insecure, only 48% of those who cultivated had similar characteristic. Likewise, GAM among children was 11% among those who did not produce staples compared to only 7% among those who produced staples. Equally, the food secure households were more likely to have cultivated a larger land size for all crops. The food secure households are likely to have 2.1 and 1.2 times as large a plot under cultivation for maize and sorghum respectively as the food insecure households.

Table 1: Percentages of households that cultivated by crop in 2012 or plan to cultivate in 2013

	Planning to cultivate in 2013 Season						Duration stock will last (in months)		Cultivated in 2012 Season					
	Any	Sorghum	Maize	G/nuts	Sesame	Others	Sorghum	Maize	**Any**	Sorghum	Maize	G/nuts	Sesame	Others
WES	98%	64%	62%	91%	45%	42%	2	1	94%	60%	53%	83%	38%	38%
EES	86%	90%	18%	35%	18%	8%	1	-	86%	83%	14%	32%	17%	7%
Jonglei	85%	67%	41%	4%	0%	7%	-	-	75%	61%	35%	1%	0%	6%
Lakes	94%	95%	22%	72%	18%	2%	1	-	76%	76%	6%	58%	8%	2%
UNS	74%	62%	52%	1%	1%	1%	1	-	58%	50%	43%	2%	2%	1%
WBS	92%	88%	31%	83%	55%	28%	1	-	84%	79%	20%	75%	42%	22%
NBS	92%	94%	6%	32%	10%	1%	1	-	83%	82%	3%	26%	8%	1%
Warrap	97%	99%	31%	46%	32%	2%	2	-	94%	96%	19%	33%	21%	2%
CES	95%	86%	70%	79%	53%	32%	2	1	90%	73%	55%	71%	40%	26%
Unity	97%	65%	74%	16%	10%	1%	1	-	97%	64%	75%	11%	7%	2%
Total	**91%**	82%	40%	45%	25%	11%	1	0	83%	**73%**	**31%**	**38%**	**18%**	**10%**

Income sources

The main income sources for households at this time of the year are: sale of natural resources (firewood, grass, charcoal etc) (35 %), sale of crops (13%), brewing (12%) and sale of livestock (10%). This shows a dramatic decline in the sale of crops as a major income source from 22% in October 2012 and 19% in February 2012 **(Figure 4)**. Conversely, there is a steep rise in sale of natural resources—usually taken up as the food reserves start to diminish. However, the income sources follow similar trends as for same season in the last two years. As expected, WES and CES report the highest proportion of households that depend on sale of crops (28% and 21% respectively), compared to the rest of the states (ranging from 4% to 15%).



The sale of natural resources is more pronounced in Unity, EES, WBS and NBS, similar to observations in previous rounds. Households relying on sale of natural resources are significantly more likely to be food insecure. While about 16% of those relying on natural resources are severely food insecure, only 5% of those relying on sale of crops manifest with similar characteristic. This confirms that sale of natural resources is a distress activity usually undertaken by the vulnerable groups. Unity State and WBS have the least diversified income sources followed by EES and NBS (with two income sources accounting for about 60% or more) while CES and WES have the most diversified incomes.

The households were also classified based on

reliability and sustainability[2] of their income sources. The proportion of households with poor reliable and unsustainable income is 30%, a slight decline from 36% in February 2012 and 33% in 2011. A third of the households reported (32%) good income reliability and sustainability, similar to the previous observations during the same period in the previous two years.

Both the IDPs and returnees were significantly more likely to depend on income sources that are unreliable and unsustainable compared to the local residents (43 to 49% versus only 30% for residents). Similarly, households that depend on unreliable and unsustainable income sources are at least three times (19% vs 6%) more likely to have been severely food insecure and also significantly more likely to have had poor food access.

Expenditure (income proxy) and purchasing power

High share of expenditures on food is often associated with increased vulnerability to food insecurity. More than half (59%) of household expenditures is directed to food as shown in **Figure 5**. This is slightly higher than the 57% recorded during the same period last year and the 56% recorded in 2011. Similarly cereals currently account for 31% of household expenditures, higher than the levels recorded during the same period in the previous two year. NBS, Jonglei, WBS and Upper Nile have the highest (over 60%) share of expenditure on food while Central and Western Equatoria have the lowest expenditures on the same (**Table 2**). The combined effects of less-vibrant border trade with Sudan and the poor market integration due to bad roads undermine food access in the northern border states. On the other hand, the relatively good local production within WES and CES contributes to households' less dependence on food expenditures.

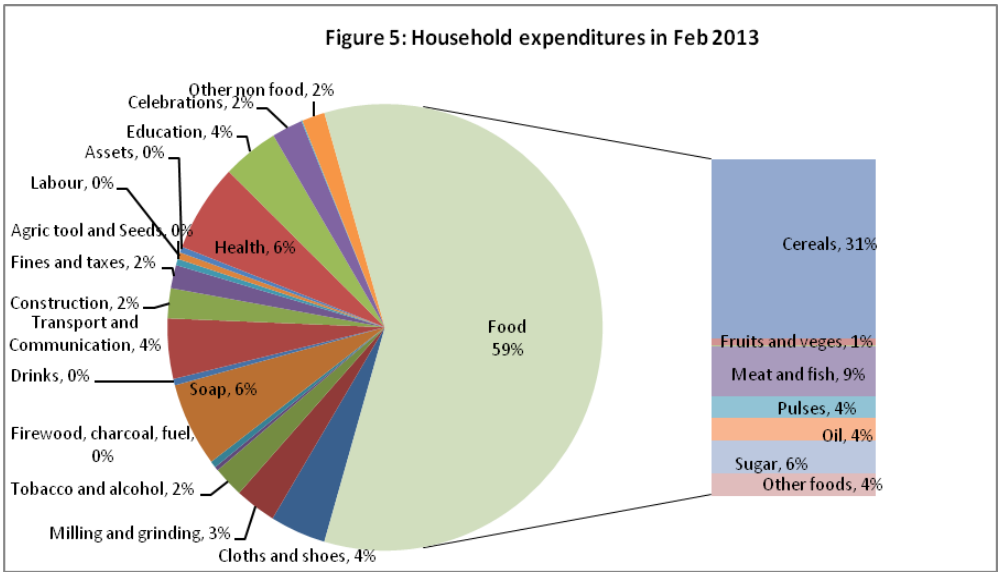
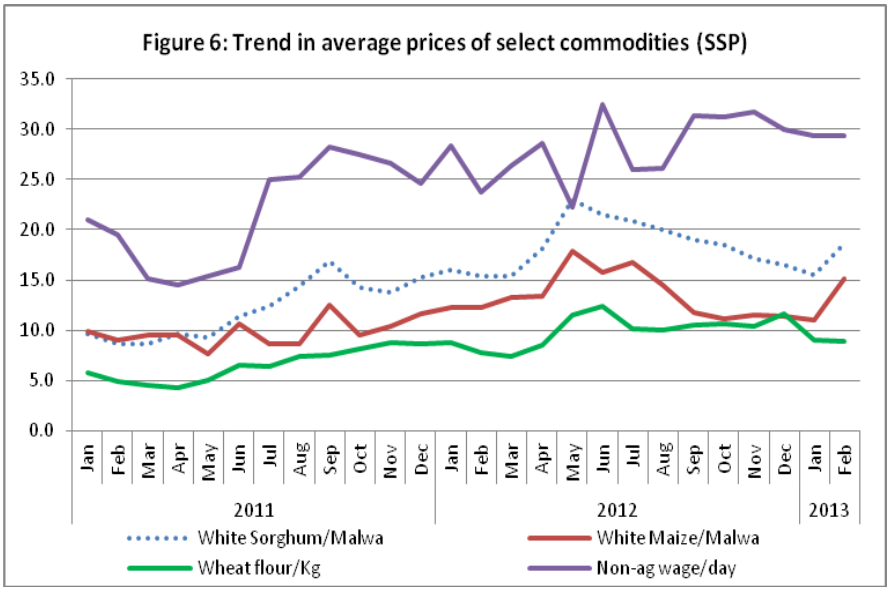


Table 2: Share of expenditures on food and cereals (October 2010 to 2012

State	Relative food expenditure (% share on food)				Staples expenditure (% share on cereals)			
	Feb-12	Jun-12	Oct-12	Feb-13	Feb-12	Jun-12	Oct-12	Feb-13
WES	39%	45%	44%	41%	5%	16%	9%	9%
EES	53%	56%	57%	58%	20%	40%	35%	38%
Jonglei	60%	66%	51%	67%	32%	39%	21%	38%
Lakes	49%	61%	48%	62%	28%	43%	32%	49%
UNS	54%	60%	61%	62%	27%	31%	29%	31%
WBS	76%	64%	56%	58%	39%	36%	34%	29%
NBS	72%	76%	51%	69%	45%	55%	19%	41%
Warrap	66%	61%	40%	60%	32%	46%	9%	32%
CES	46%	49%	46%	48%	14%	21%	18%	15%
Unity	61%	54%	43%	58%	47%	42%	23%	41%
South Sudan	57%	60%	48%	59%	29%	37%	24%	31%

[2] 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.

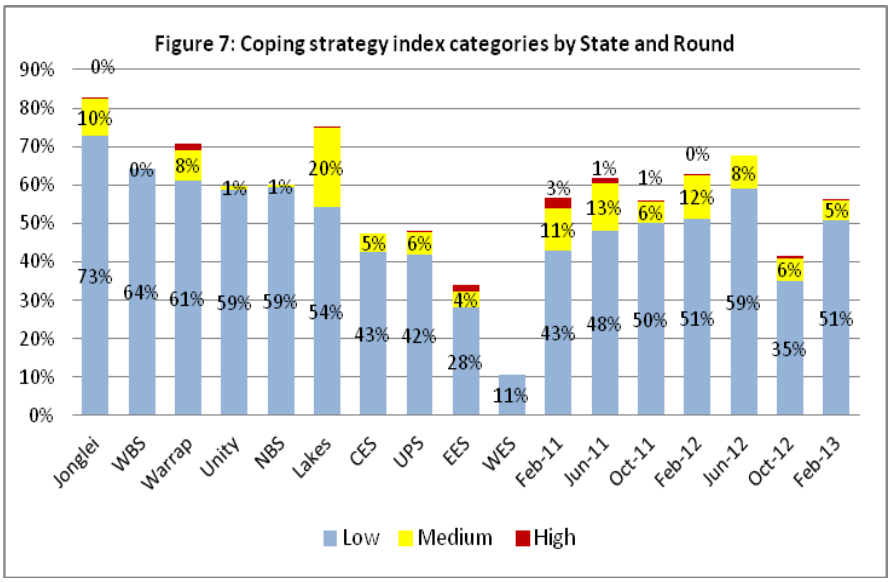
Market



The prices of essential food commodities such as white sorghum, maize grain and wheat flour are already witnessing an upward push since January 2013 (figure 6). This upward trend may continue through July, mainly attributed to the depletion of stocks from previous harvest coupled with inaccessible roads during the rainy season. The rise in prices of the staples will further hurt the vulnerable populations who mainly rely on market sources of food. Since food commodities are mainly sourced from Uganda, transportation costs to northern states of the country becomes prohibitive during the wet season will substantially affect households' ability to access food in the months preceding next harvest. Any lag in gaining of confidence among traders in the sustainability of renewed trader relationship between Sudan and South Sudan governments following the official re-opening of the border may continue to dampen market functioning with resultant continued rise in prices.

The price of wheat, whose consumption is mainly limited to urban areas, is however showing a downward general trend since the beginning of the year, possibly due to a relatively lower demand amongst the South Sudanese population.

Coping strategies index and shocks experienced by households



Overall, only 57% of the households employed some coping strategy in the three months preceding the assessment. This is slightly lower than the 64% and 60% in February 2012 and 2011 respectively. The proportion of households currently reporting also increased from 39% reported last October, consistent with seasonal pattern.

Level of coping varied between the states. At least 60% of households in Jonglei, Lakes, Warrap, WBS, Unity and NBS had adopted some level of coping, while less than 50% in the remaining states showed the same characteristic, with the lowest being WES at 11%. In general, households are using low coping strategies with no household applying high coping strategies **(Figure 7)**.

The commonest coping strategies include the consumption of less preferred food, followed by limiting meal sizes, reducing the number of meals and borrowing. The sale of livestock and seed stock consumption are the least used coping strategies (**Figure 8**). The use of any of these coping strategies reduced compared to the same period in 2012 but increased when compared to October 2012. This indicates that coping varies with season. In October, households tend to cope less due to relative abundance of food from the harvest. However, as food stocks start to diminish in February, households start to use different coping mechanisms to acquire food.

Currently, human sickness and high food prices remained the most frequently reported shocks by households. High food price as a shock to households is reported by the same proportion as was the case during the same period in 2012 and 2011 though higher than in October 2012.

On average, about 66% of households reported high food prices as their main shock from a peak of 80% in June 2012. Compared to October 2012, there was a notable decline in occurrence of all shocks with exception of insecurity which increased from 9% in October to 23% in February 2013 (**Figure 9**). Incidences of insecurity normally tend to rise during the dry seasons as was the case in February 2013. As expected, insecurity as a shock is commonest in Jonglei (75%), Abyei (57%) and Lakes (42%) compared to WES where there was no incidence of insecurity reported.

Figure 8: Percentage of households that adopted coping stategies February 2013

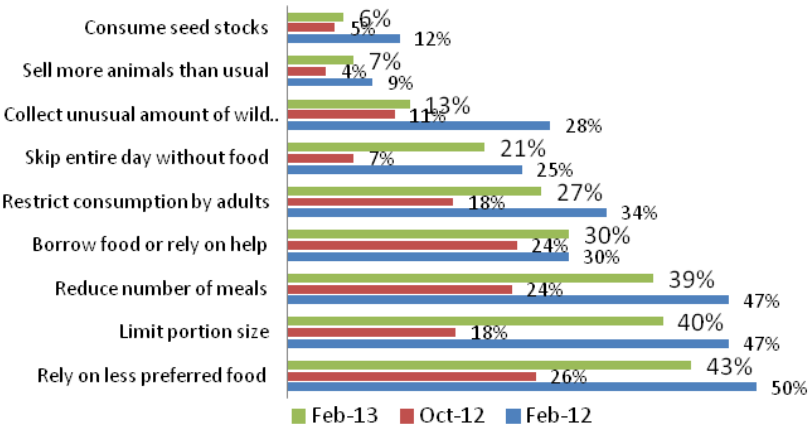
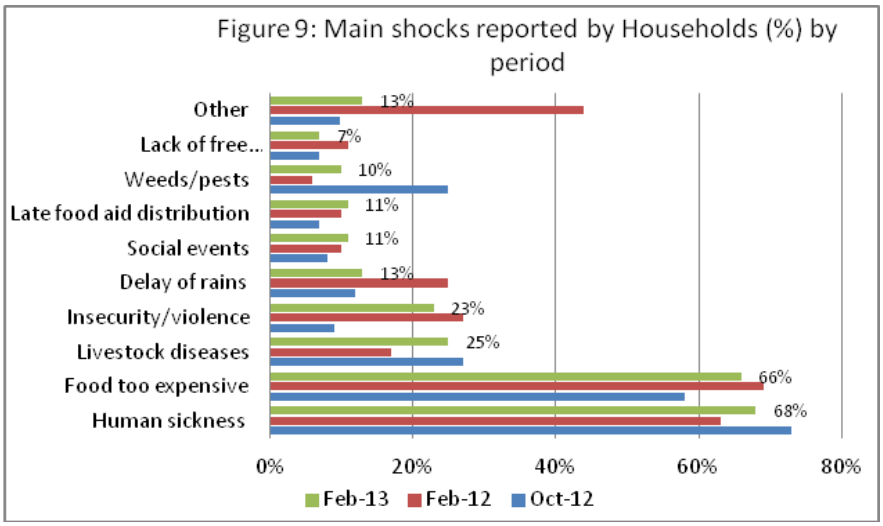


Figure 9: Main shocks reported by Households (%) by period



Border states of Warrap, NBS, WBS and Unity reported the highest (ranging from 71% in Unity to 89% in NBS) occurrence of high food prices as a major shock compared to WES where only 31% reported the same shock. The long distance and poor road network covered to transport food to border states of Warrap, Unity, and the Bahr el Ghazals exacerbated by relatively low local production makes prices to remain higher.

Limited access to vulnerable populations was more likely to occur in Jonglei (18%), where insecurity is also rampant followed by Unity (16%). Livestock disease was more common in Warrap (49%) and Unity (34%) States compared to WES at only 19%. Households that had experienced a shock were slightly more likely to have been severely food insecure (12% severe food insecurity amongst those that had experienced a shock versus 10% for those that had not had a shock).

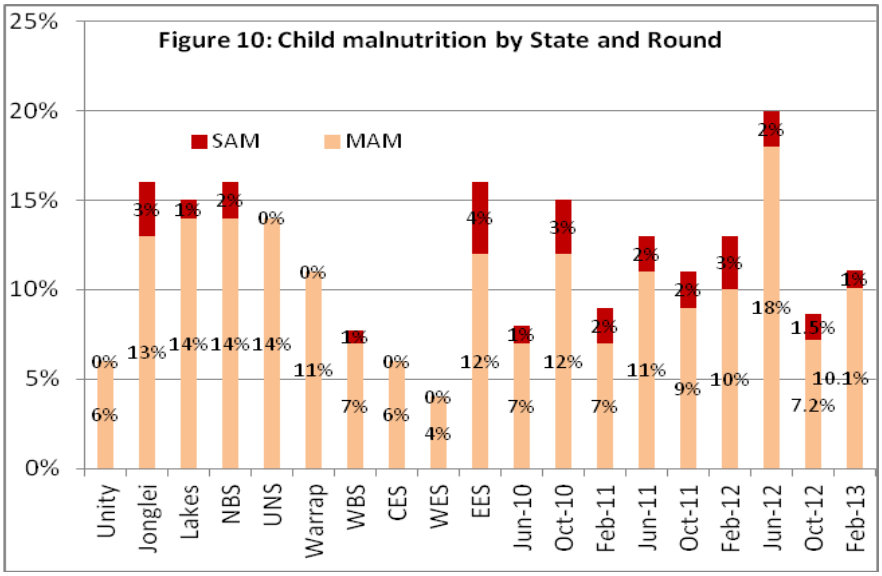
Mid-Upper Arm Circumference (MUAC) and child nutrition

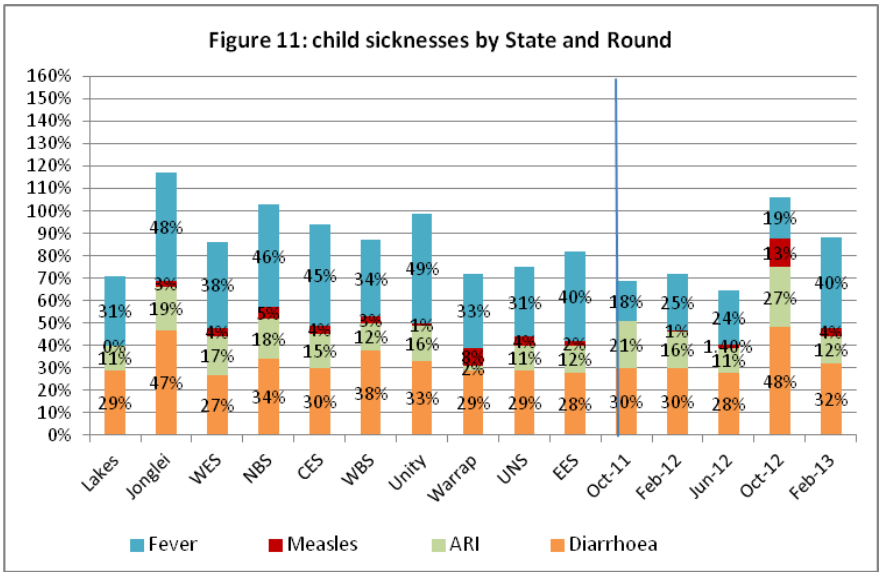
Some 11 % of 3,776 children (6-59 months) measured in Feb/March 2013 assessment (Figure 10) are acutely malnourished according to MUAC thresholds of MUAC <125cm for Global Acute Malnutrition (GAM). This shows a slight improvement from a high GAM rate of 12.5% (based on MUAC measurements) in February 2012 but higher than the same period in 2011. The prevalence of acute malnutrition tends to peak around June but gradually (declines to its lowest in October) before starting to rise once more in February. Severe acute malnutrition using MUAC cut-off of < 115mm) is one percent. Among the states, the highest prevalence of acute malnutrition (based on MUAC) is seen in EES, Jonglei, Lakes and NBS (more than 15%) while the lowest prevalence is recorded in the CES, WES and Unity , at about 5% or less. Severe acute malnutrition is significantly higher (4%) in EES than any other state.

A total of 3,993 non-pregnant women aged between 15 and 49 years were measured, of whom some 8.6% were acutely malnourished based on MUAC <230mm. About 0.5% showed severe acute malnutrition (MUAC <210cm). These rates represent an improvement from the February 2012 that showed a prevalence of 14.8% and 1.5% for GAM and SAM among women respectively, though worse than the same period in 2011. The highest prevalence of acute malnutrition (GAM) among women is witnessed in Jonglei and Upper Nile States each at 15% while the lowest was recorded in WES (<3%).

Of the 2,520 children aged 6-24 months surveyed, 67% were still breastfeeding with variations across states: Jonglei State reported the highest percentage (82%) and Unity State the lowest (43%). Some 20% of the under 2s had adequate dietary diversity (consumed 4 or more food groups), a slight deterioration from the 25% and 21% reported in February 2012 and same period in 2011 respectively. WES showed the highest proportion (46%) of children aged 6-23months with adequate dietary diversity while Unity State had the lowest (7%). The most consumed foods by 6-23 months are cereals/tubers (62%) while the least consumed were eggs (13%) and fruits & vegetables (17%).

About 47% of the children under 2 years had experienced illness in the two weeks preceding the assessment. There was minimal variation across states which exception of Jonglei where three-quarters of the children had suffered from illness. Overall there is a much higher incidence of fever reported in February 2013 compared to same period in 2012. (**Figure 11**) and a decline in incidences of diarrhea, ARI and measles, a reflection of dry season effect. Diarrhoea was common in all states though relatively higher in Jonglei, but almost similar levels in the rest of the states. In general, illnesses have a major contribution to acute malnutrition. The assessment indicates that a child suffering from any of the illnesses was at 3 times more likely to have been severely malnourished (SAM of 1.2% versus 0.4%) and 2 times more likely to have been moderately malnourished (MAM of 12% versus 6.7% for those that had not suffered any illness).





Assistance received

About 26% of the assessed households reported receiving at least one form of assistance or another in the three months preceding the assessment, higher than during the same period in 2012 (21%) and in 2011 (22%), but significantly lower than in October 2012. Of the households that received some assistance, about 86 percent received food assistance, 7% seeds or tools, 43% vitamin A and 11% other types of aid. The highest percentage of households who received any form of assistance was in EES (55%), WBS (50%), Jonglei State (39%) and NBS (33%), the same areas that also reported highest proportions of food aid recipients. On the other hand, only 9 to 16% had received any form of humanitarian assistance in any of the other States. Food aid was the main form of assistance received by at least three-quarters of those who had received humanitarian aid in all states with exception of CES and WES where just about a quarter or less of the recipients had received food. Of those who receive food aid, most were likely to have received General Food Distribution (36%) followed by school feeding (28%), Food for Asset creation and nutrition support for under-fives at 13% and 11% respectively. Vitamin A supplementation was more likely to have been received in WES, EES. WBS and NBS (all at about a half or more of humanitarian assistance recipients) while agricultural inputs were more likely to have been received in CES and WES followed by Lakes State (27%, 25% and 18% respectively).

South Sudan Food Security Monitoring *A collaborative activity of FSTS, SSRRC, MAF, MoH, FAO, WFP, UNICEF and UNHCR*	**Round 9, March 2013**

Households that had received food assistance in the month preceding the assessment had significantly better mean food consumption score (mean of 43) than those who had received food assistance (33) some 2-3 months ago and those who had never received food aid (38) and also had a lower share of expenditure on cereals (29%) than those who had not received food in the months preceding the survey (37%).

Food security Outlook

The deterioration in key food security indicators observed in February is typical of the season and the slight rise in moderate food insecurity makes the situation more precarious with a possibility of increased vulnerability during the peak of the lean season. The key factors that would determine food security situation in the coming months include: Projected normal to above rainfall in the Greater Equatoria, worsening civil conflicts in Jonglei, seasonal rise in prices due to poor road linkages, seasonal disease outbreaks; Floods may dampen the food security situation while expected Oil flows and improved Sudan-South Sudan border trade following agreements between the two nations, high numbers of vulnerable populations that are not in the mainstream production system (especially the IDPs and refugees). The continuing inter-ethnic conflicts resulting from competition over resources and civil tensions particularly in Jonglei has potential to affect the food security situation. Strengthening humanitarian support including conflict resolution activities is a priority before the intense rains begin in addition closes monitoring of food security and livelihood changes.

Methodology

The FSMS provides results that are representative at national and state level utilizing data collected from 10 to 15 clusters (sentinel sites) selected from each of 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. Data collection from a total of 2,836 households was undertaken in Late February through March (the beginning of lean season) followed by analysis and reporting in April 2013.

As far as possible, comparisons are made with the previous FSMS findings to monitor trends and changes in key food security and nutrition indicators over time. In understanding food security situation, the below were basic indicators used:

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.

Food access was obtained by combining households' income source/ reliability and relative expenditure on food. Food consumption, food access and coping strategies were combined to obtain food security indicator.

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: