

## South Sudan Food Security Monitoring

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

Round 5, October 2011

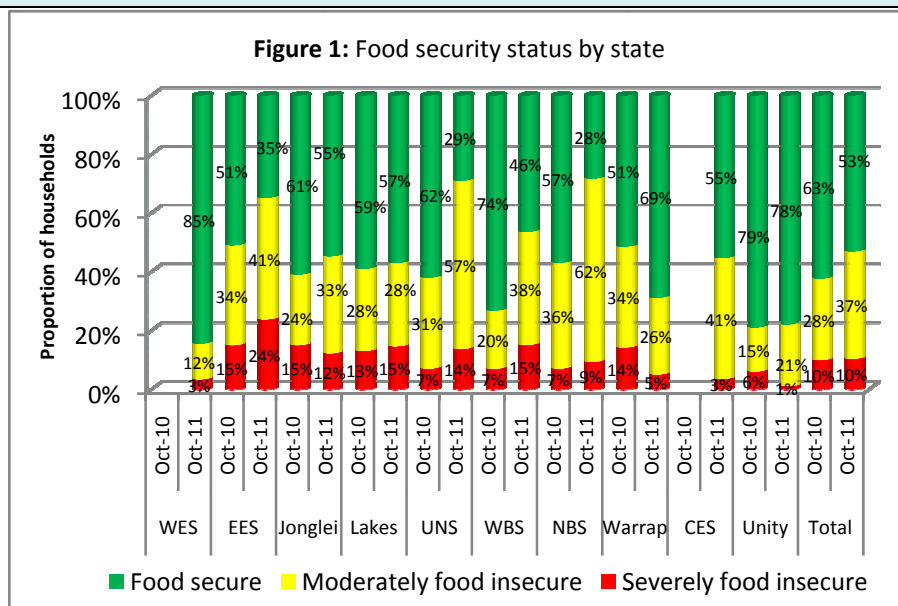
### Highlights

- In October 2011, the FSMS results shows mixed food security situation in South Sudan despite the start of harvest in most parts of South Sudan. NBS, UNS, WBS, and EES continue to have high prevalence of food insecure households.
- High food prices has increased expenditure on food considerably especially in the border States. Expenditure on cereals has also increased compared to last year.
- The main shocks experienced by communities across South Sudan in the three months prior to the monitoring include high food prices, human sickness, delay of rains and insecurity.

### Food security situation

During the fifth round of the food security monitoring in October, 10 percent of the households were found to be severely food insecure, 37 percent moderately food insecure and 53 percent were food secure (**Figure 1**). Despite the onset of the main harvest period in South Sudan, food security situation in some states is still unimproved. Food security situation in UNS has particularly deteriorated significantly in October. Proportion of severely food insecure households increased mostly in EES and WBS compared to October 2010. Moderately food insecure households also increased in UNS, NBS and EES.

Female-headed households were more food insecure than the male-headed households. About 11 percent of the female-headed and 10 percent of the male-headed households were severely food insecure. This was statistically similar to last year but moderately food insecure female-headed households increased from 30 percent in October 2010 to 41 percent and male-headed increased from 26 percent to 35 percent of male-headed. Resident households were more food secure (54 percent) compared to the IDPs (40 percent) and returnees (38 percent). Prevalence of severely food insecure households among the IDPs was 20 percent, while it was 10 percent for both residents and returnees.



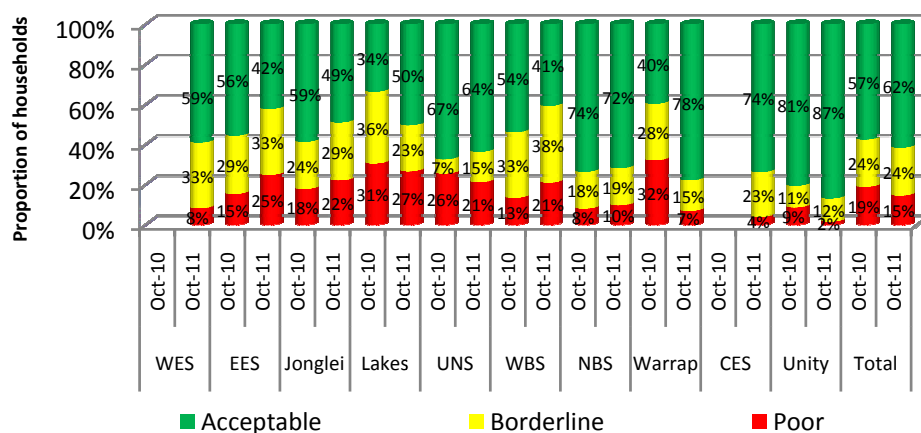
### Food consumption

The food consumption score is calculated based on dietary diversity consumed and number of days each food type was consumed over seven-day recall period. The result showed that 15 percent of the households had poor food consumption, 24 percent borderline and 62 percent had acceptable food consumption (**Figure 2**). In October 2010, 19 percent of households had poor food consumption and 57 percent had acceptable food consumption.

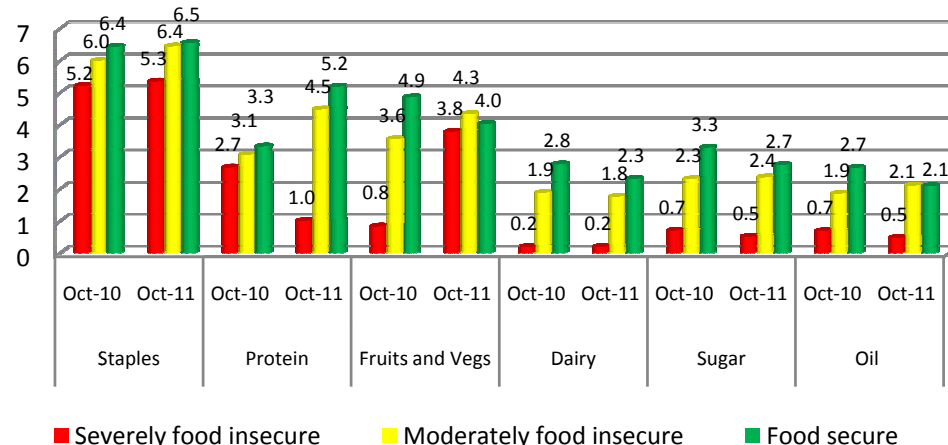
More female-headed households had poor food consumption (16 percent) than the male-headed households (13 percent). Unlike the previous round, IDP households had a higher proportion having poor food consumption (20 percent). There was no marked difference between the residents (14 percent) and returnee (15 percent) households in terms of food consumption. The proportion of households with poor food consumption in EES, Jonglei and NBS states is higher compared to October 2010. However, some slight improvements were seen in Warrap, Lakes, Upper Nile and Unity states in the food consumption compared to October last year.

Overall, households consumed staples 6.3 days on average followed by vegetables (3.8 days). Protein consumption varied significantly with food security status of households and most of the proteins come from pulses (2.7 days). Animal protein was consumed 2.3 days on average and mostly consumed by food secure households. Consumption of cereals was comparable among the food consumption groups (Figure 3). Consumption of dairy products have increased among food secure and moderately food insecure households from June 2011 but similar to October 2010. This indicates the presence of livestock around homestead hence increased access to milk for households. Reliance on markets as a food source increased in October 2011 compared to October 2010 but this was higher during the peak of hunger season in June. Market contributed to 43 percent of households' cereals in October 2011 while staples obtained from own production increased from 30 percent in June to 54 percent in October, whereas markets as a source of staples reduced from 64 percent in June to 43 percent in October. In October 2010, 51 percent of staples were sourced from own production and 39 percent was obtained from the market.

**Figure 2: Food consumption categories by state**



**Figure 3: Average number of days food items consumption in 7 days**



## Agriculture

The overall number of households involved in cultivation increased from 80 percent in 2010 to 83 percent in 2011. However, the number of cultivating households declined in 2011 in Lakes and Upper Nile states compared to 2010. Delay of rains was reported by nearly 60 percent of the households. About 73 percent of the cultivating households cultivated sorghum, 32 percent maize, 41 percent groundnuts, 24 percent sesame and 11 percent cultivated other crops (Table 1). Sorghum is cultivated in all states but crop diversification appears to be more common in greater Equatoria states especially in the green belt livelihood zone.

Severely food insecure households mostly cultivated cereals but food secure households reported more diverse crops than the food insecure categories. About 78 percent of the severely food insecure households cultivated sorghum, 23 percent maize, 31 percent groundnuts, 15 percent sesame and only 5 percent cultivated other crops. Female-headed households were also less involved in cultivation than their male-headed counterparts (87 vs. 77 percent).

**Table 1:** Percentages of households that cultivated various crops

| State          | Cultivated in 2010 season |         |       |        |        |       | Cultivated in 2011 season |         |       |        |        |       |
|----------------|---------------------------|---------|-------|--------|--------|-------|---------------------------|---------|-------|--------|--------|-------|
|                | Any                       | Sorghum | Maize | G/nuts | Sesame | Other | Any                       | Sorghum | Maize | G/nuts | Sesame | Other |
| <b>WES</b>     |                           |         |       |        |        |       | 98%                       | 46%     | 51%   | 82%    | 41%    | 30%   |
| <b>EES</b>     | 86%                       | 76%     | 6%    | 11%    | 28%    | 10%   | 92%                       | 86%     | 4%    | 26%    | 26%    | 13%   |
| <b>Jonglei</b> | 69%                       | 61%     | 20%   | 2%     | 1%     | 6%    | 78%                       | 68%     | 64%   | 8%     | 4%     | 9%    |
| <b>Lakes</b>   | 92%                       | 89%     | 10%   | 56%    | 22%    | 2%    | 88%                       | 85%     | 7%    | 65%    | 32%    | 5%    |
| <b>UNS</b>     | 52%                       | 34%     | 38%   | 7%     | 6%     | 1%    | 30%                       | 30%     | 26%   | 2%     | 0%     | 1%    |
| <b>WBS</b>     | 85%                       | 66%     | 11%   | 75%    | 45%    | 13%   | 88%                       | 72%     | 26%   | 78%    | 49%    | 8%    |
| <b>NBS</b>     | 87%                       | 78%     | 5%    | 23%    | 24%    | 4%    | 88%                       | 93%     | 4%    | 27%    | 20%    | 2%    |
| <b>Warrap</b>  | 91%                       | 87%     | 17%   | 31%    | 20%    | 17%   | 100%                      | 100%    | 32%   | 38%    | 23%    | 4%    |
| <b>CES</b>     |                           |         |       |        |        |       | 82%                       | 63%     | 43%   | 53%    | 29%    | 31%   |
| <b>Unity</b>   | 73%                       | 46%     | 52%   | 17%    | 3%     | 3%    | 84%                       | 65%     | 72%   | 1%     | 0%     | 4%    |
| <b>All</b>     | 80%                       | 68%     | 19%   | 29%    | 19%    | 7%    | 83%                       | 73%     | 32%   | 41%    | 24%    | 11%   |

#### Income sources

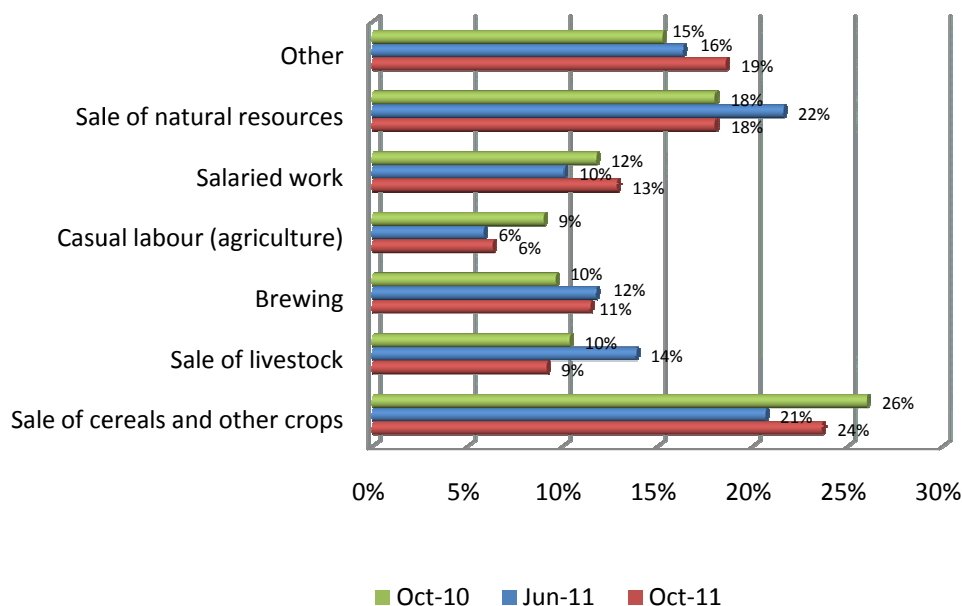
In October, sale of cereals and other crops have overtaken other sources income (**Figure 4**). Sale of cereal in October 2011 is somewhat less than October 2010. This is an indication of low production in 2011 compared to last year. Collection and sale of natural resources including firewood, charcoal and grass and sale of livestock have reduced slightly compared to the previous round. October is harvest season and reliance on sale of crops is expected to increase and sale of natural resources and distressed sale of livestock are expected to decline.

Based on the reliability and sustainability of income sources, 34 percent of

households were classified as having poor, 32 percent as medium and another 34 percent as having good income sources. Income sources classified as poor include sale of grass, charcoal and firewood, while income sources such as salary and sale of cereals, livestock and petty trade are considered as more reliable income sources.

Considerable proportion of households in NBS (69 percent) had poor income source (in terms of reliability and sustainability) followed by UNS (57 percent), CES (50 percent), WBS (36 percent) and EES (36 percent). As a composite indicator for food access, this had a significant impact on households' food access in the above mentioned states.

**Figure 4:** Households main income source in the past 30 days



**Expenditure (income proxy) and purchasing power**

**Table 2: Relative food expenditure and expenditure on staples**

| State          | Relative food expenditure |            |            | Staples expenditure |            |            |
|----------------|---------------------------|------------|------------|---------------------|------------|------------|
|                | Oct-10                    | Jun-11     | Oct-11     | Oct-10              | Jun-11     | Oct-11     |
| <b>WES</b>     |                           | 47%        | 39%        |                     | 11%        | 9%         |
| <b>EES</b>     | 57%                       | 69%        | 65%        | 34%                 | 50%        | 49%        |
| <b>Jonglei</b> | 53%                       | 61%        | 53%        | 25%                 | 40%        | 23%        |
| <b>Lakes</b>   | 55%                       | 62%        | 52%        | 39%                 | 50%        | 33%        |
| <b>UNS</b>     | 39%                       | 49%        | 63%        | 13%                 | 21%        | 30%        |
| <b>WBS</b>     | 43%                       | 53%        | 57%        | 20%                 | 28%        | 31%        |
| <b>NBS</b>     | 51%                       | 62%        | 63%        | 16%                 | 35%        | 35%        |
| <b>Warrap</b>  | 45%                       | 59%        | 53%        | 19%                 | 39%        | 29%        |
| <b>CES</b>     |                           | 50%        | 53%        |                     | 25%        | 21%        |
| <b>Unity</b>   | 38%                       |            | 53%        | 17%                 |            | 26%        |
| <b>All</b>     | <b>48%</b>                | <b>57%</b> | <b>55%</b> | <b>23%</b>          | <b>33%</b> | <b>29%</b> |

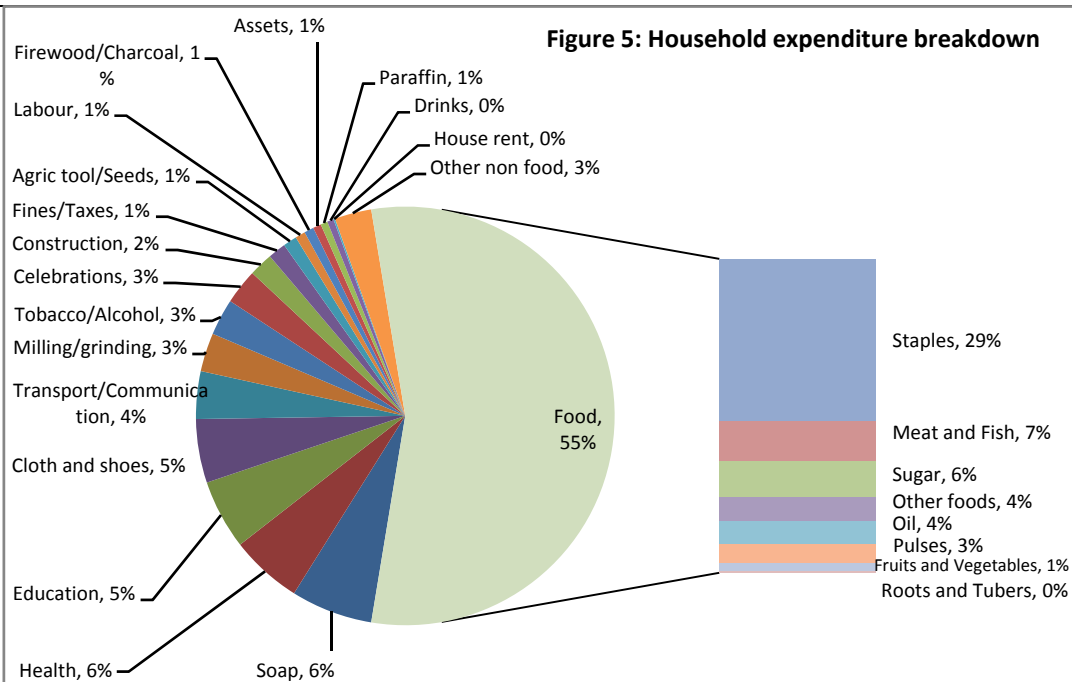
In general, overall percentages in the different categories of food expenditure did not change. During this round, 40 percent of households spent highly (more than 65 percent) on food. Similarly, 22 percent spent between 50 and 65 percent on food, while 38 percent of households had low (less than 50 percent) expenditure on food.

On average, expenditure on food has increased from 48 percent in October 2010 to 55 percent in October 2011 (**Figure 5**). Much of the amount spent on food still went to staples which account for 29 percent. Increase in food expenditure and the amount spent on staples is attributed mainly to high food prices and delayed harvest resulting from late rains. Generally, average

food expenditure was lower than in June except in Upper Nile, Northern Bahr el Ghazal, Western Bahr el Ghazal, and Central Equatoria states (**Table 2**).

During this round, severely food insecure and moderately food insecure households spent as high as 68 percent and 69 percent on food respectively. Expenditure on staples alone was 47 percent for severely food insecure and 38 percent for moderately food insecure households. Food secure households spent 43 percent on food and only 18 percent was spent on staples.

Percentage of expenditure spent on staples has decreased in October compared to June owing to the local harvest that has started entering the markets. However, this is higher than in October 2010 owing to the poor agricultural season this year and high food prices.



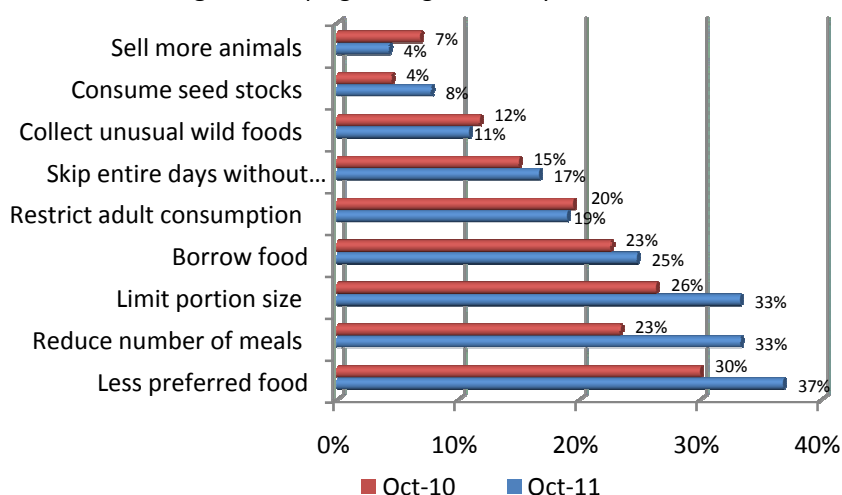
During this round, the per capita total expenditure was SSP 2.89 per day which was higher than in October 2010 at SSP 2.5. The average household monthly expenditure was SSP 629 compared to SSP 545 in the last round. High price of commodities across South Sudan in 2011 is the trigger for the increased expenditures on food and non food items resulting in rise in the overall households' monthly expenditures.

### Coping strategies index

Proportion of households that had adopted coping strategies reduced in October compared to June and February however there is increase in the use of dietary adjustments in 2011 than in 2010. Consumption of less preferred food, reducing number of meals and limiting portion size were the most frequently reported coping strategies (**Figure 6**).

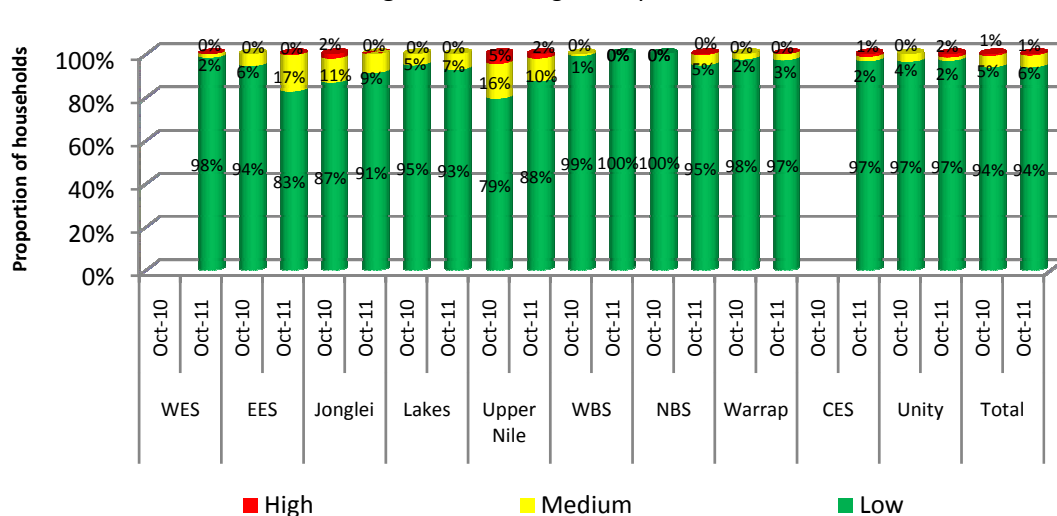
During this round, a half (50 percent) of households reported having used at least one coping strategy during the week prior to the assessment compared to 41 percent in October 2010. During the lean season, however, higher numbers of households used coping strategies. In February, 60 percent and in June, 66 percent of the households used coping strategies.

**Figure 6: Coping strategies used by households**



About 94 percent include households with low coping strategies and those that did not use coping strategies (**Figure 7**). Households using high coping were mostly female-headed (1.2 percent) compared to 0.2 percent among male-headed households.

**Figure 7: CSI categories by state**



### Mid-Upper Arm Circumference (MUAC) and child nutrition

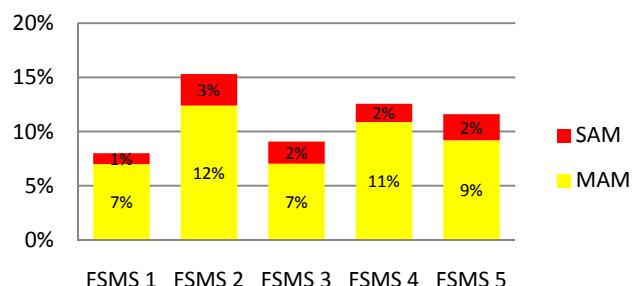
2,119 non-pregnant women of child bearing age were measured for malnutrition by using Mid-Upper Arm Circumference (MUAC) methodology in October 2011. The data shows that 11.1 percent were moderately malnourished (MUAC 210-230mm) and 1.5 percent severely malnourished (MUAC <210mm) translating to a GAM (Global Acute Malnutrition) rate of 12.6 percent. GAM level increased slightly from June (11.6 percent) and February (7.8 percent) but is lower than in October 2010 (15 percent). The states with highest malnutrition levels on this round were Jonglei (20.6 percent), EES (18.8 percent), NBS (17.6 percent) and UNS (14.5 percent).

3,257 children between 6-59 months were included in the MUAC measurement. The average GAM prevalence (MUAC <125mm) across the 10 states was 11.6 percent. More specifically, 2.4 percent were severely malnourished (MUAC <115mm) and 9.2 percent moderately malnourished (MUAC  $\geq$ 115 - <125mm). This is an increase from June and February when GAM was 12.6 and 9.1 percent respectively and is also higher compared to GAM of 15 percent in October 2010 (**Figure 8**). Within states, the prevalence of GAM remained the highest in UNS and EES, the latter showing drastic increase from June. Other states with increased prevalence from June were in WES, CES, Jonglei and Lakes.

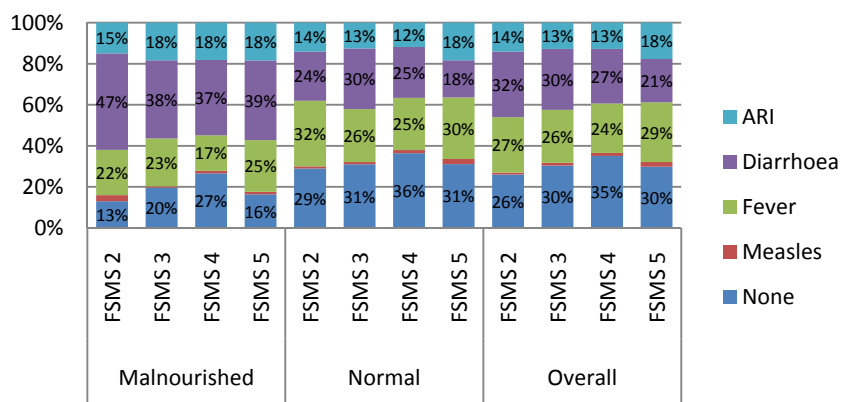
Dietary diversity information was collected from 2,129 children 6-24 months. Overall, 32 percent of the children 6-24 months consumed food from 4 or more food groups in October 2011, which indicates adequate dietary diversity. This is slightly lower than in October 2010 (37 percent). In terms of seasonality, consumption improved steadily from February (21 percent) and June (27 percent) until October. The upcoming rounds in 2012 will show more information on seasonal trends in dietary diversity. The dietary diversity based on child nutritional status was slightly better for those with malnutrition compared to non-malnourished children (37 vs 30 percent). Among age groups, children >18 months have more diverse diet compared to the younger children.

Approximately two thirds of all children under 2 years<sup>1</sup> experienced illness in the past 2 weeks (**Figure 9**), a slight decrease from June and among the non-malnourished and 10 percent point increase among malnourished children. Overall, diarrhoea was the main disease for the malnourished with almost 21 percent point higher prevalence compared to the non-malnourished whereas fever was the main disease for the non-malnourished. In general, the prevalence of Acute Respiratory Infection (ARI) increased slightly during the season while diarrhoea decreased.

**Figure 8: Overall child malnutrition among FSMS rounds**



**Figure 9: Child illness in the past 2 weeks within nutritional status (Percent)**



#### Assistance received

About 25 percent of the assessed households reported receiving some sort of assistance in the past three months. This percentage is lower than in June when 31 percent received assistance. 21 percent of the sampled population received food assistance, 11 percent agricultural tools and/or seeds, 10 percent vitamin A and 2 percent other forms of assistance. Of the households who receive food assistance, 58 percent reported the food was received by the whole family, 33 percent mentioned that part of the family (adult) received the food, whereas 7 percent said children in school received the food and 2 percent of the households received children under 5 years' ration.

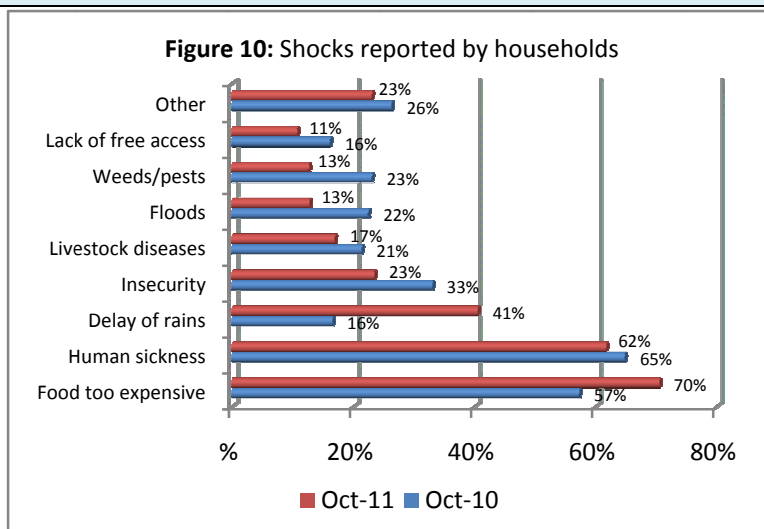
<sup>1</sup> 1,921 children 6-24 months



**Shocks experienced**

High food prices continue to weigh heavily on households despite the harvest that has started during this round. High food price was frequently reported by households (70 percent) followed by delay of rains (62 percent) and human sickness (41 percent) (Figure 10).

The frequency of specific shocks varied between states. Delay of rains was commonly reported in WES and EES (63 percent each) and Warrap (54 percent). Compared to October 2010, delay of rains has been reported more frequently in October 2011. In Lakes and Unity states, human sickness ranked number one in terms of frequently reported shocks. In general, Northern Bahr el Ghazal has the highest proportion of households (82 percent) who reported human sickness as a shock, followed by Unity state (77 percent), Lakes (71 percent), Warrap (67 percent) and Jonglei (60 percent). Insecurity was more frequently reported in Jonglei state (54 percent), Lakes (35 percent), Unity state (33 percent), CES (33 percent) and WES (33 percent).


**Demographics**

- During this round, 2,424 households were interviewed from 97 sites in all states. Insecurity prevented access to two sites in Unity state and one site in Jonglei state.
- Female-headed households represented 40 percent of the sampled population.
- Average household size was 7.6 persons.
- The residential status of the sampled households are:
  - 94.1 percent residents
  - 4.7 percent returnees
  - 1.2 percent IDPs

**Methodology**

Clusters/sentinel sites were purposively selected as the first sampling stratum representing various livelihood zones. A total of 10 clusters were selected from all the ten states and 25 randomly selected households were interviewed from each cluster. One community/key informant questionnaire and two trader checklists (where applicable) were administered at each site to provide supplementary information.

During the fifth round, all ten states; WES, EES, Jonglei, Lakes, UNS, WBS, NBS, Warrap, CES and Unity were included in the monitoring system. However, two sites in Unity and one site in Jonglei were not assessed due to insecurity.

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.

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.

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.

**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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