# Report on the South Sudan Annual Needs and Livelihoods Assessment in Central Equatoria State

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**A collaborative assessment by:**
Ministry of Agriculture and Forestry (MOAF)
Ministry of Health (MOH)
Southern Sudan Relief and Rehabilitation Commission (SSRRC)
United Nations Mission in Sudan (UNMIS)
Food and Agriculture Organization (FAO)
United Nations Office for Coordination of Humanitarian Affairs (UNOCHA)
United Nations High Commissioner for Refugees (UNHCR)
World Food Programme (WFP)

vam
food security analysis

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National counterparts: SSRRC, MOAF and MOH

UN agencies: FAO, UNHCR, UNOCHA (EP&R) and UNMIS

## LIST OF ACRONYMS

| | |
|---|---|
| ANLA | Annual Needs and Livelihoods Assessment |
| CPA | Comprehensive Peace Agreement |
| CSI | Coping Strategies Index |
| EP&R | Emergency Preparedness and Response |
| FAO | Food and Agriculture Organization of the United Nations |
| FCG | Food Consumption Group |
| GAM | Global Acute Malnutrition |
| HH | Household |
| IDPs | Internally Displaced Persons |
| MOAF | Ministry of Agriculture and Forestry |
| MOH | Ministry of Health |
| NGOs | Non-Governmental Organizations |
| SDG | Sudanese Pounds |
| SSRRC | South Sudan Relief and Reconstruction Commission |
| TOT | Training of Trainers |
| UNHCR | United Nations High Commissioner for Refugees |
| UNMIS | United Nations Mission in Sudan |
| UNOCHA | United Nations Office for Coordination of Humanitarian Affairs |
| VAM | Vulnerability Analysis and Mapping Unit |
| WFP | World Food Programme |

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## Summary

The Annual Needs and Livelihood Assessment (ANLA) main objective was to find out the food security levels and assistance needs in Central Equatoria State. The report reveals the current situation in relation to the past and projects the likely households' situation in general upto the next harvesting period. The data was collected in March 2010.

54 percent of the households were male-headed and the average household size was 7.5 members.

Food availability

- 97 percent will cultivate agricultural land in 2010
- Food is available at markets but prices are higher than same time a year ago. Some 30 percent of the commodity price accounts for transportation costs to the market.
- Livestock is being sold more than normally

Food access

- 27 percent had food stocks, mostly for 2 months
- 78 percent had at least one household asset
- Main income sources were sale of natural resources (grass, charcoal), cereal and casual agricultural labour
- Food access categories based on income sustainability and expenditure on food was good for 28 percent, medium for 31 percent while 49 percent had poor food access
- Some identification criteria for household with poor food access were: Ironstone Plateau and Hills and Mountains livelihood zone, female-headed household, household hosting IDP and/or returnee, small household size

Food consumption

- Some 75 percent of household adults ate only one meal per day whereas 53 percent had children who ate one meal and 36 percent ate 2 meals
- 22 percent had poor, 47 percent borderline and 31 percent adequate food consumption
- Main food source was market. Vegetables were commonly gathered from the wild

Food security

- 92 percent of households have adopted coping strategies
- 61 percent were food insecure (25 percent severely and 36 percent moderately). 39 percent were food secure.
- Some identification criteria for food insecure households were: Ironstone Plateau and Hills and Mountains livelihood zone, female-headed household, household moved to their current location after the CPA, lack of assets, main income from selling of natural resources, IDP household

Recommendations

- 275,900 people or 36,800 severely food insecure households will need food assistance at least until harvest; September 2010
- Additional 397,300 people or 53,000 moderately food insecure households will need assistance to support their livelihoods before the harvest.
- Food for Recovery activity could be used to build better roads for the communities (access to markets) and this activity is self targeted for the moderately food insecure, needy households.
- Seed and tool distribution for as many of the 36,800 severely and 53,000 moderately food insecure households could encourage them to cultivate more as availability of seeds from own stocks was limited to 12 percent of the households.
- Asset distribution may improve the food security levels of the households. Mosquito net distribution should be for all households as only 40 percent had nets. The ownership of nets correlated significantly with food security levels which suggest that nets boosts human capital.
- Targeting criteria in Central Equatoria could include: Ironstone Plateau and Hills and Mountains livelihood zones, female-headed households, IDPs, new arrivals to the selected location.

## 1. Background

Central Equatoria state borders Western Equatoria to the west, Lakes and Jonglei to the North, Eastern Equatoria to the East and it shares international borders with Uganda and Democratic Republic of Congo to the south. The borders create opportunities for cross border trade which has been significant in provision of food and non food items to the state.

The estimated resident population is 1,103,592 (581,544 males and 522,048 females)[1] and the state hosts a large number of IDPs, returnees and refugees with the highest concentration in Juba County which also houses the Country's capital and seat of Government of Southern Sudan.

Political situation in the state is generally stable. However, in 2009 some incidents of cattle raiding were reported in Terekeka County around Mangalla and Gemeiza payams. Houses were destroyed and animals looted leading to displacement and disruption of livelihoods.

**Livelihood Zones**

Central Equatoria has three livelihood zones:

1. Ironstone plateau: The northern part of the state, comprising of Terekeka and part of Juba County. This zone has mostly agro-pastoral activities; livestock production almost predominant.
2. Hills and Mountains livelihood zone: The central part comprising mainly of Juba County. The households in this zone rely on agriculture and livestock.
3. Greenbelt livelihood zone: The southern part including Lainya, Yei, Morobo and Kajo Keji Counties. This zone is the most productive zone with weather and soil conditions favouring diverse crop varieties.

The state is very productive agriculturally and capable of producing enough crops for herself with surplus for export under favourable circumstances. Therefore, subsistence agriculture is the predominant livelihood activity while fishing, trade and skilled labour are also important income sources.

**Rainfall**

The normal rainy season is between March and April through to October and November with some temporary break between June and July for a period not exceeding one month. This is a bimodal pattern. The highlands of the Hills and Mountains livelihood zone receive more rainfall than the Greenbelt zone whereas the Ironstone Plateau receive the least rain.

**Agriculture**

The state has two cropping seasons in the Greenbelt however the pastoral areas and the lowlands of the Hills and Mountains zone have one season. Land preparation start normally between January and February and the first cropping season typically begins in April and is harvested in July/September while the second season begins in August and is harvested in November/December.

Crops grown during the first season include short-term sorghum, maize, groundnuts and a variety of vegetables. The second season includes both medium and long term sorghum varieties, sesame, cassava, sweet potatoes and bulrush millet in the Greenbelt and the highlands of the Hills and Mountains.

**Fish Production**

Fishing takes place throughout the year with peak season from April to July when water levels are increased and fish feeds from erosion upstream. It supplements household crop and livestock production also during January to April which is the dry season for agricultural activities. Communities living along the rivers such as Gemeiza (mostly within the Greenbelt zone where Nile crosses the state) fish primarily to supplement crop production. Only minimal quantity of fish is being sold.

[1] Sudan Census, 2008

# 2. Objectives and Methods

## 2.1 Objectives

The overall objective of the ANLA was to assess the food security situation of rural populations in Central Equatoria State. This information will assist in the targeting of food assistance and non-food interventions, both at geographic and household levels. The information also seeks to provide guidance on appropriate response options for supporting livelihoods.

The specific objective was to provide a food security scenario for 2010 in terms of number of people that are food insecure and estimate how many of them may need external assistance. Furthermore, it presents the characteristics of the severely and moderately food insecure to provide potential targeting criteria of the most needy people.

## 2.2 Methods

The assessment used a two-stage sampling approach; purposive selection of 9 locations based on livelihood zones where 30 households[2] were selected randomly using the Extended Program for Immunization (EPI) survey method which brings the total sample to 270 households. Additional 5 semi-structured focus group discussions and 9 key informant interviews (1 per site) were conducted to capture information on livelihood patterns, economic differentiation of households, food access options and hazards affecting food access in addition to coping strategies. The key areas of analysis included food consumption, food access, coping strategies index and food security. These indicators were combined with analysis of livelihood patterns, economic differentiation of households, context and risk analysis. Finally, these results were aggregated to identify households at most risk of food insecurity[3].

## 2.3 Sampling and data collection

Nine sites (villages and their environs) were purposively selected based on a combination of accessibility and the extent to which they collectively 'represent' the various livelihood zones and counties in the state.
The selected sites are shown in Table 1 and Figure 1.

**Table 1**: Sampled locations for the ANLA

| County | Livelihood Zone |
|---|---|
| Mangalla | Hills and Mountains |
| Lobonok | Hills and Mountains |
| Wonduruba | Hills and Mountains |
| Tali | Ironstone Plateau |
| Rokon | Ironstone Plateau |
| Gemmeiza | Ironstone Plateau |
| Mukaya | Greenbelt |
| Mugwo | Greenbelt |
| Liwolo | Greenbelt |

The sites were visited during 19-26 March 2010 by 12 experienced enumerators from WFP, GOSS, UN and NGOs. The enumerators were trained for 3 days to ensure the quality of data collection[4].

## 2.4 Data analysis

Qualitative primary data was analyzed by field teams while quantitative data was analyzed by the WFP VAM Unit in Juba by using SPSS software. Secondary data review was done by the technical working group.

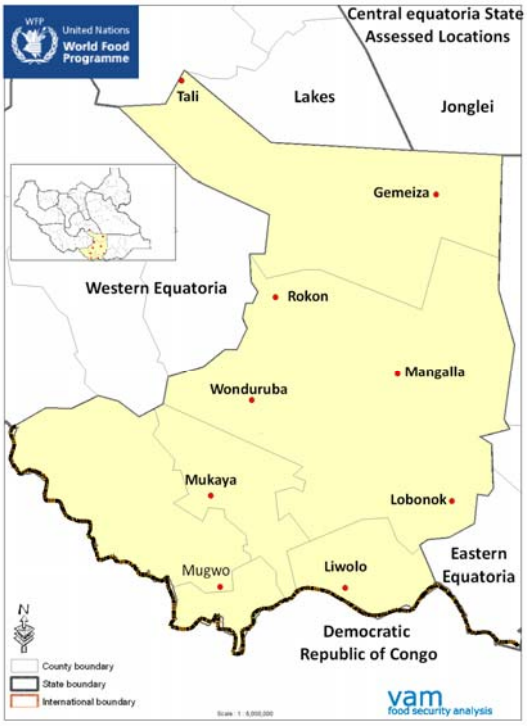



**Figure 1:** Assessed Locations for 2009/10 ANLA

[2] See the Household questionnaire as Annex 1
[3] See Annex 2 for the steps for food security calculation
[4] See Annex 3 for the list of participants

### 2.5 Partnership and consultation

The assessment is a product of joint effort between the MOAF, SSRRC, FSTS, MOH, FAO, UNICEF, UNMIS, UNOCHA and WFP. The State Ministry of Agriculture and SSRRC provided consultation leadership, direction and coordination. WFP and FAO facilitated the process by providing technical, financial and logistical support, including the training of assessment teams. The technical working group was comprised of the ANLA Team comprising of WFP and government counterparts from the Ministry of Agriculture.

### 2.6 Limitations and constraints

The purposive selection of sites based mainly on livelihood and administrative coverage, to the extent possible, was a pragmatic necessity based on the lessons learned from past experience. This prevents costly, time-consuming and difficult experience of attempting to reach and locate randomly selected sites. Nevertheless, this necessity and pragmatism does impose a number of analytical limitations and constraints on the household survey data. Further, the results are representative for each of the three livelihood zones but not on the county level.

## 3. Demographics

### 3.1 Household composition

The households were headed somewhat equally by males and females; 54 percent and 46 percent, respectively (Table 2). This finding is different from 2006/7[5] in which 69 percent of the households were male-headed and 31 percent female-headed.

The ANLA found average household size as 7.5 members (range 1 to 31). Male-headed households were larger than female-headed households (8.4 vs 6.5 members) but there was no significant difference in the household size in the different livelihood zones. (Table 2)

Some 20 percent were hosting additional members; 15 percent returnees, 3 percent IDPs while 2 percent were hosting both (returnees and IDPs). Most of the returnees are from Uganda and Kenya while majority of the IDPs are from Western Equatoria (Ezo and Tambura regions). (Table 2)

20 percent of the households (27 percent of male-headed households) had at least one chronically ill[6] member. 40 percent of the households from Greenbelt livelihood zone had one of these members whereas these members were less common at Hills and Mountains and Ironstone Plateau zones (12 and 7 percent, respectively). 36 percent of the households who were hosting returnees and/or IDPs had at least one member who was chronically ill. (Table 2)

**Table 2:** Household composition

| Category | Overall | Female-headed HH | Male-headed HH | Greenbelt | Hills & Mountains | Ironstone Plateau |
|---|---|---|---|---|---|---|
| HH size | 7.5 | 6.5 | 8.4 | 7.9 | 7.6 | 7.1 |
| Chronically ill member | 20% | 11% | 27% | 40% | 12% | 7% |
| Hosting additional members | 20% | 24% | 16% | 23% | 10% | 25% |

### 3.2 Household residency status

83 percent of the assessed households were residents, 14 percent IDPs while 2 percent were returnees. The sample captured less non-residents compared to the survey in 2006/7 when 32 percent were either IDPs or returnees.

About half (49 percent) of the assessed households have lived in the state even before signing of the Comprehensive Peace agreement (CPA).

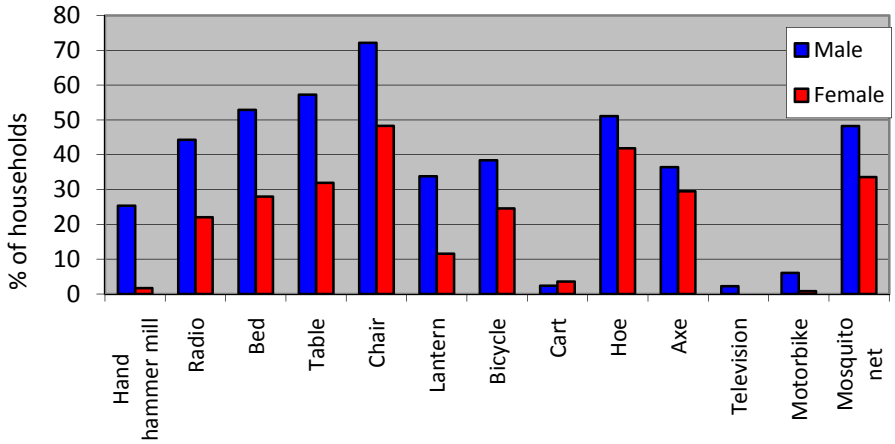
[5] ANLA 2006
[6] Ill and unable to work for more than 3 of the last 12 months

### 3.3 Household assets

Majority of the households live in *tukul*; 46 percent in one with thatched roof, 28 percent in one made of mud, whereas 25 percent live in a dwelling of straw mats. Only very few households lived in a tent or a *tukul* that has a permanent roof.

78 percent of the households had at least one asset. The most common assets were chair, hoe, table, mosquito net and bed. Nobody had ox–drawn ploughs or generators. Practically every household (98 percent) at the Greenbelt livelihood zone had an asset while 72 percent of Ironstone Plateau and 66 percent of Hills and Mountains households had an asset. In general ownership of assets was more common among male-headed households compared to female headed households (88 vs 68 percent). See Figure 2 for more details for each asset type.

Figure 2: Male and female-headed household ownership of assets




## 4. Water and Sanitation

Majority of the households did not have any kind of toilet facility but used open air for defecation. Only 25 percent had some kind of pit latrine (Figure 3).

Two-thirds of the households obtain their water from a borehole/hand pump and 2 percent from protected dug well. Unprotected sources were used by some 17 percent and 14 percent used river or pond water (Figure 4).

Figure 3: Household toilet facility

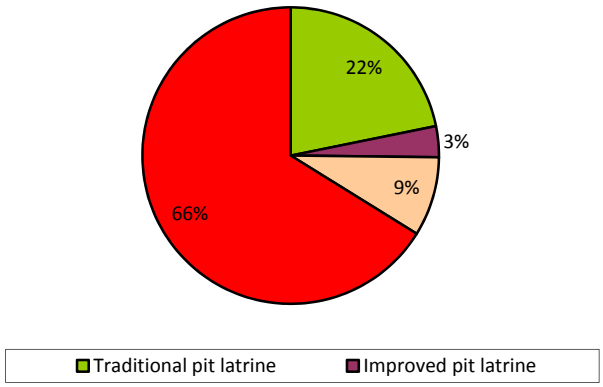
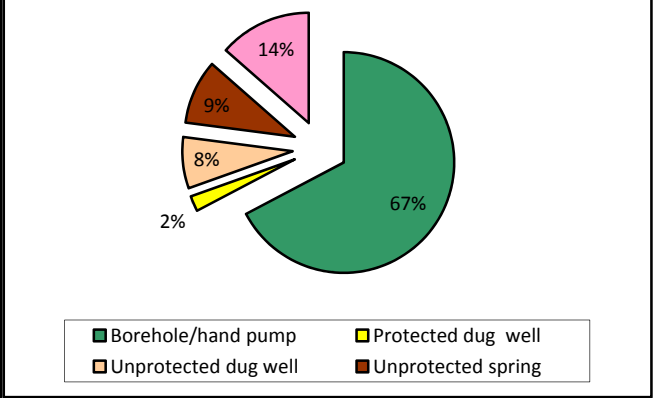



Figure 4: Household water source



## 5. Overview of Market Situation

Seventy percent of the households rely on markets to meet their food needs, consisting mainly cereals, due to poor harvest in 2009. During the field visit, food commodities such as maize (both grain and flour), millet, sweet potatoes, cassava, pulses and oil were available at the market. Discussions with traders in local markets indicated that traders were experiencing grain supply problems due to lack of credit and poor road links especially with the nearby Yei. Poor road links means that transportation costs for much needed grain is high; accounting for up to 30 percent of the price.

Market prices were higher than the same time last year and 25 percent higher than a five year average – a trend indicative of the impact of poor harvest in 2009 is reducing food supply. This would undermine household food access and should be monitored closely to see if prices will decline according to the expected seasonal patterns following crop harvest.

A combination of multiple and arbitrary taxes and high transport costs (accounting as much as 30 percent of the prices), due to poor road conditions, are some of the reasons for high market prices in the state. These affect the marketing costs of commodities both from within the state and also from the neighbouring countries thus contributing to high market prices. However, it is expected that the improved road conditions from Nimule will promote trade with Uganda and moderate the shortfalls in food supply.

## 6. Food Availability

### 6.1 Rainfall patterns

In 2009, the communities perceived the rainfall patterns and amounts significantly less favorable compared to the previous year pointing to below normal monthly and cumulative rainfall in 2008. In 2009 the rains started in the first week of April as usual, however, this was followed by a low and erratic rainfall in May which typically occurs in June and July causing a dry spell. This low and erratic rainfall continued through June, July and the greater part of August, resulting in below normal rainfall performance in both seasons in 2009.

Inadequate and unreliable rainfall had a significant damaging effect on crop performance, pasture and water availability. Greenbelt and the lowlands of the Hills and Mountains livelihood zones were the ones hardest hit.

### 6.2 Agriculture

Land preparation was late by two months due to delayed and erratic rainfall, with the exception of Kajo Keji. In 2009, the early and prolonged dry spell had a severe impact on both cropping seasons.. The assessment team observed a notable reduction of area under cultivation for all crops in comparison to the previous years. As a result, both production and yields, were far below average during the first and second harvests.

Ninety seven percent of the surveyed households confirmed that they are going to cultivate this year (2010). The main source of seeds will be market purchase (68 percent); own seeds (12 percent); NGOs (12 percent) and other (8 percent).

### 6.3 Livestock

Generally, livestock body condition appeared to be normal even though livestock sales was reported to be higher than normal with medium size adult bull selling between SDG 300-500. This is a generally low price that would reduce pastoral households' purchasing power and undermine food access through the market.

Consecutive cattle raids by communities from the neighbouring Jonglei State have been reported since October 2009 in Terekeka County. This has greatly affected animal movement leading to reduced livestock trade.

# 7 Food Access

## 7.1 Food stocks

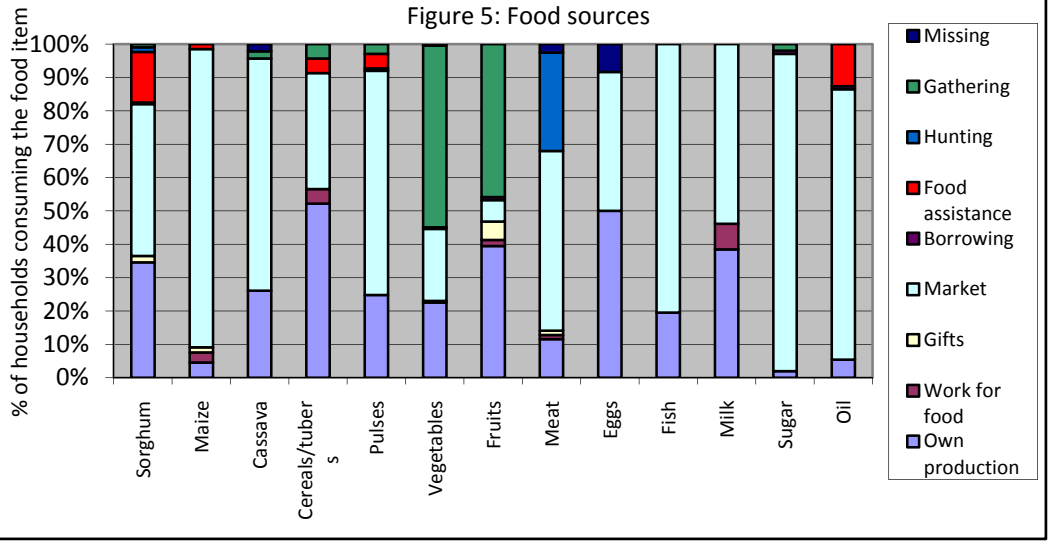
27 percent had food stocks available for an average of 2 months. The stocks were significantly more common for the households from the Greenbelt livelihood zone (58 percent of households with stocks). Stocks were also slightly more often available for male-headed households and those who have moved in their location before the CPA.

## 7.2 Food sources

83 percent of the households purchased at least one food item from the market. The ones not purchasing anything accessed the food by using own produce, food assistance or gathering. The main items purchased from the market were: sugar (95 percent), maize (89 percent), fish (81 percent), oil (81 percent), cassava (70 percent), meat (54 percent), dairy products (54 percent) and sorghum (46 percent).

Own production was the source for 52 percent of cereals and tubers, fruits (39 percent), dairy products (38 percent), sorghum (35 percent), cassava (26 percent) and vegetables (23 percent). However, 54 percent of the vegetables were obtained by gathering (Figure 5)[7].

Figure 5: Food sources

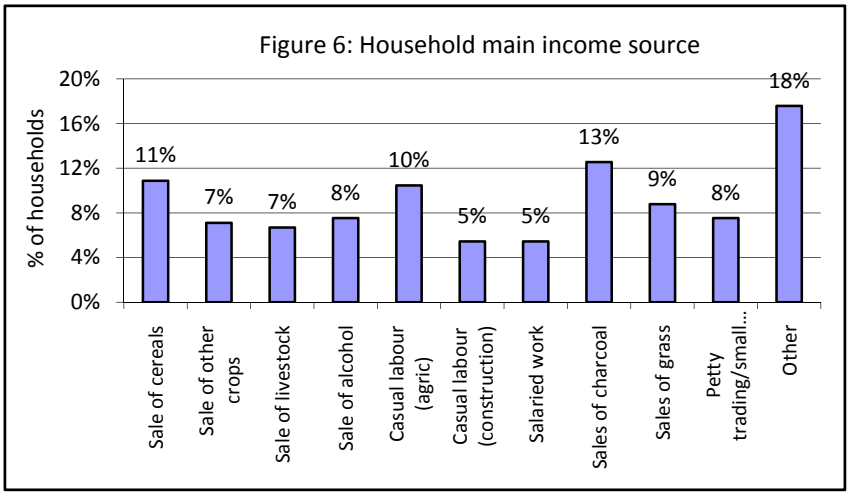



Consumption of particularly unusual wild foods is used by households as a coping strategy. This behaviour was observed in the Ironstone Plateau (Gemmeiza and Mangalla).

## 7.3 Income sources

The main sources of income were sale of natural resources (charcoal, grass), cereal and agricultural labour. Labour constitutes an important source of income for households in the Greenbelt. Sale of alcoholic beverages is also a key source of income. Communities in the Ironstone Plateau are agro-pastoral and thus livestock sale is common. Other sources of income include sale of grass, petty trade, and sale of other crops. The vast natural resources and availability of labour opportunity provide diverse sources of income for people in Central Equatoria state (Figure 6).

Figure 6: Household main income source




[7] Category "missing" is included as a food source for those food items where the food source recorded was not possible (e.g. fishing for eggs)

## 7.4 Expenditure

Household expenditures on food and non-food items was analyzed to give a proxy indicator of the proportion of food expenditures. Classically, households spending more than 65 percent on food are seen vulnerable as they forgo critical expenditures on health and education The ones allocating less than 50 percent on food purchases are more flexible to purchase other needed items and are therefore considered better-off.

The ANLA found that the average expenditure on food constituted 57 percent of the total expenditure, which is a slight increase from 53 percent in 2006. 30 percent of the expenditure was for cereal purchases. The assessment found that 42 percent of the households spent over 65 percent, 18 percent 50-65 percent, and 40 percent less than 50 percent of their monthly expenditure on food (Figure 7). 30 percent of the expenditure was used to purchase cereals.

More than half (58 percent) of the households in the Ironstone Plateau livelihood zone spend over 65 percent of their money on food. This is partly explained as most of the population are pastoralists and heavily rely on the market for cereals and other foods. 47 percent and 22 percent of the households in the Hills and Mountains and Greenbelt livelihood zones, respectively, reported higher than 65 percent food expenditures (Figure 8).

Figure 7: Household expenditure on food

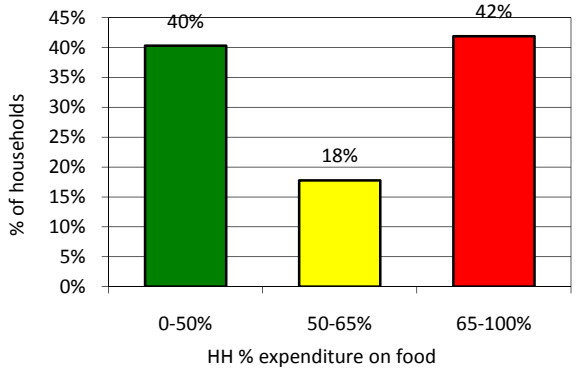
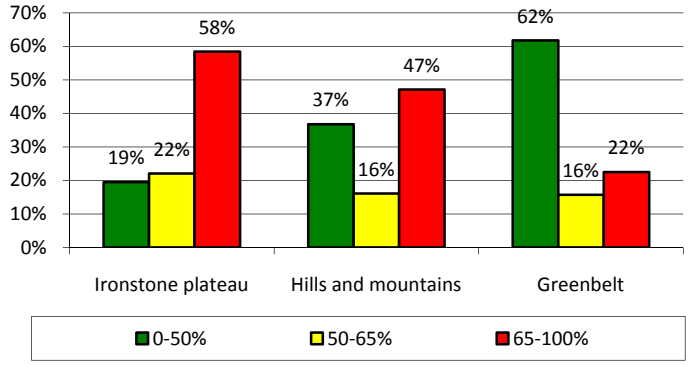



Figure 8: Household expenditure on food by livelihood zone

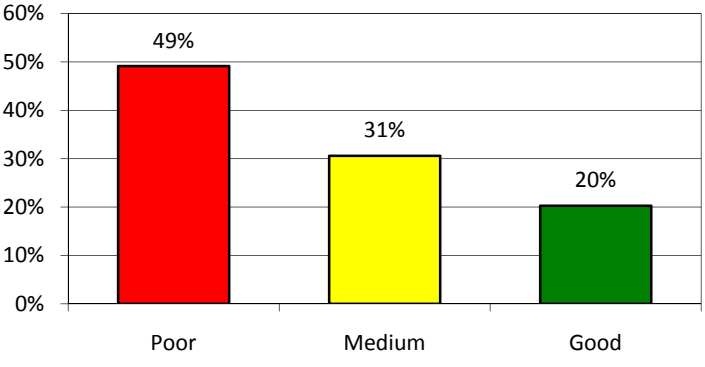



High food expenditure was also linked to residence status. Results show that 81 percent of IDPs spend over 65 percent on food purchases, whereas 50 percent of returnees and 34 percent of residents had this high percentage spend to food.

## 7.5 Food access categories

Income sustainability and relative expenditure on food were combined to classify households into three food access categories[8]: households with poor, medium and good food access. Almost half (49 percent) of the households had poor, 31 percent had medium, and 20 percent had good food access (Figure 9). The poor 2009 agricultural season increased reliance on markets leading to high expenditures on food.

Figure 9: Household food access




[8] Good food access: HH has reliable income source and low expenditure on food; medium access: HH has somewhat reliable income source and spends more than 50% of expenditures on food; poor access: HH has poor income source and spends more than 50% of expenditures on food.
See Annex 2 for more details.

### Who has poor food access?

The majority (66 percent) of the households in the Ironstone Livelihood zone had poor food access whereas 31 percent of the households in Greenbelt zone had good food access. In Mountains and Hills Livelihood zone, 57 percent of households have poor food access (Figure 10).

Female-headed households experienced poor food access more frequently compared to male-headed households (55 vs 45 percent, respectively). Households hosting IDPs or returnees had poor food access compared to those who did not host anyone (65 vs 45 percent for poor food access, respectively).

The food access classification correlated with the size of the household, indicating that bigger households have better food access (Figure 11). One explanation could be that the big families have more people working and earning money for the family.

Figure 10: Food access within Livelihood Zones

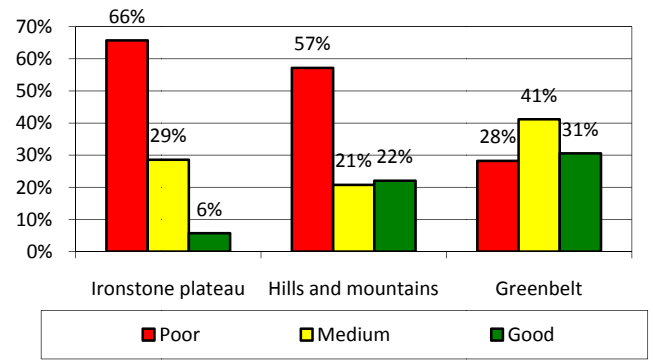
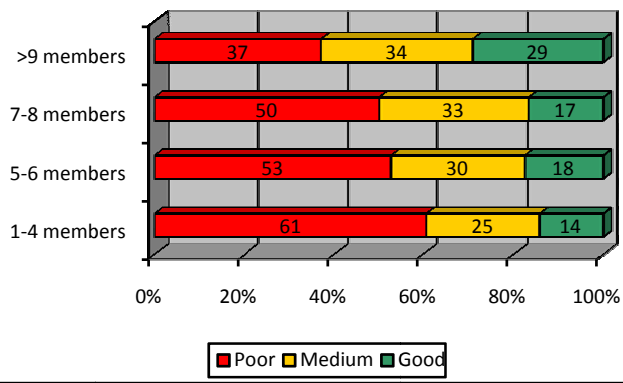



Figure 11: HH food access per HH size

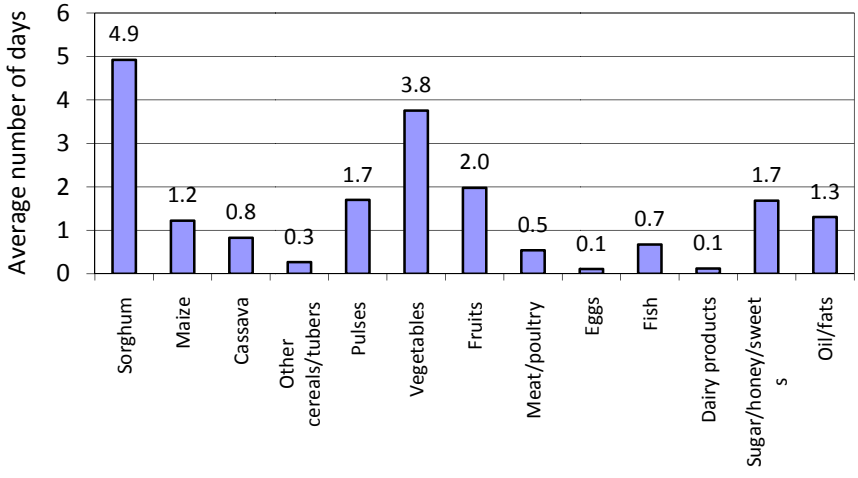



## 8. Food Consumption

Some 75 percent of the households reported only one meal being eaten by the adult members and 53 percent reported only one meal being eaten by the children under 5. 36 percent reported their children to eat 2 meals. This indicates that adults go hungry during the day and infant and young child feeding practices may not be optimal. These findings may however be biased in a negative way due to misunderstandings what constitutes a meal, especially for the children. It may also be that some of the meals reported for children are consumed by older children at the households.

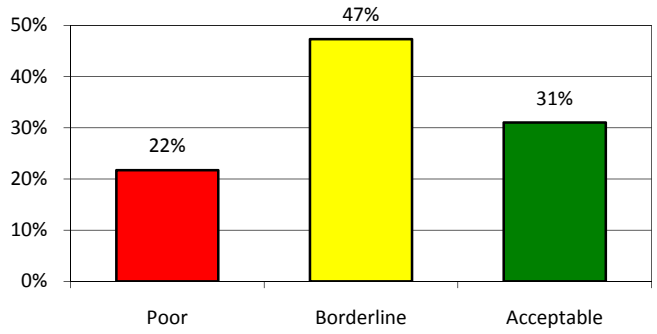
The most often consumed starch was sorghum which was eaten 5 times per week. Maize and cassava were eaten only approximately once per week. Vegetables were consumed almost 4 times per week. Protein sources; meat, eggs and fish, were consumed rarely. Also oil and sugar consumption was scarce (Figure 12).

Figure 12: Average food item consumption frequencies



Based on the consumption frequency of the food items and their dietary value, households were categorized as having poor, borderline or acceptable food consumption[9]. Over a fifth of the households had poor, almost half had borderline and 31 percent had acceptable food consumption (Figure 13). The households with poor food consumption are characterized by less frequent consumption of most food commodities; particularly meat, fish, eggs, sugar and oil. However they consumed more frequently vegetables (mostly gathered from the wild).

Figure 13: Household food consumption category



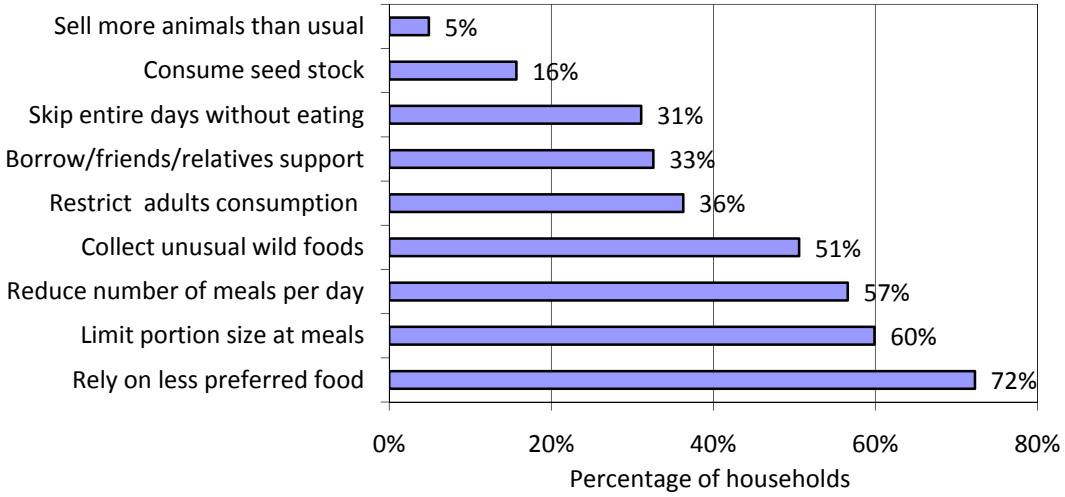

### 8.1 Who has poor food consumption?

Female-headed households had poor food consumption more frequently compared to male-headed households (26 vs 18 percent). Residence status may also indicate that returnees had poor food diversity as 33 percent of those households had poor food consumption. However, the sample size of these households was low compared to residents and IDPs. Also households who depend on the kinship support and sale grass had poor food consumption while almost all the households relying on skilled or salaried work or selling of fish had acceptable consumption.

## 9. Coping Strategies

During the past week, 92 percent of the households faced times when they did not have enough food or money to buy food and were therefore forced to adopt some kind of coping strategies. The most commonly adopted mechanisms were relying on less preferred but cheaper food, reducing the serving sizes at meals and even the number of meals per day. They have also collected wild food that they would not normally collect. 16 percent also consumed their seeds and 5 percent sold more animals than normally and this may affect the household self-sufficiency in the coming months (Figure 14).

Figure 14: Percentage of households using various coping strategies




[9] Poor food consumption indicates inadequate nutrient (micro and macronutrients), borderline consumption may have some lack of nutrients whereas adequate consumption should provide the needed nutrients.

### 9.1 Coping strategies index

The coping strategies, based on their severity and frequency of usage were combined to establish Coping Strategies Index (CSI) for the households.

- High CSI is categorized for those who frequently employ many of the severe coping strategies at the same time
- Medium CSI is categorized for those that from time to time use negative strategies
- Low CSI is categorized for those who did not use any coping strategies or only seldom some of the less severe ones.

The analysis shows that majority (73 percent) fell under low coping index, a quarter (25.5 percent) utilized medium risk strategies while 1.5 percent were categorized as having high CSI.

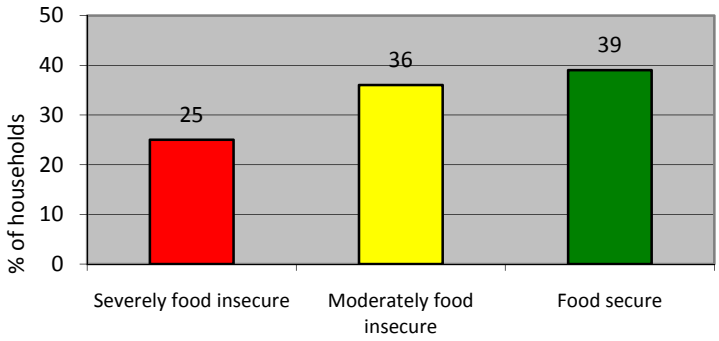
### 9.2 Who have adopted high level coping strategies and where are they?

The CSI did not differ much between the livelihood zones, however the households from Ironstone Plateau had slightly more often low CSI (78 percent) compared to the other zones and the sample average. The households relying on kinship support, petty trade, small business and selling of alcoholic beverages had higher proportions of medium level CSI. Also, almost half (48 percent) of the households with at least one chronically ill member had adopted medium level strategies compared to 20 percent of "healthy" families. There was no significant correlation with household size, sex of head of household or other characteristics of the household.

## 10. Food Security

Households' earlier calculated food access (income and relative food expenditure), food consumption, and coping strategies were combined to form a composite food security indicator that was then used to categorize households' food security status[10]. The results show that 25 percent of households were severely and 36 percent moderately food insecure while 39 percent were food secure. This suggests that 61 percent of the households were food insecure with a quarter facing risks to life and one-third to livelihoods (Figure 15).

Figure 15: Household food security

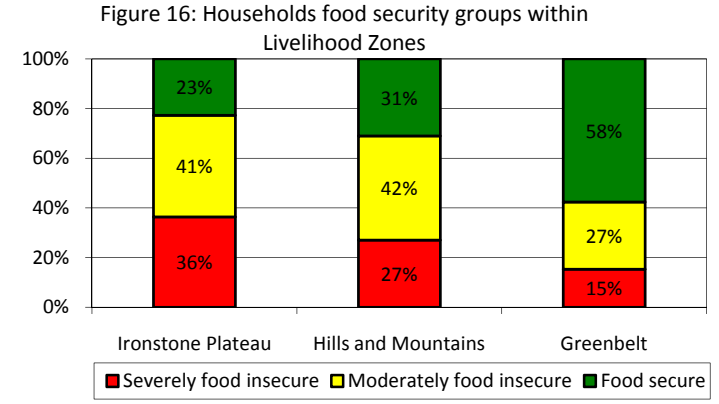



High percentage of food insecure households in Central Equatoria was attributed to crop failure in 2009, ethnic clashes and cattle raiding resulting in displacement and loss of lives, and high food prices. Terekeka County was the worst affected by the above mentioned factors coupled with inaccessibility of remote villages. Juba County also had an unprecedented proportion of food insecure households due to crop failure. Consequently most households around Juba depended on the markets for their food need. Food security situation of households in the Greenbelt was relatively better compared to the other counties outside the greenbelt.

### 10.1 Where are the food insecure?

Food security varied between livelihood zones as Ironstone Plateau had 77 percent prevalence for food insecure households out of which every third was severely food insecure. Hills and Mountains zone fell in the middle with 69 percent of households being food

Figure 16: Households food security groups within Livelihood Zones



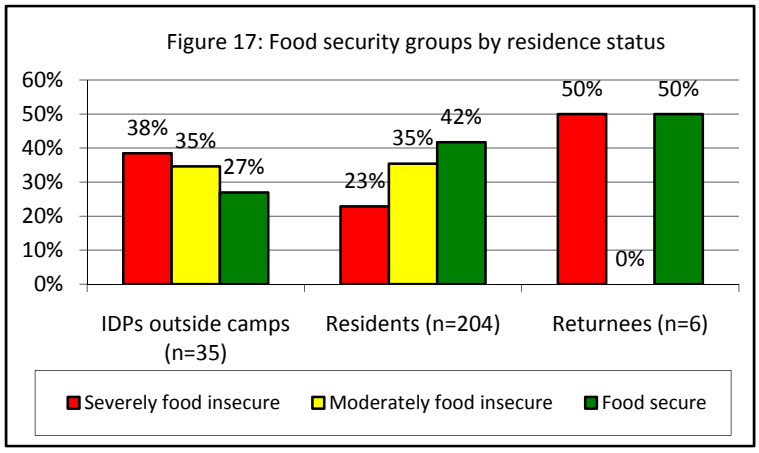

[10] See Annex 2 for details for calculations

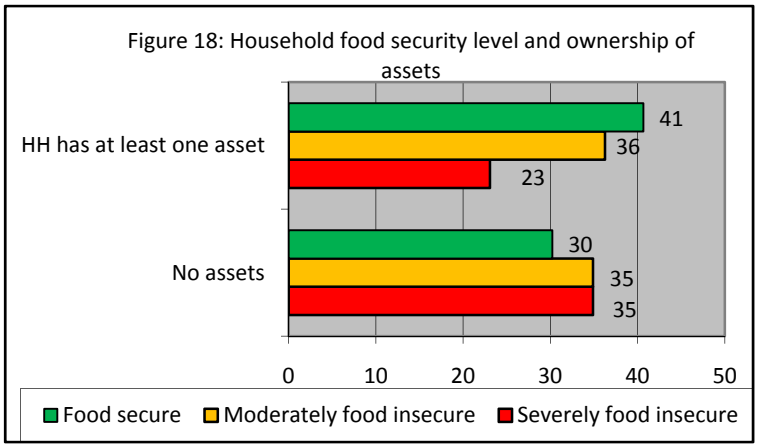
insecure while almost 60 percent of households in the Greenbelt were food secure (Figure 16).

## 10.2 Who is food insecure and why?

Female-headed households were more severely food insecure than male-headed households (32 vs 19 percent). When looking at only those who are severely food insecure, 57 percent were female-headed.

Food security and its severity level correlated also with the household residence status as IDPs were more food insecure compared to the residents (Figure 17). Additionally, 56 percent of the households who have moved to their setting before the CPA were food insecure compared to 65 percent for those who have moved to the location after the CPA indicating that the longer one has lived in the location the better the food security status.

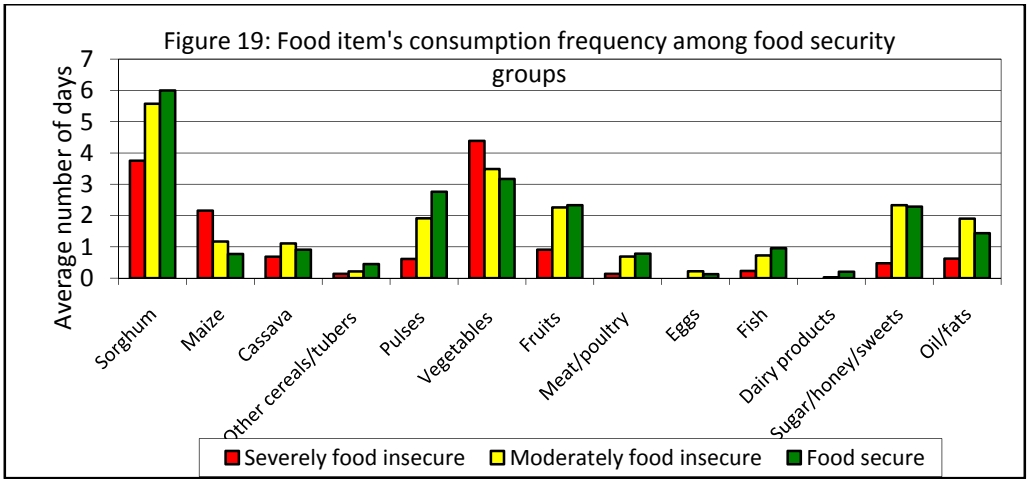



Households relying on sale of natural resources were more food insecure. Skilled labourers and those relying on sale of fish and cereals were mostly food secure as they have more stable and predictable income

Food insecure households had less food stocks often compared to food secure households as 54 percent of the households with food stocks were food secure. There was also difference between households who have assets (Figure 18). Households who had mosquito nets were significantly more food secure compared to those without nets ($p<0.004$) indicating the importance of this simple household asset.

Food consumption patterns were different for the food secure and insecure households. The food secure consumed sorghum more frequently while insecure ones consumed maize. Protein sources (animal flesh, eggs, pulses), especially pulses were consumed more by the food secure households. However, the consumption of animal protein was scarce for all of the households. Vegetables were consumed more frequently by food insecure households and the main source was mostly gathering from the wild (Figure 19).



## 11. Assistance received

### Food

18 percent of the assessed households have received food assistance since Christmas 2009. 14 percent of the households received General Food Distributions while 2 percent of the households had a member who received school meals. Another 2 percent did not specify what kind of food assistance they had received.

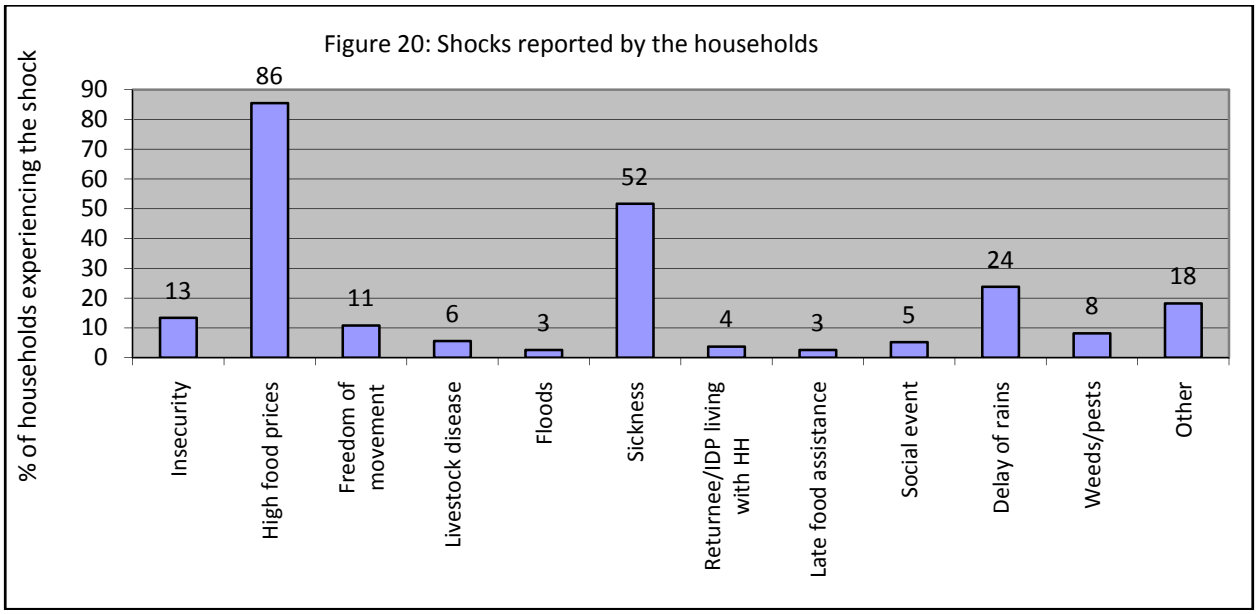
### Non-food

31 percent of the households have received non-food assistance or services in the past 12 months; 19 percent received mosquito nets, 11 percent free health care or drugs, 3 percent agricultural inputs. Other types of assistance were received by only very few households. There was not real difference between livelihood zones however female-headed households have received assistance more often compared to male-headed households (37 vs 25 percent).

## 12. Shocks

Households were asked to report if they were currently facing any shocks. The most experienced shocks were high food prices, sickness and delay of rains. The "other" shocks reported were mostly centered around poverty, lack of seeds and agricultural tools as well as lack of education (Figure 20).

Figure 20: Shocks reported by the households




## 13. Conclusion of the Food Security situation

61 percent of households in Central Equatoria are food insecure; 25 percent severely and 36 percent moderately. As the harvest for the first crops is expected only from July to September, most households will deplete their food stocks before the harvest. Also, only some quarter of the households had stocks in March which will be depleted in 2 months. Therefore it can be expected that food shortages may worsen in June at the end of hunger season.

Access to food was one factor especially at the Ironstone Plateau and Hills and Mountains livelihood zones contributing to the high levels of food insecurity. These zones were also more food insecure compared to the Greenbelt livelihood zone. In

addition, food consumption based on frequency and food quality was not optimal as 22 percent had poor food consumption. Also the number of meals for adults and especially for children under-5 was most likely insufficient to meet the nutrient needs. However this information may be biased due to the definition of "meal". Infant and Young Child Feeding practices may not be too optimal and this area should be investigated further by the experts on that area.

Access to safe water and toilet facilities was also low and this may have an impact on food utilization.

## 14. Future Developments and Scenarios

Food security situation is likely to deteriorate until the crops are harvested and food is available from own production, especially for the severely food insecure households.

Worst case scenario

- Hunger gap is expected to continue upto the August in most areas.
- Malnutrition cases are likely to appear during the hunger season as typical in the area due to food scarcity in some households and possible inadequate infant and young child feeding practices.
- Increased rural to urban migration leaving the old and children who can not cultivate substantial amount of land for food production.
- Access to agricultural land is denied due to insecurity in the area.
- Reduced market supply and high market prices

Best case scenario

- If rainfall is optimal, some households will start having first harvests between June/July and they will have stocks for the rest of the year.
- Relief agencies might intervene with assorted food items.
- Food will be available at the markets and food prices start to decline towards the long-term average price.

## 15. Recommendations

- 275,900 people or 36,800 severely food insecure households will need food assistance at least until harvest; September 2010
- Additional 397,300 people or 53,000 moderately food insecure households will need assistance to support their livelihoods before the harvest.
- Food for Recovery activity could be used to build better roads for the communities (access to markets) and this activity is self targeted for the moderately food insecure, needy households.
- Seed and tool distribution for as many of the 36,800 severely and 53,000 moderately food insecure households could encourage them to cultivate more as availability of seeds from own stocks was limited to 12 percent of the households.
- Asset distribution may improve the food security levels of the households. Mosquito net distribution should be for all households as only 40 percent had nets. The ownership of nets correlated significantly with food security levels which suggest that nets boosts human capital.
- Targeting criteria in Central Equatoria could include: Ironstone Plateau and Hills and Mountains livelihood zones, female-headed households, IDPs, new arrivals to the selected location.

## Annex 1: Household questionnaire

| COMPLETE BEFORE THE INTERVIEW | | COMPLETE UPON DATA ENTRY |
|---|---|---|
| Date | \|____\|\|____\|/\|____\|\|____\|/2010<br>Day Month | \|____\|\|____\|/\|____\|\|____\|/2010<br>Day Month |
| Interviewer name | | Data clerk name: |
| State Code: | \|____\|____\| | Questionnaire number: \|___\|___\|___\|___\|___\|___\| |
| State Name: | | |
| Supervisor Name: | | State codes |
| Location name: | | 01 = WEQ 06= W. BEG<br>02 = EEQ 07= N. BEG<br>03= Jonglei 08= Warrap<br>04= Lakes 09= C. Equatoria<br>05= Upper Nile 10 = Unity |
| Location number | \|____\|____\| | |
| Household number | \|____\|____\| | |

## INTRODUCTION AND DEFINITIONS

First of all, inform and ask for households consent::
We are conducting a survey on the food security situation in South Sudan. I would like to ask you some questions about your family. The survey usually takes 30 minutes to complete. Any information that you provide will be kept strictly confidential and will not be shown to other people. The outcome of this information is NOT IN ANY WAY linked to a food response from WFP, it is used strictly for monitoring of food security. This is voluntary and you can choose not to answer any or all of the questions if you want; however we hope that you will participate since your views are important. Do you have any questions? May I begin now?

Before the interview, make sure you walk around the household to put answers into context. Ask for permission first, and look at their assets, food present in granary and kitchen, and general conditions of the household. In this way you will be better able to probe answers that don't seem to make sense.

- A household is defined as a group of people who routinely eat out of same pot and live on the same compound (or physical location). It is possible that they may live in different structures
- Definition of HH head: is member of the family who manages the family resources and decisions (He/She is the final decision maker on most of the decision related to income allocation and what family has to do)
- A returnee becomes a resident is the household has stayed there for at least 12 months.

## 1. DEMOGRAPHICS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1.1 | What is the sex of the household head? | **1** | Male | **2** | Female | | |
| 1.2 | How many people currently live in your household? | \|____\|____\| | | | | | |
| 1.3 | What is the residence status of the household? | **1** | IDP in camp | **5** | Resident | | |
| | | **2** | IDP outside camps | **6** | Returnees | | |
| | | **3** | Refugees in camp | **7** | Nomad | | |
| | | **4** | Refugees outside camps | | | | |
| 1.4 | How long have you stayed in this location? Indicate length of stay in months. If they have been there since before the CPA, indicate this. | \|____\|____\| | From before the CPA \|____\| (tick) | | | | |
| 1.5 | Is an IDP or returnee currently living in your household? | **1** | IDP | **2** | Returnee | **3** | Both | **4** | None |

## 2. INCOME SOURCES

| Please complete the table regarding main income sources using the income source codes provided below. | 1.1.1.1.1.1.1<br>1.1.1.1.1.1.2 2.1 What were your household's main income activities in the LAST 30 DAYS? | 2.2 Using proportional piling or 'divide the pie' methods, please estimate the relative contribution to total income of each activity. |
|---|---|---|
| Main income source | \|_____\| | \|___\|___\|___\|% |
| Second income source | \|_____\| | \|___\|___\|% |
| Third income source | \|_____\| | \|___\|___\|% |
| | | Total = 100% |

INCOME SOURCE CODES:

| | |
|---|---|
| 1 = Sale of cereals (sorghum, maize etc) | 11 = Sale of firewood |
| 2 = Sale of other crops and products (vegetables, groundnuts etc) | 12 = Sales of charcoal |
| 3 = Sale of livestock | 13 = Sales of grass |
| 4 = Sale of animal products (milk etc) | 14 = Sale of fish |
| 5 = Sale of alcoholic beverages | 15 = Other petty trading/small business (tea seller, kiosk, sales of handicraft etc) |
| 6 = Casual labour related to agricultural activities | 16 = Kinship/gifts from family friends/remittances |
| 7 = Casual labour related to construction | 17 = Begging |
| 8 = Other non-agricultural casual labour (porter, domestic labour etc) | 18 = Sale of food aid (received from NGOs, WFP, Government) |
| 9 = Skilled labour: e.g. Carpenters, Tailors, Builders, Mechanics | 19 = Borrowing |
| 10 = Salaried work: e.g. Secretary, UN/NGO Worker, Ministry staff | 99 = Other, specify |

## 3. FOOD CONSUMPTION

| | A. Adults | B. Children below 5 years |
|---|---|---|
| 3.1 Yesterday, how many meals were eaten by: | \|_____\| | \|_____\| |
| Focus on food consumed by the household | 3.2 Over the last 7 days, how many times did you consume the following foods? Indicate from 0 to 7. | 3.3 What was the main source of the food in the past 7 days? Indicate from 0 to 7. |
| A. Sorghum | \|_____\| | \|_____\| |
| B. Maize | \|_____\| | \|_____\| |
| C. Cassava | \|_____\| | \|_____\| |
| D. Other cereals and tubers (root crops, potatoes millet, rice, bread, wheat) | \|_____\| | \|_____\| |
| E. Pulses (groundnuts, legumes, beans, lentils, peas, sesame) | \|_____\| | \|_____\| |
| G. Vegetables including wild vegetables and leaves | \|_____\| | \|_____\| |
| H. Fruits including wild fruits | \|_____\| | \|_____\| |
| I. Meat, and poultry (including bush meat, and both red and white meat) | \|_____\| | \|_____\| |
| J. Eggs | \|_____\| | \|_____\| |
| K. Fish | \|_____\| | \|_____\| |
| L. Milk, cheese, yogurt | \|_____\| | \|_____\| |
| M. Sugar, honey, sweets | \|_____\| | \|_____\| |
| N. Oil, fats | \|_____\| | \|_____\| |

FOOD SOURCE CODES

| | | |
|---|---|---|
| 1= Own crop/garden production | 4= Market/shop purchase | 7 = Hunting |
| 2= Work for food | 5= Borrowing/debts | 8 = Fishing |
| 3= Gifts from neighbors/relatives | 6= Food aid | 9 = Gathering |

## 4. EXPENDITURES

**SECTION A)** In the Past **30 days** how much money have you spent to acquire each of the following items for your family consumption?

Use the following table, indicate **In NEW POUNDS** the amount spent **last 30 days.** Write 0 if no expenditure**. Round up the figures (no comma)**

| | | | | | |
|---|---|---|---|---|---|
| **4.1** | Cereals (sorghum, cassava, millet, maize, wheat, rice) | \|___\|___\|___\|___\| | **4.9** | Clothing, shoes | \|___\|___\|___\|___\| |
| **4.2** | Fruits and vegetables (pumpkins, okra, green leaves etc) | \|___\|___\|___\|___\| | **4.10** | Milling and grinding | \|___\|___\|___\|___\| |
| **4.3** | Roots and tubers (sweet potatoes, irish potatoes, yam etc) | \|___\|___\|___\|___\| | **4.11** | Tobacco and Alcohol | \|___\|___\|___\|___\| |
| **4.4** | Meat and fish (both red and white meat) | \|___\|___\|___\|___\| | **4.12** | Paraffin | \|___\|___\|___\|___\| |
| **4.5** | Pulses (Groundnuts, legumes, sesame, beans etc) | \|___\|___\|___\|___\| | **4.13** | Firewood/charcoal/fuel for cooking | \|___\|___\|___\|___\| |
| **4.6** | Cooking oil | \|___\|___\|___\|___\| | **4.14** | Soap | \|___\|___\|___\|___\| |
| **4.7** | Sugar, honey, sweets | \|___\|___\|___\|___\| | **4.15** | Drinks (water and soda water) | \|___\|___\|___\|___\| |
| **4.8** | All other food items (milk, eggs, salt, coffee, tea, pasta, milk, etc.) | \|___\|___\|___\|___\| | **4.16** | Transportation/communication | \|___\|___\|___\|___\| |

**SECTION B)** In the Past **3 months** how much money have you spent to acquire each of the following items or services?

Use the following table, indicate **In NEW POUNDS** the amount spent **last 3 months.** Write 0 if no expenditure**. Round up the figures (no comma)**

| | | | | | |
|---|---|---|---|---|---|
| **4.17** | Construction, house repair | \|___\|___\|___\|___\| | **4.22** | Medical expenses, health care | \|___\|___\|___\|___\| |
| **4.18** | Fines / Taxes | \|___\|___\|___\|___\| | **4.23** | Education, (school fees/uniforms) | \|___\|___\|___\|___\| |
| **4.19** | Agricultural tools, seeds | \|___\|___\|___\|___\| | **4.24** | Celebrations, social events, funerals, weddings | \|___\|___\|___\|___\| |
| **4.20** | Hiring labor | \|___\|___\|___\|___\| | **4.25** | House rent | \|___\|___\|___\|___\| |
| **4.21** | Household assets (knives, forks, plates) | \|___\|___\|___\|___\| | **4.26** | All other non-food expenditures, totaled over the **last 3 months** | \|___\|___\|___\|___\| |

**SECTION C) Bartering** – ask the household if any bartering took place in the last 30 days.
If yes, ask the household to list the items that were bartered, and then try to estimate together the monetary value of these items in pounds

| | | |
|---|---|---|
| **4.27** | Estimated value of all bartered goods last 30 days | \|___\|___\|___\|___\| |

## 5. COPING STRATEGIES

| | | | | | | |
|---|---|---|---|---|---|---|
| 5.1 | In the past 7 days were there times when you did not have enough food or money to buy food? | | **1** | Yes | **2** | No |
| 5.2 | ONLY If yes to 5.1<br>Has your household done any of the listed things, and how frequent were they done in the past 7 days: | | **FREQUENCY**<br>7 = Every day<br>6 = 6 of the last 7 days<br>5= 5 of the last 7 days<br>Etc<br>If not used, mark 0 | | | |
| | A | Rely on less preferred and less expensive food | \|_____\| | | | |
| | B | Borrow food, or rely on help from friends or relatives | \|_____\| | | | |
| | C | Limit portion size at meals | \|_____\| | | | |
| | D | Restrict consumption by adults in order for small children to eat | \|_____\| | | | |
| | E | Reduce number of meals eaten in a day | \|_____\| | | | |
| | F | Skip entire days without eating | \|_____\| | | | |
| | G | Collect any **unusual** amounts of types of wild foods for this season | \|_____\| | | | |
| | H | Sell more animals **than usual** | \|_____\| | | | |
| | I | Consume seed stocks held for the next season | \|_____\| | | | |

## 6. CROP PRODUCTION

| | | | | | |
|---|---|---|---|---|---|
| 6.1 Are you planning to cultivate this season? | 1. Yes | | 2. No | | |
| 6.2 If no, why? | 1 | Not living in normal place | | | |
| | 2 | No land available | | | |
| | 3 | No inputs or tools | | | |
| | 4 | No labour | | | |
| | 5 | Lack of animal traction | | | |
| | 6 | Other | | | |
| | 99 | Not applicable | | | |
| 6.3 Have you received any external agricultural support for this coming season? | 1. Yes | 2 . No | 99. N/A | | |
| 6.4 If YES, in what kind? | 1. Seeds | 2. Tools | 3. Extension services | 4. Agricultural finance | 5. Others | 99. N/A |
| 6.5 Is it from? (Circle one main source) | 1. Govt | 2. NGOs | 3. Others | 99. N/A | |
| 6.6 What will be your main source of seeds for the coming season? (Circle one option) | | | | | |
| 1. Own Sources | 2. Purchase from the market | 3. Government t/ NGOs | 4. Others | 99. N/A | |

## 7. STOCKS

| | |
|---|---|
| **7.1. Does the household have any food/cereals stocks from own production?**<br>**Ask about stocks from Aug/Sept plus Nov/Dec harvests** | **1. Yes** **2. No** |
| **7.2 How long will cereal stocks (sorghum and maize) last?** | **\|____\| Months** |

## 8. SHOCKS

What are the main shocks the household is currently facing?

**Circle MAX 3 main shocks**, but you can also tick less. Don't list the shocks, but let the household name them.

| | | | |
|---|---|---|---|
| 1 | Insecurity/violence | 7 | Returnees/IDPs living with household |
| 2 | Food too expensive | 8 | Late food aid distribution |
| 3 | Lack of free access/movement | 9 | Social Event |
| 4 | Livestock diseases | 10 | Delay of rains |
| 5 | Floods | 11 | Weeds/pest |
| 6 | Human sickness | 88 | Other |
| If other, specify: | | | |

## 9. WATER, SANITATION AND HEALTH

| | | |
|---|---|---|
| 9.1 | **What is your current source of drinking water?**<br><br>**Chose only one option from the option on the right side and insert in box below**<br>**\|___\|** | **1 = Household connection**<br>**2 = Public standpipe**<br>**3 = Borehole/hand pump**<br>**4 = Protected dug well**<br>**5 = Unprotected dug well**<br>**6 = Protected spring**<br>**7 = Unprotected spring**<br>**8 = UN/NGO tanker/truck water**<br>**9 = Vendor provided water**<br>**10 = Rain water collection**<br>**11= Rivers or ponds** |
| 9.2 | **What kind of a toilet facility does your household have?**<br><br>**Chose only one option from the option on the right side and insert in box below**<br>**\|___\|** | **1= Traditional pit latrine/ without slab/ open pit**<br>**2 = Improved latrine with cement slab**<br>**3 = Flush latrine**<br>**4 = Defecation area**<br>**5 = Open air (bush, stream)** |
| 9.3 | **How many of the adults in your household (age above 16+) have been chronically ill?**<br>**The definition of chronic illness is that the person has been unable to work for at least 3 of the last 12 months** | **\|___\|** |

## 10. EXTERNAL ASSISTANCE - FOOD AID

| | | | | | |
|---|---|---|---|---|---|
| 10.1 | **Did your household or any member of your household receive food aid since last Christmas?** | | | **1. Yes** | **2. No** |
| 10.2 | **If yes,**<br><br>**What type of modality has your household received food under?** | **General Food Distribution (free food)** | **1** | **Supplementary Feeding Programmes (child feeding centers)** | **4** |
| | | **Food for Work** | **2** | **Institutional Feeding Programmes (hospital feeding)** | **5** |
| | | **Food for Education (school feeding)** | **3** | **Not applicable** | **99** |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10.3 | **If yes to above, indicate which months you received the food? Circle appropriate box(es)** | | | | | |
| | **1.** | **Jan '10** | **2..** | **Feb '10** | **3.** | **Mar '10** |

## 11. OTHER EXTERNAL ASSISTANCE

| 11. What types of other assistance has your household received in the last 12 months (Non-food and services)? CIRCLE ALL THAT APPLY | | |
|---|---|---|
| | 1 | Agricultural inputs |
| | 2 | Plastic sheets |
| | 3 | Cooking pots and other utensils for cooking |
| | 4 | Mosquito nets |
| | 5 | Blankets |
| | 6 | Training |
| | 7 | Veterinary services |
| | 8 | Free health care/drugs from NGO |
| | 9 | Soap |
| | 10 | Sleeping mat |
| | 11 | Other, specify: |

## 12. HOUSING

| | |
|---|---|
| 11.1 What kind of a house does the household have?<br>Enumerator observation \|___\| | 1 = Tent,<br>2 = Dwelling of straw mats,<br>3 = Tukul – mud<br>4 = Tukul / House - Mud, thatched roof<br>5 = Tukul / House – Mud – permanent roof<br>6 = Concrete / Brick House |

## 13. HOUSEHOLD ASSETS

| | Type of Asset | | 6.1 Do you own any of these assets? | |
|---|---|---|---|---|
| Please tell us about the type of assets the household owns. These include both production and other types of assets. | 1 | Ox- drawn ploughs | 1= Yes | 2 = No |
| | 2 | Hand hammer mill | 1= Yes | 2 = No |
| | 3 | Radio | 1= Yes | 2 = No |
| | 4 | Bed | 1= Yes | 2 = No |
| | 5 | Table | 1= Yes | 2 = No |
| | 6 | Chair | 1= Yes | 2 = No |
| | 7 | Lantern | 1= Yes | 2 = No |
| | 8 | Bicycle | 1= Yes | 2 = No |
| | 9 | Cart | 1= Yes | 2 = No |
| | 10 | Hoe | 1= Yes | 2 = No |
| | 11 | Axe | 1= Yes | 2 = No |
| | 12 | Television | 1= Yes | 2 = No |
| | 13 | Generator | 1= Yes | 2 = No |
| | 14 | Motorbike | 1= Yes | 2 = No |
| | 15 | Mosquito net | 1= Yes | 2 = No |

## Annex 2: Calculation of Food Security

### 1) Food access indicators

Food consumption is alone unable to explain the complexities of household level food security, due to its short recall period and singular focus on eating habits. The sustainability to of this food consumption status has to be assessed by looking at a *household's ability to access food in the future*.

An analytical process was follow by which a wealth of data was explored to find context-specific indicators of food access. The analysis employed state level aggregation to ensure that context sensitive vulnerability indicators were not hidden by national averages. In the end, two indicators were chosen:

#### a. Reliability and sustainability of income sources

Survey data on the three main income sources was analyzed to categorize households as having poor, medium or good sources in terms of reliability and sustainability. This was done through several steps:

i. Each of the potential income sources was categorized as good (4), medium (2) or poor (1).
ii. For each households, the rating of the three sources were summed to come up with a final income source rating. No source equals a rating of 0.

Example:

| | Type of source | Rating |
|---|---|---|
| Main source | Sale of cereals | 4 |
| Second source | Grass sales | 1 |
| Third source | None | 0 |
| | Total rating | 5 |

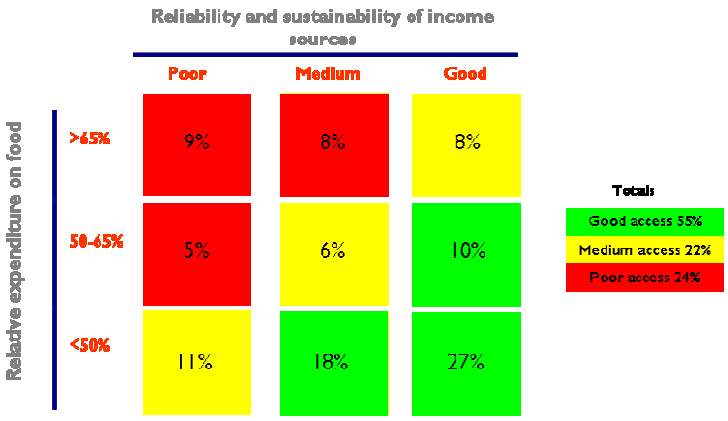
iii. The total rating now incorporates both the type of sources, and the number of sources.
iv. This total rating was then split in three categories after careful analysis of the meaning of the score. A score of 0-3 was categorized as poor, 4-5 as medium, and 6-9 as good.

#### b. Relative expenditure on food:

Relative expenditure on food is one of the core indicators of food security. Households that spend most of their income on food have generally little income and they do so at the expense of other essential posts, such as non-food items, clothes and education. The below categorization was used for this indicator.

| Relative expenditure on food | | |
|---|---|---|
| >65% | 50-65% | <50% |
| Poor | Medium | Good |

The two access indicators from step 2 were then consolidated into one measure of food access through a simple cross tabulation as shown below.



**2) Analysis of food consumption**

The foundation for any food security analysis in WFP is data regarding household eating habits in one week preceding the assessment. Based on this, a Food Consumption Score is constructed that incorporates both the dietary diversity, frequency of consumption, and nutritional value of different food groups. Based on this score, a household can be classified as having poor, borderline or acceptable consumption[11].

Data collection module:

**I.** See attached household questionnaire (Section 5.1: Food Consumption)

Calculation steps:

**II.** Using the data collected from the household questionnaire, group all the food items into specific food groups:

| | FOOD ITEMS (examples) | Food groups (definitive) | Weight (definitive) |
|---|---|---|---|
| 1 | Maize, maize porridge, rice, sorghum, millet pasta, bread and other cereals | **Main staples** | 2 |
| | Cassava, potatoes and sweet potatoes, other tubers, plantains | | |
| 2 | Beans. Peas, groundnuts and cashew nuts | **Pulses** | 3 |
| 3 | Vegetables, leaves | **Vegetables** | 1 |
| 4 | Fruits | **Fruit** | 1 |
| 5 | Beef, goat, poultry, pork, eggs and fish | **Meat and fish** | 4 |
| 6 | Milk yogurt and other diary | **Milk** | 4 |
| 7 | Sugar and sugar products, honey | **Sugar** | 0.5 |
| 8 | Oils, fats and butter | **Oil** | 0.5 |
| 9 | Spices, tea, coffee, salt, fish power, small amounts of milk for tea. | **Condiments** | 0 |
| 10 | Corn Soya Blend | **CSB** | 2.5 |

**III.** Sum all the values for each of the food groups, and multiply the value obtained for each food group by its weight (see weights in table above).

**IV.** Sum the weighed food group scores together, thus creating the food consumption score (FCS).

**V.** Using the appropriate thresholds (see below), group the food consumption scores into categories.

Once the food consumption score is calculated, the context-specific thresholds are determined based on the knowledge of the consumption behaviour in each country.

| FCS | Profiles |
|---|---|
| 0-21 | Poor consumption |
| 21.5-35 | Borderline consumption |
| > 35 | Acceptable consumption |

[11] For more information, validation of the indicator as a proxy of food security, and discussion of these thresholds, please refer to the Food Consumption Score Technical Guidance Sheet, WFP Vulnerability Analysis and Mapping Branch (January 2008).

Hence, a household with a score below 21 is categorized as having poor consumption, between 21.5 and 35 as borderline, and above 35 as acceptable.

### 3) Coping Strategies

A third dimension was added: Coping Strategies. Qualitative analysis from Focus Group Discussions revealed which coping strategies that were a sign of severe stress. This was combined with the household data on how often each coping strategy was employed. Together, the severity and frequency was combined to assign each household a Coping Strategies Index (CSI)[12].

- Thus, in this a high CSI indicates severe stress and the use of negative coping strategies that will undermine a households' ability to fend for itself the future, or in extreme cases it will even put lives at risk.

Based on the CSI, household were then categorized in three:

- High Coping - Those that frequently employ many of the severe coping strategies at the same time
- Medium Coping – Those that from time to time use negative coping strategies
- Low – Those that used no coping strategies or only some of the less dangerous ones

### 4) Food Security

Finally, our three dimensions (consumption, access and coping) were combined to see which households are most at risk. 3 categories of people were found:

- Severely Food Insecure
- Moderately Food Insecure
- Food Secure

The table below shows how the three dimensions were combined to create the Food Security indicator.

| | | | | Food Consumption | | |
|---|---|---|---|---|---|---|
| | | | | Poor | Borderline | Acceptable |
| Ability to access food | Poor | Coping Strategies Index | High | | | |
| | | | Medium | | | |
| | | | Low | | | |
| | Medium | Coping Strategies Index | High | | | |
| | | | Medium | | | |
| | | | Low | | | |
| | Good | Coping Strategies Index | High | | | |
| | | | Medium | | | |
| | | | Low | | | |

| Totals | |
|---|---|
| Severely Food Insecure | 25% |
| Moderately Food Insecure | 36% |
| Food Secure | 39% |

[12] Coping Strategies that were rated very differently in terms of severity in various regions of South Sudan were excluded for this analysis. These are obviously context-specific and cannot be used in a uniform way in a common index with common thresholds. An example is to migrate in search for food or work. This is common in some parts of South Sudan, while it is a sign of severe stress other places.

## Annex 3: ANLA team members

| # | Name | Position | Organization |
|---|---|---|---|
| 1 | Yvonne Vhevha | Facilitator | WFP |
| 2 | Yomo Lawrence | Logistics and coordination | WFP |
| 3 | Michael Ladu | Enumerator | SSRRC |
| 4 | Grace Apayi | Enumerator | FAO |
| 5 | Zeinab Wahba | Enumerator | UNMIS |
| 6 | Rose Poni | Enumerator | FSTS |
| 7 | John Vuga | Team Leader | WFP |
| 8 | Khalisto Louis Loggale | Enumerator | SSRRC |
| 9 | Puro Nygoni Cham | Enumerator | FAO |
| 10 | Julia Adalberto | Enumerator | MOH |
| 11 | Christine Rojjo | Enumerator | MOA |
| 12 | Anthony Lonyong | Enumerator | UNOCHA |
| 13 | Peter Butili Fargalla | Enumerator | UNHCR |
| 14 | Paul Anywayo | Team Leader | WFP |