Emergency Food Security Assessment (EFSA)

Blue Nile State SUDAN

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1 Summary

Following a poor rainy season in 2009, concerns were raised about the impact on agriculture and livestock rearing in Blue Nile state. Given the large importance of both livelihoods in the state a deterioration in food security was feared. The 2009 rainfall was unevenly distributed across the state, differently affecting three areas: northern Blue Nile (Rosarios and Damazine localities), central Blue Nile (Bau and Geissan localities) and southern Blue Nile (Kurmuk locality). To capture the difference in impacts on livelihoods this survey assessed the three areas separately.

This assessment finds evidence of severe impact on crop production and moderate impact on livestock rearing from the poor rains. Many households were unable to harvest any crops, others suffered from very low yields. The lack of rainfall affected northern and central Blue Nile more adversely compared to southern Blue Nile. However, because of preexisting conditions southern Blue Nile is considerably less food secure. The food security situation in central and northern Blue Nile is not worrying, and resembles that of other generally food secure states of North Sudan (like Gezira, Sennar and White Nile). Southern Blue Nile – the southern half of Kurmuk county, around and south of Kurmuk town – exhibits much worse conditions, similar to food insecure areas of Southern Sudan.

Table 1: Food security summary

		Severely food insecure	Moderately food insecure	Food secure
North Blue Nile		**4%**	**17%**	**79%**
Central Blue Nile		**7%**	**20%**	**73%**
South Blue Nile	Residents	17%	16%	67%
	Returnees	53%	18%	29%
	All households	**32%**	**17%**	**51%**
Overall Blue Nile		**12%**	**18%**	**70%**

Despite a late, but otherwise normal rainy season, crop production in southern Blue Nile in low. This is due to a long array of compounding factors adversely affecting crop production: the recent return of the population, lack of cleared and prepared land, loss of farming knowledge during time of displacement, unavailability of agricultural inputs (most importantly seeds and tools), the thick cotton soil hard to till manually, lack of agricultural services and general poverty.

This assessment recommends immediate emergency food assistance distributions in some areas of southern Kurmuk, including Borfa, Balila and Balatoma. In the medium-term period, food assistance is needed during part of the year in much of southern Blue Nile, as well as in low income and/or low production areas of central and northern Blue Nile (such as Mugum, Soda, Murmuz al Jebel, Aburondo and Agraa) during the time for land clearance, planting and weeding. Providing assistance during this period, which partly coincides with the lean season, allows farmers to

cultivate their own land instead of seeking short-term income elsewhere. This should be done in conjunction with other livelihood support projects in order to have maximum impact.

2 Introduction

Following what was widely perceived as a poor rainy season in parts of Sudan and the wider region, the Food Security and Livelihood working group of Blue Nile state requested that the World Food Programme conduct a comprehensive food security assessment of the state.

2.1 Objectives and rationale

The 2009 rainy season was poor in Blue Nile with below-average precipitation in the entire state, causing concern about crop production and pasture for the 2009/10 season. The 2009 Crop Production and Food Security Assessment (CFSAM) conducted jointly by FAO and the Government of National Unity[1], estimated that the output for sorghum in the traditional (non-mechanized small-holders) sector in Blue Nile state fell from 60,000 mt (metric tonnes) in 2008/2009 to 28,000 mt in 2009/2010, which is a 53 percent reduction. These concerns were compounded by reports from government officials in parts of the state that certain population groups were already in January 2010 experiencing shortage of food. Furthermore, a food security assessment conducted in April 2008 painted a bleak picture of the food security situation among returnees in the southern part of the state, suggesting that this population's capacity to cope could be exhausted.

Against this background, WFP together with partners conducted a food security assessment in February 2010 to determine levels of crop production, condition of livestock, availability of income sources and coping mechanisms, and to estimate the proportion of food insecure households. As part of the assessment, the extent of current food assistance to the population was estimated, and future assistance programs were recommended.

2.2 Methodology

The assessment gathered both qualitative and quantitative information from a wide range of thematic areas, including demographics, residency status, crop production, livestock, income generation, access to credit, expenditure patterns, food consumption, food assistance coverage, coping strategies, community priorities for the future and nutrition[2]. Secondary data was gathered and analyzed, most importantly the Blue Nile pre-harvest assessment, the 2006 WFP Annual Needs and Livelihood Assessment (ANLA), the 2006 Sudan Household Health Survey (SHHS) and WFP program monitoring data.

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[1] Crop production and food security assessment for the northern states of the Sudan, assessment mission report 2009/10, (Government of National Unity Federal Ministry of Agriculture and Forestry, and The Sudan Institutional Capacity Programme: Food Security Information for Action in collaboration with the Emergency Rehabilitation and Coordination Unit Food and Agriculture Organization of the United Nations), February 2010.

[2] See annex for questionnaires and checklists used.

For primary data collection a stratified two-stage random sampling methodology was employed. An exhaustive list of all known villages in Blue Nile (excluding major urban centers) was compiled and used as population frame for the survey. This list of population centers was stratified into three strata, representing three relatively homogeneous geographical areas: the north, the center and the south. The northern stratum included Rosarios and Damazine localities, which based on key informant interviews was thought to have been moderately to severely affected by the poor rains. The central stratum included Bau and Geissan localities, and was believed to be unaffected to moderately affected. The southern stratum, Kurmuk locality, was like the center believed to have been unaffected to moderately affected.

Following standard Emergency Food Security Assessment (EFSA) methodology, locations to be included in the sample were selected randomly based on probability proportionate to population size. The complete list of population centers contained 323 villages, out of which 31 were selected: 10 locations from the north, 12 from the center and 10 from the south. The decision to sample a slightly higher number of locations in the central area was based on its large geographical area and comparatively high heterogeneity in terms of livelihood shocks. Due to planning issues related to the movements of field teams, one selected location (Mac) was not sampled, making the final sample size 10 locations from the north, 11 from the center and 10 from the south. Table 2 lists sampled locations.

Table 2: Sampled locations

Stratum	Village	Admin unit/Payam	Locality/County	Number of household interviews
North Blue Nile	Ahmer Roro	Roro	Tadamon	41
	Kirma	Wad El Mahi	Rosaries	42
	Khor Algana	Wad El Mahi	Rosaries	42
	Agraa	Bados	Rosaries	42
	Aldewaima	Bados	Rosaries	43
	Taiba Al Bilaylab	Rosaries	Rosaries	41
	Al Sireo	Al Sireo	Damazine	40
	Miraibia	Al Sireo	Damazine	40
	Ahmer mugi	Al Sireo	Damazine	42
	Rofaa Bin Hussein	Damazine	Damazine	40
Central Blue Nile	Khor Aldom	Musfa	Bau	40
	Al Amara Garash	Ofud	Geissan	42
	Aburondo	Geissan	Geissan	42
	Murmuz al Jebel	Geissan	Geissan	42
	Bout	Bout	Tadamon	42
	Jeago	Bau	Bau	42
	Soda	Bau	Bau	42
	Kukur	Bau	Bau	43
	Wad Abuk	Wad Abuk	Bau	43
	Mugum	Wad Abuk	Bau	42
	Torda Bugal	Musfa	Bau	40
South Blue Nile	Balatoma	Ora	Kurmuk	49
	Mayak East	Kurmuk	Kurmuk	47
	Balila	Wadaga	Kurmuk	42
	Dindiro	Kurmuk	Kurmuk	42
	Memo	Dereng	Bau	42
	Gambarda	Karan Karan	Kurmuk	42
	Bulang	Karan Karen	Kurmuk	40
	Khor Albodi	Kurmuk	Kurmuk	43
	Borfa	Chali	Kurmuk	48
	Daim Monsour	Kurmuk	Kurmuk	49
Total				**1,317**

Figure 1 shows sampled locations and sample stratification.

Figure 1: Sample stratification and samples villages

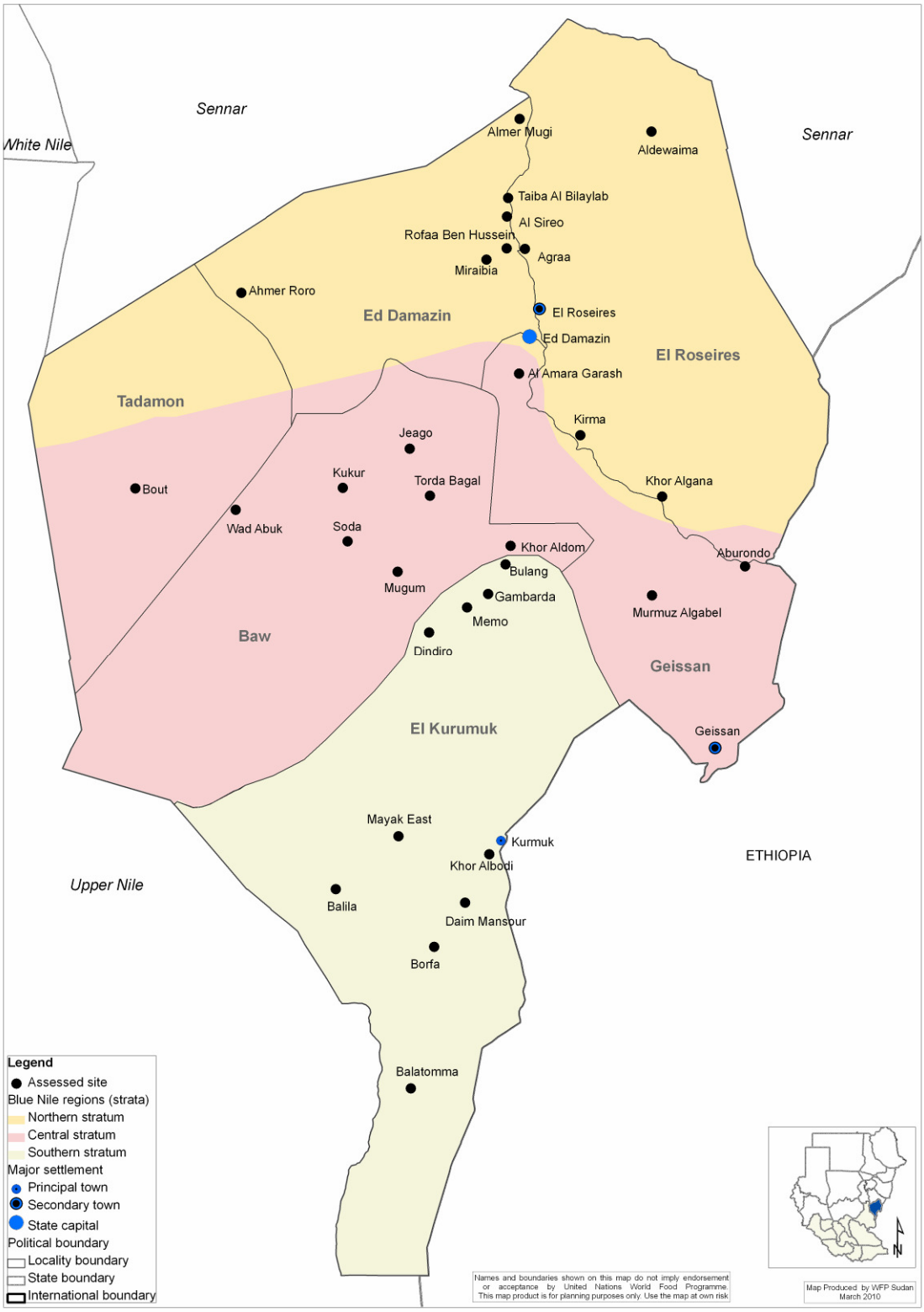
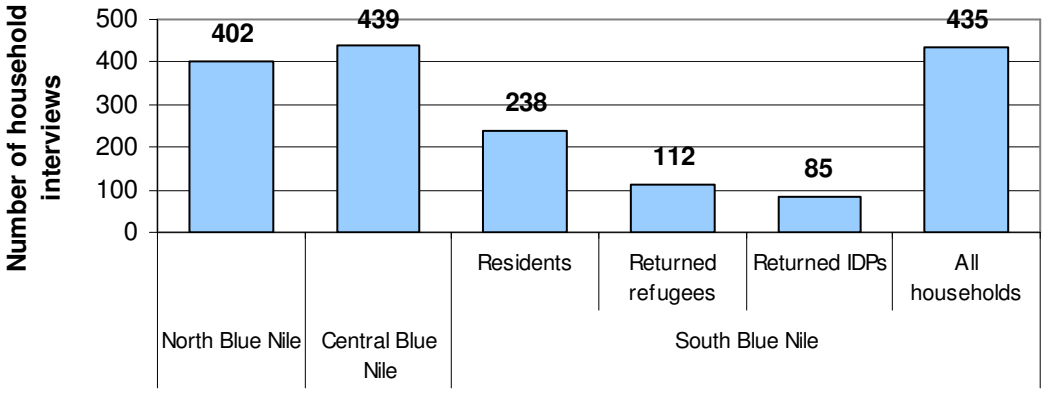


Figure 2: Household sample size



The sample design allows for statistics to be reported at the state, stratum and location levels, except for the nutrition data where requirements are stricter. The number of returnees in south Blue Nile is also considered to be sufficient to be reported on separately (the returnee populations in the north and central areas are small and their representation in the sample is insufficient for reporting purposes).

Table 3: Individual sample size

Stratum	Number of MUAC measurements	
	Children	Women
North Blue Nile	419	385
Central Blue Nile	483	472
South Blue Nile	368	400
Total	**1,270**	**1,257**

Qualitative information was collected through community leader interviews, one in each sampled location. These interviews were structured but open-ended and aimed to give contextual information and explanation to the findings in the household interviews.

Quantitative data was collected through close-ended household questionnaires, around 40 per sampled locations. The choice to conduct a relatively large number of household interviews per location was based on the need to report statistics at village level, which requires a larger sample compared to reporting only at stratum level. For results aggregated above the location level, the sampled was weighted to reflect difference in size of population between locations.

Data was collected 8-21 February 2010, using a team of 37 trained data collectors and team leaders from different UN agencies, NGOs and government offices[3].

[3] See annex for a complete list of participating persons and organizations.

2.3 Limitations

Despite training of data collectors in how to measure mid-upper arm circumference (MUAC), some mistakes were observed during the fieldwork. These mistakes are likelier to inflate than deflate the level of malnutrition. Outliers were cleaned and removed from the data.

3 Background

Blue Nile state is situated in Eastern Sudan on the border to Ethiopia. The state also borders Sennar state to the north and Upper Nile state to the west and south. The state's name comes from the river that runs through it, which is one of the main sources of income and food in the state. The river also powers the Roseries hydroelectrical power plant, which is a very important source of electricity for Sudan. The dominate livelihood in the state is agro-pastoralism, with the northern part of the state relying more on livestock and the southern more on agriculture. Agriculture is mainly small-scale and non-mechanized, with the exception of some large-scaled semi-mechanized agricultural schemes in Damazine and Baw localities. Almost all agriculture is rain-fed, except for small gardens of maize or sorghum which are commonly located close to household dwellings. The agricultural year has one cropping season, although some off-season cultivation of vegetables is done along seasonal and permanent rivers, of which there are many. The rivers also provide drinking water and fishing opportunities.

Figure 3: Location of Blue Nile state

Blue Nile state was a major theater for the civil war that raged in large parts of Sudan from 1983 to 2005 between the central government of Khartoum and the South Sudan Liberation Army (SPLA). Damazine, the present-day state capital, was a stronghold for the government forces, while Kurmuk, the major town in southern Blue Nile, was rebel territory after falling to SPLA in 1987. The mountainous area just over the Sudanese border in Ethiopia was used by SPLA to train new recruits and to prepare offensives. This positioning of the warring parties resulted in extensive mine fields being laid along the border area, either by the Government of Sudan to restrict SPLA access into Sudan or by the SPLA as a defensive measure. Prolonged warfare in the southern part of the state displaced a large part of the population to refugee camps in Ethiopia, to other states in Sudan and to the northern part of Blue Nile, resulting in the virtual depopulation of southern Blue Nile. Comparatively, in the northern half of the state there was limited displacement of the population. In 2005 the civil war ended with the signing of the Comprehensive Peace Agreement (CPA) between the central government and SPLA in 2005. Following the peace many displaced Sudanese have since returned.

The southern half of the state shares many of the climatic properties of Southern Sudan. Rains, normally from May to September, are often heavy, resulting in isolation of many areas, leaving large populations cut off from markets, health care and other services. for several months. Successive food security assessments have underlined the difference in food security between the north and south of the state[4].

[4] WFP Annual Needs and Livelihoods assessments, 2006 and earlier. WFP Kurmuk EFSA, 2008.

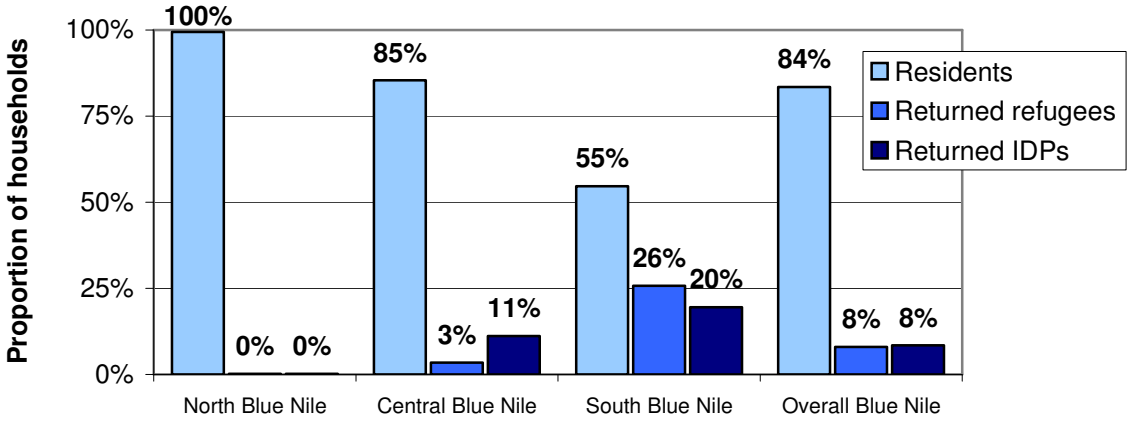
4 Findings

This chapter describes the assessment findings by thematic areas.

4.1 Demographics

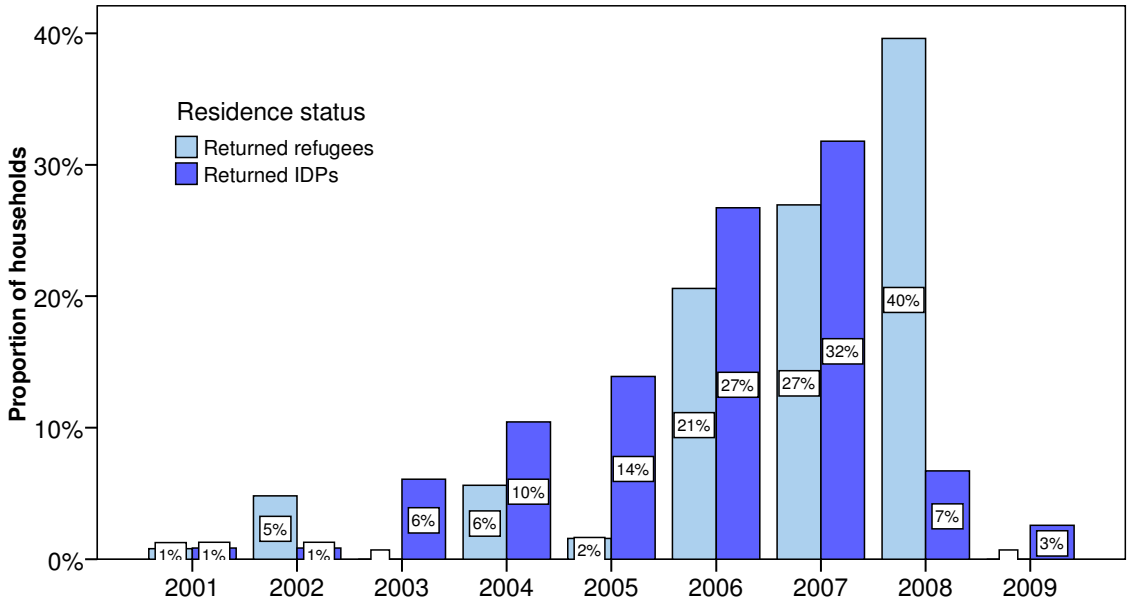
Most households in Blue Nile are long-time residents. However, in the southern part of the state, returnees make up a sizable part of the population. Most returnees come from refugee camps in Ethiopia (returned refugees), where they fled during the civil war, while others come from various parts of Sudan (returned internally displaced persons). The average time of displacement is 18 years for returned refugees and 8 years for returned internally displaced persons (IDPs). Because the returnee population is large in southern Blue Nile, and because this group is particularly vulnerable, many of the assessment results will be shown separately for the returnee population.

Figure 4: Residence status



Prior to the signing of the peace agreement in 2005 it was fairly uncommon for households to return. The years of peak returns were 2008 for refugees and 2007 for IDPs. Few households returned in 2009 which could indicate that displaced households that wish to return have already done so.

Figure 5: Time of return[5]



The average household size in Blue Nile state is 7, and the average age of a head of household is 43. Returnee families are on average smaller and have a younger head of household, compared to long-time residents. It is common for men in productive age to return before women, children and the elderly, in order to examine living conditions and restore livelihoods. The proportion of households that are headed by females – a sub-population typically more vulnerable to food insecurity than households headed by men – is twice as high among returnees compared to residents.

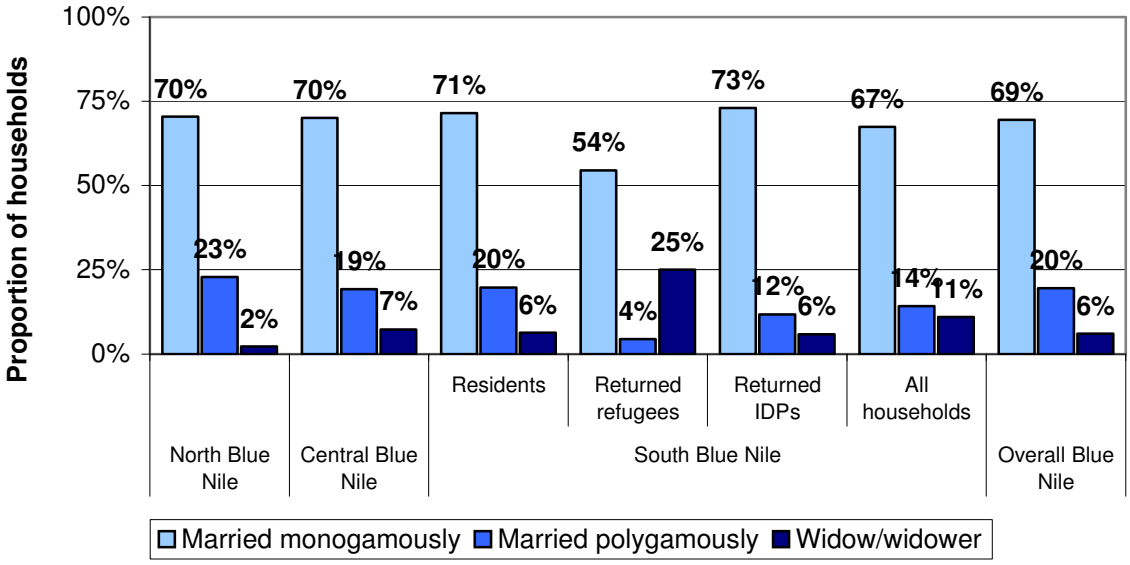
Table 4: Basic demographics

		Age of household head	Number of household members	Proportion of female headed households
North Blue Nile		**45**	**8**	**9%**
Central Blue Nile		**43**	**7**	**13%**
South Blue Nile	Residents	42	7	13%
	Returned refugees	37	5	38%
	Returned IDPs	39	7	21%
	All households	**40**	**6**	**21%**
Overall Blue Nile		**43**	**7**	**13%**

Most heads of households are married monogamously, although in northern and central areas about one fifth of household heads are married polygamously. The proportion of widows/widowers is higher among returnees, possibly due to the severe impact of the civil war on that population.

[5] The figure shows the breakdown of returned refugees separately from returned IDPs, so that every color adds up to 100 percent.

Figure 6: Marital status



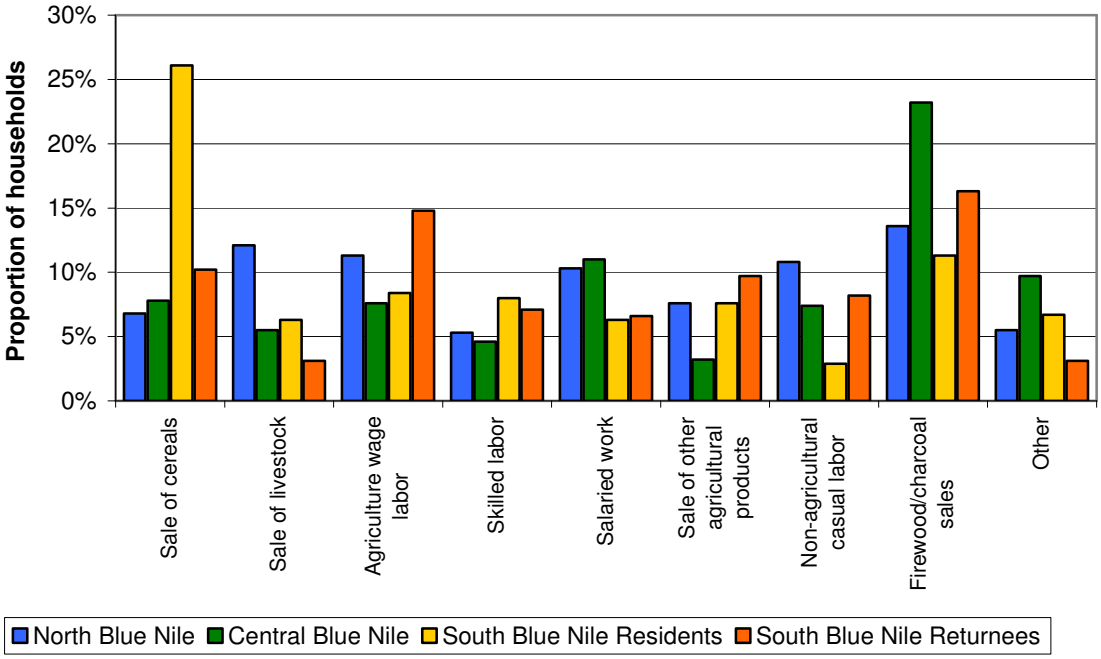
4.2 Income activities

The main income sources in the northern part of Blue Nile are firewood and charcoal sales, sale of livestock, casual labor (both agricultural and non-agricultural) and salaried work. Income generation in this area is diverse, in the sense that the five most important income generating activities are all similarly popular, which could indicate greater resiliency against shocks to any individual income source, at the population level. In terms of generating income, sale of livestock is more important, and sale of cereal less important in northern Blue Nile compared to other parts of the state. Both north and central Blue Nile rely more on salaried work compared to the south, mainly because of job opportunities in the major cities of Damazine and Roseries.

In the central part of the state firewood and charcoal sale is by far the most important income source, followed by salaried work. The availability of firewood is relatively good in many parts of central Blue Nile, although natural resources could still be put under pressure as one in every four households report having firewood collection as their main source of income.

Residents in south Blue Nile, who harvested somewhat more than the other two population groups (see Agriculture section 4.4), rely heavily on sale of cereal for their cash needs, supplemented by firewood and charcoal sales. For the returnees in south Blue Nile, firewood and charcoal sales, and agricultural wage labor are the main sources of income.

Figure 7: Income generating activities[6]



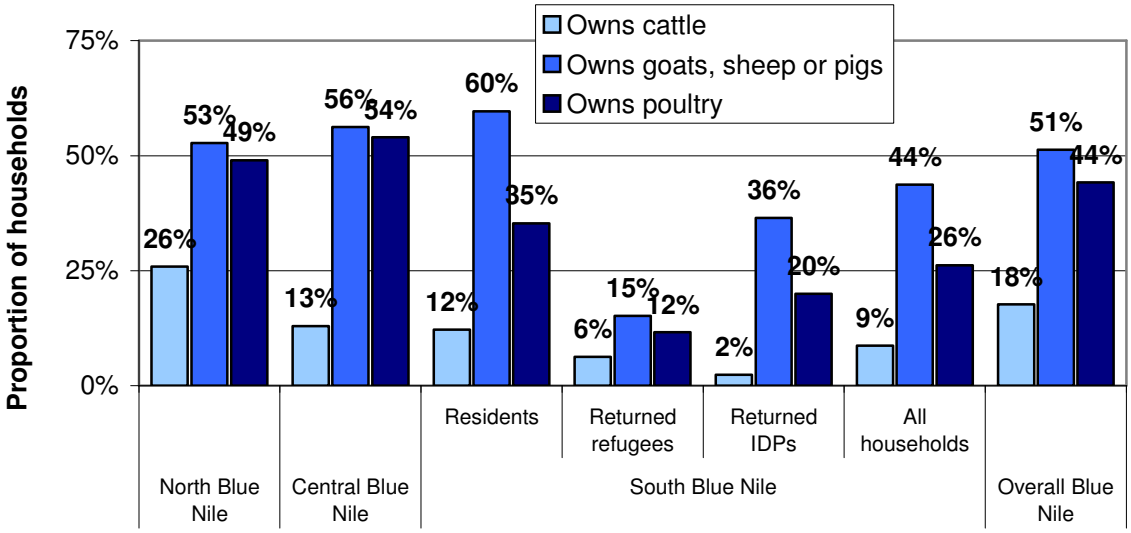
Lack of job opportunities appear to be a noteworthy problem, especially in the north and central part of the state, where 30 percent and 26 percent of households, respectively, report having household members actively looking for work. The corresponding figure for southern Blue Nile is 18 percent.

4.3 Livestock

Blue Nile is an agro-pastoral state with 70 percent of households owning animals. Goats, sheep and poultry are the most commonly held animals, although cattle and pigs also exist. Figure 8 shows the proportion of households that own animals.

[6] The figure shows the proportion of households that indicated an activity as their most important income source, as a breakdown by area (every color adds to 100 percent).

Figure 8: Types of animals owned



To estimate the impact on livestock from the poor rains, indicators (herd sizes and others) at the time of the assessment (mid-February) are compared with indicators before pasture lands were negatively impacted (November)[7] by poor rainfall.

Interestingly, the proportion of households that own animals have increased slightly since November, while heard sizes have decreased (see Figure 9). Overall, the average livestock owning household had 16 animals at the time of the assessment, compared to 20 in November 2009, a noticeable drop, however this is not to be regarded as a worrying depletion[8].

[7] Herd sizes in November come from this assessment using household recall.
[8] The results are based on a simple count of animals owned. The more technical tropical livestock unit (TLU) was also calculated, using weights approximating animal body mass. The TLU shows a similar pattern, with a 19 percent drop from November to February.

Figure 9: Proportion of households owning livestock, over time

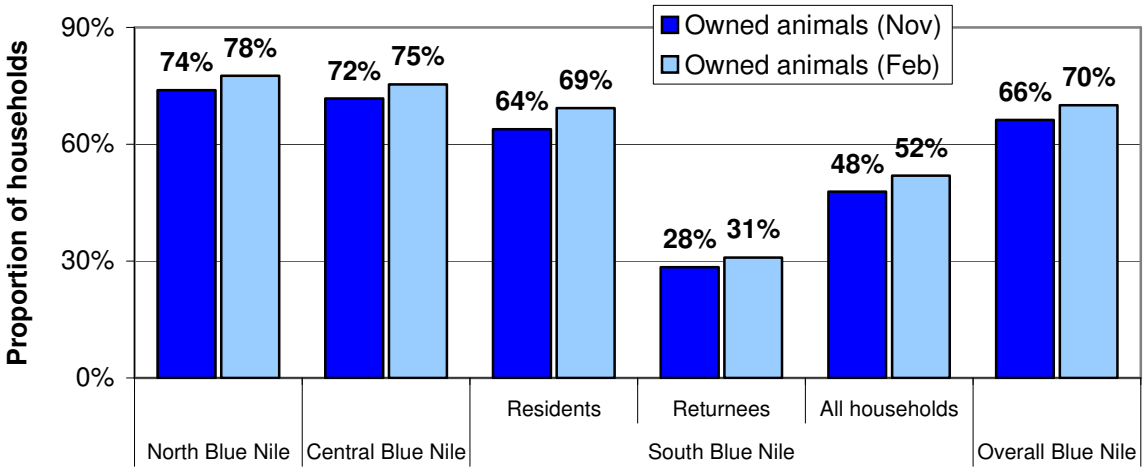
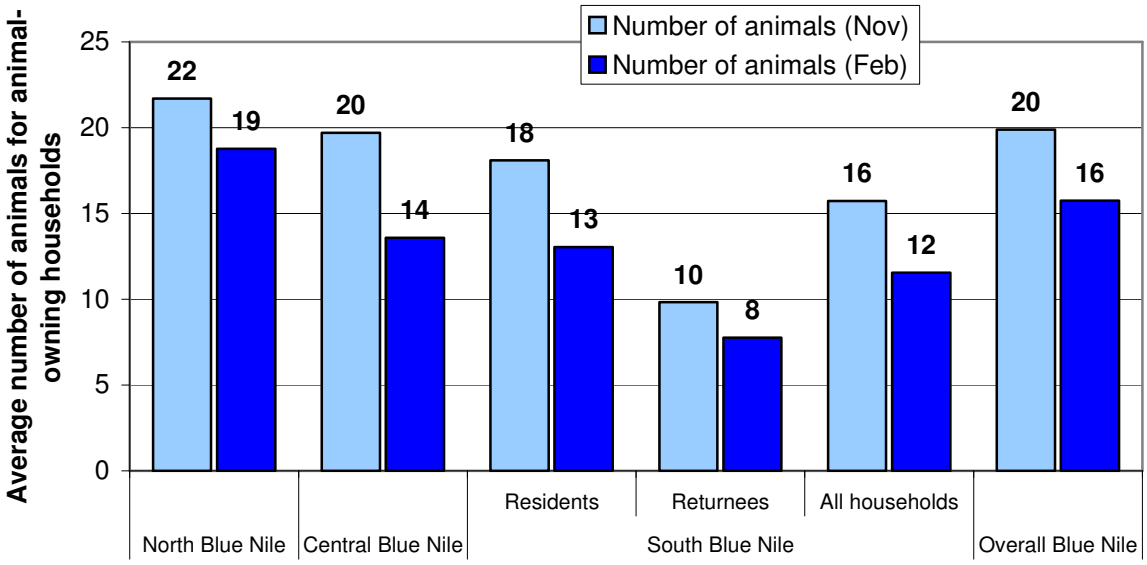


Figure 10: Herd size, over time

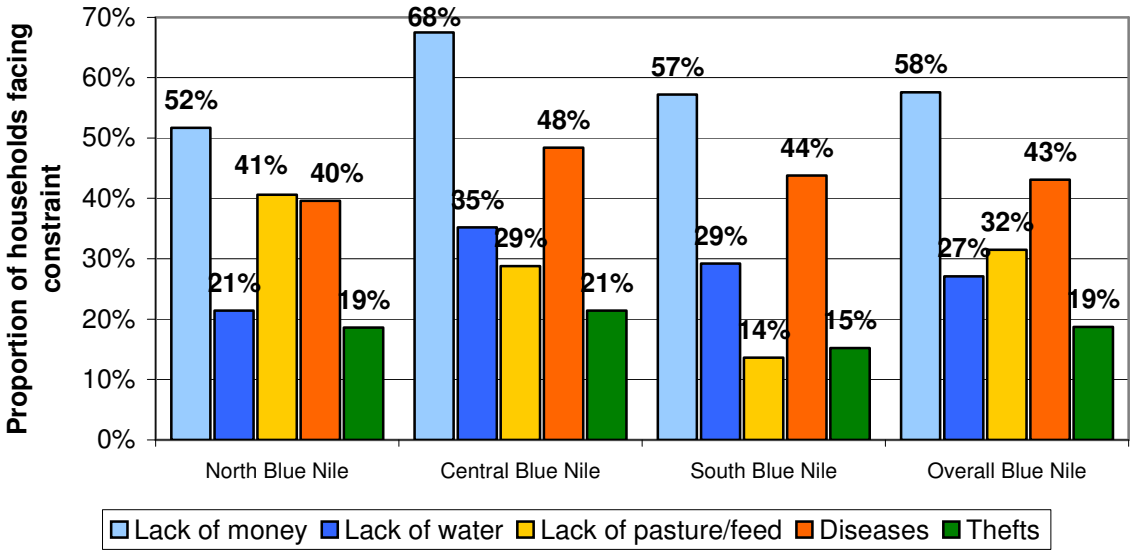


The reduction in herd size is due to sales, consumption (slaughter), animal deaths and theft of animals. A small majority (55 percent) of households that own goats, sheep or pigs – the most important type of domestic animals in Blue Nile (from here on referred to as "small livestock") – report that they have sold more than they normally would at this time of year. However, the average household has sold 7 percent of their herds which does not indicate distress sales. Asked about the reasons for selling livestock, most households say they do so due to need of money (lack of pasture and water sources are not mentioned). There is no indication that animals have been dying more than normal.

The major constraint to livestock rearing in Blue Nile is lack of money – meaning high expenses for re-stocking, fodder, water and other maintenance – followed by

diseases (compounded by low availability of veterinary services). Theft and lack of pasture and water, are also reported as important constraints.

Figure 11: Constraints to livestock rearing

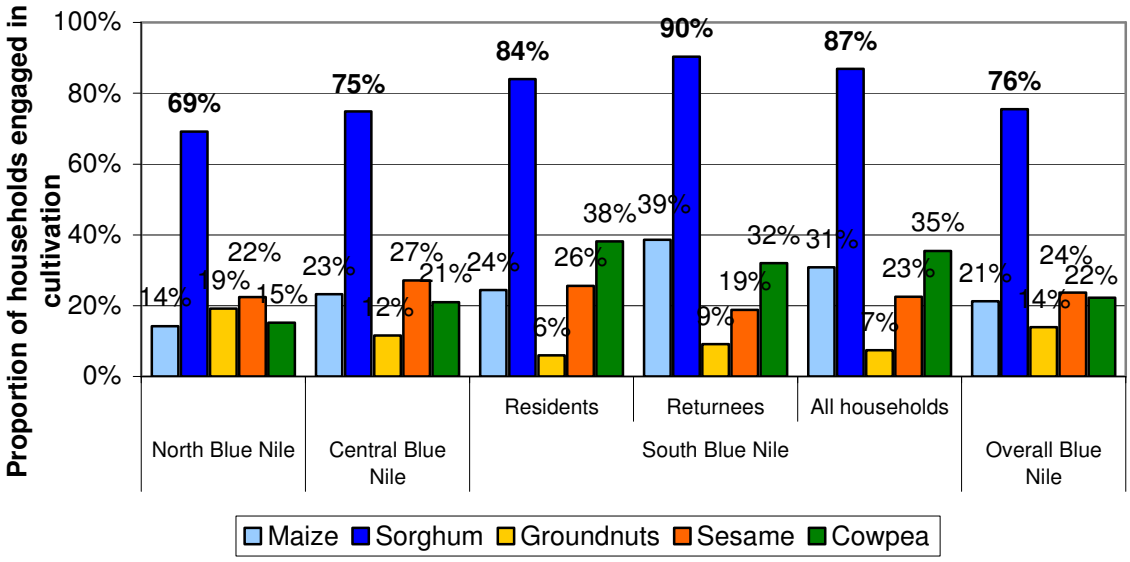


4.4 Agriculture

Agricultural activities are undertaken by a large majority (79 percent) of the Blue Nile population. Planting of most crops takes place in June and July, and harvesting from October to February[9]. For agriculturalists the hunger season is normally broken by early harvesting of small-scale maize plots. For the southern part of the state this happens in August, and for the northern part in September. Sorghum is by far the most popular crop, but maize, groundnuts, sesame and cowpea are all important complements.

[9] See annex for a complete seasonal calendar.

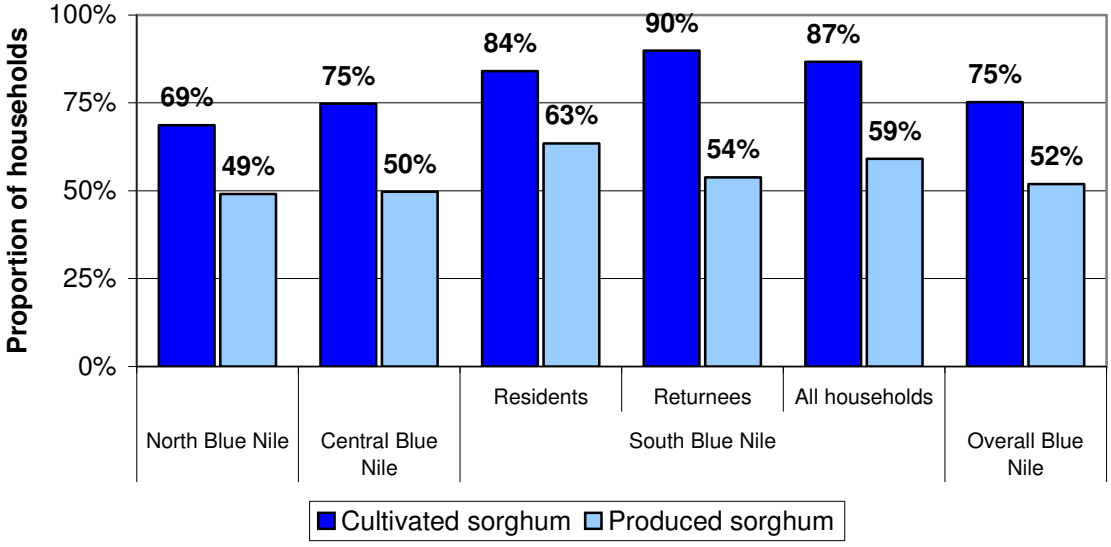
Figure 12: Types of crops being cultivated



The proportion of households who participated in cultivation was the same, or even slightly higher, in the 2009/2010 season compared to the 2008/2009 season. However, the production in the recently concluded 2009/10 season was much lower than in the 2008/09 season. It is therefore important to distinguish between cultivation and production[10]. For sorghum, 75 percent of households attempted cultivation, while only 52 percent produced a crop (i.e. harvested more than 0 kgs).

[10] "Cultivation" is used to indicate household participation in any agricultural activity (land preparation, seeding, weeding, harvesting) on owned, rented or shared land. It does not include agricultural labor on land of others for cash or in-kind compensation. Neither does cultivation imply that harvest took place. "Production" explicitly assumes cultivation and describes the amount of harvest.

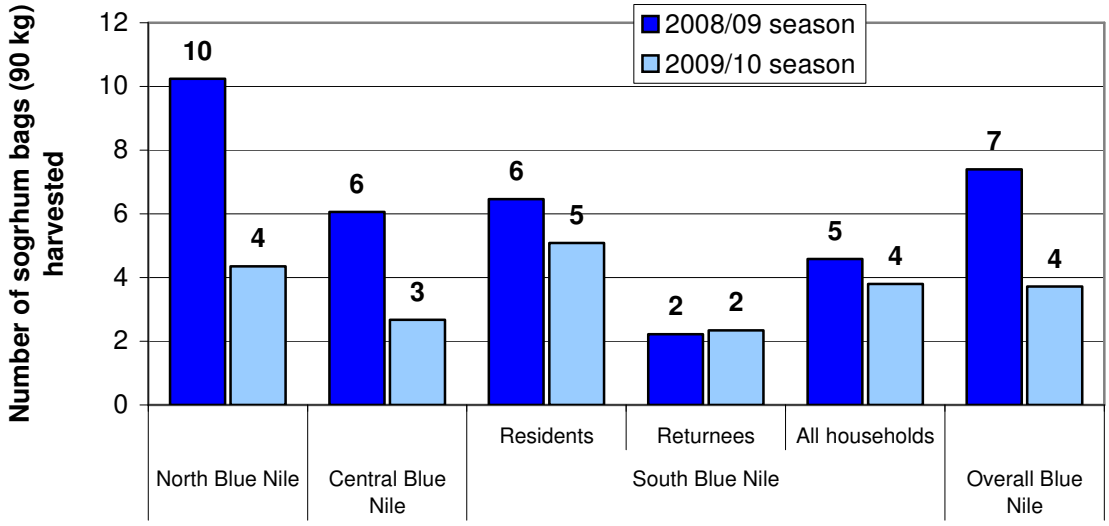
Figure 13: Sorghum cultivation and production in the 2009/10 season



The 2009 CFSAM was a macro-level assessment conducted jointly by FAO and the Government of National Unity, based on secondary data review and some field visits. The CFSAM estimated that the output for sorghum in the traditional (non-mechanized small-holders) sector in Blue Nile state fell from 60,000 mt in 2008/2009 to 28,000 mt in 2009/2010, which is a 53 percent reduction.

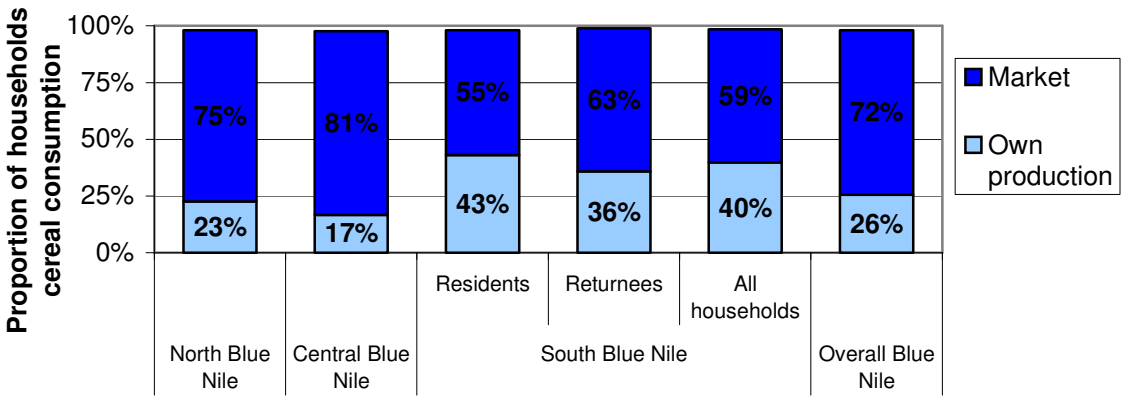
This EFSA, though different in methodology (based on micro-level data, particularly household interviews), reaches similar conclusions. Sorghum production per household has been reduced by 50 percent, from 7.4 to 3.7 bags (90 kg). Rainfall started about one month later than what is normal, with planting conditions established from early June to mid-July (earlier in the south, later in the north). Although without significant dry-spells, the rainy season gave below average precipitation and ended early. The long-maturating sorghum, the most commonly used crop variety, was adversely affected by the early end of the rainy season. Wide-spread re-planting, seed shortages and above-average extent and severity of pests also contributed to overall low yields. The most severe impact on production from 2008/2009 to 2009/2010 is seen in north and central Blue Nile, where the number of sorghum bags harvested dropped from 10 to 4 and from 6 to 3, respectively (bags per household). For the returnee areas in southern Kurmuk, production outputs remained stable at merely 2 bags per household. Although central and northern Blue Nile have been most affected by the poor season, the lowest production is still seen among the returnees in southern Blue Nile. The low production in southern Blue Nile, despite a normal rainy season, is due to a long array of compounding factors adversely affecting crop production: the recent return of the population, lack of cleared and prepared land, loss of farming knowledge during time of displacement, unavailability of agricultural inputs (most importantly seeds and tools), the thick cotton soil that is hard to manually till, lack of agricultural services and general poverty.

Figure 14: Sorghum production volumes, 2008/09 and 2009/10



Despite the timing of the assessment, taking place shortly after harvest, sampled households responded that they reply more on markets than their own production for their cereal needs. Households in northern and central Blue Nile, having relatively high income and easy access to markets, rely more on markets compared to the poorer and less market-connected south. Therefore households in the south rely more on their own production, even though the production is smaller than household production in the north.

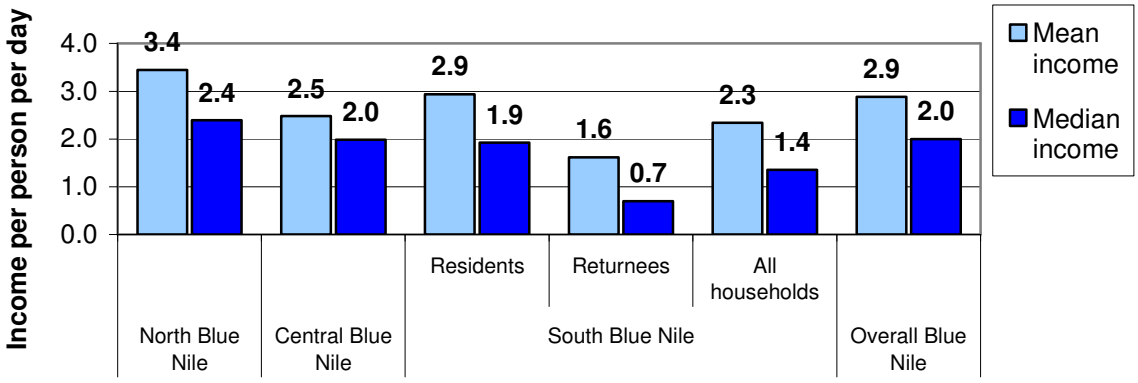
Figure 15: Cereal sources



4.5 Income poverty

Median income[11] in Blue Nile state is 2 Sudanese pounds (SDG) per person per day (the equivalent of approximately US$0.87). Median income is three times higher in northern and central Blue Nile than among returnees in the south.

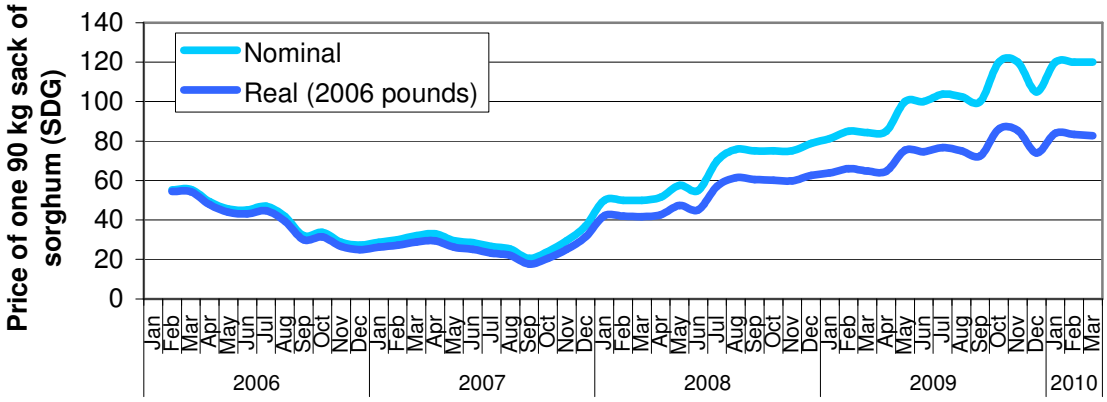
Figure 16: Mean and median income (per person per day)



Price levels in Blue Nile can be used to put nominal income (Figure 17) into context. For example, the price of sorghum, the most commonly bought food item and an important expenditure item for virtually all households, is at a four-year high at the Damazine markets. The historical trend of sorghum prices in this market is shown in Figure 17.

[11] A household's income is the sum of cash money received against labor, for selling resources (crops, livestock, etc.) or taking on debt, plus the market value of bartered goods. Goods or services produced by the household and consumed by the household (for example crops and livestock eaten by the household) are not included.

Figure 17: Historical sorghum prices in Damazine market

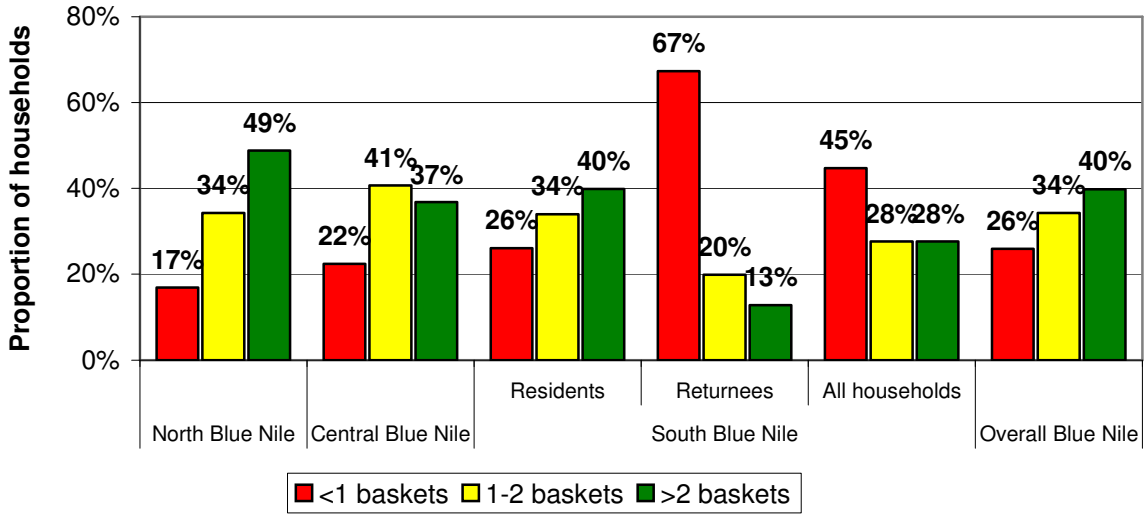


The purchasing power of the population was analyzed by comparing nominal income levels with the cost of a minimum healthy food basket. The food basket is a collection of food items in amounts and diversity considered nutritionally acceptable[12], the cost of which approximates the food-based minimum cost of living. The cost of the minimum healthy food basket using Damazine prices was estimated to be 1.23 SDG per person per day.

The proportion of households who are unable to afford the minimum healthy food basket is considerable in all parts of Blue Nile state, but three times larger among returnees in the south compared to the northern and central areas. One third of households report having experienced a decrease in income from November to February.

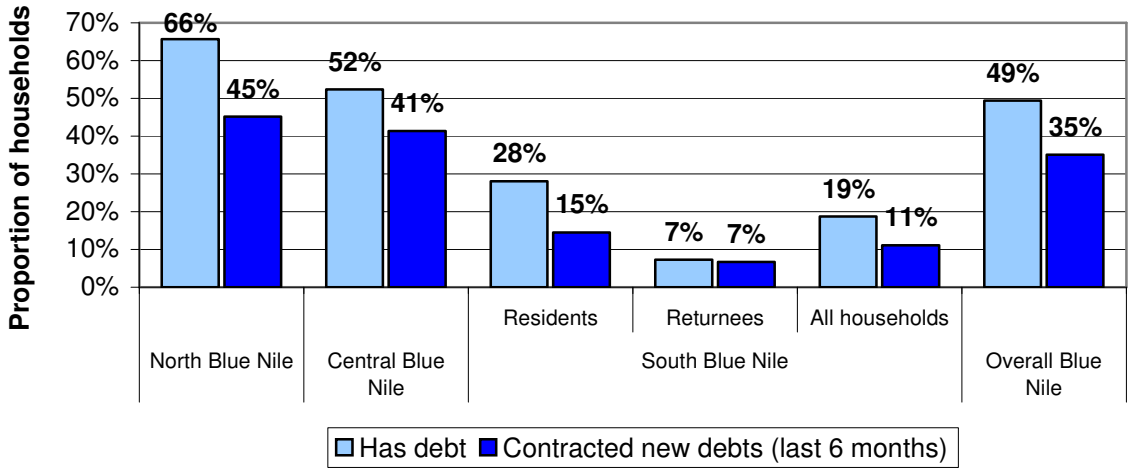
[12] The composition of the minimum healthy food basket is shown in the annex.

Figure 18: Income poverty



Is it common that households in northern and central Blue Nile take on debt. A large majority of households (73 percent) say that the main reason for borrowing is for purchasing food (or non-monetary borrowing of food). Although food consumption may not be a productive use of credit, it is difficult to interpret this behavior in terms of vulnerability to food insecurity, as it is common for households to have a credit cycle also in normal years. Indebtedness is much less common in southern Kurmuk where the availability of credit is poor and the creditworthiness of the population is low.

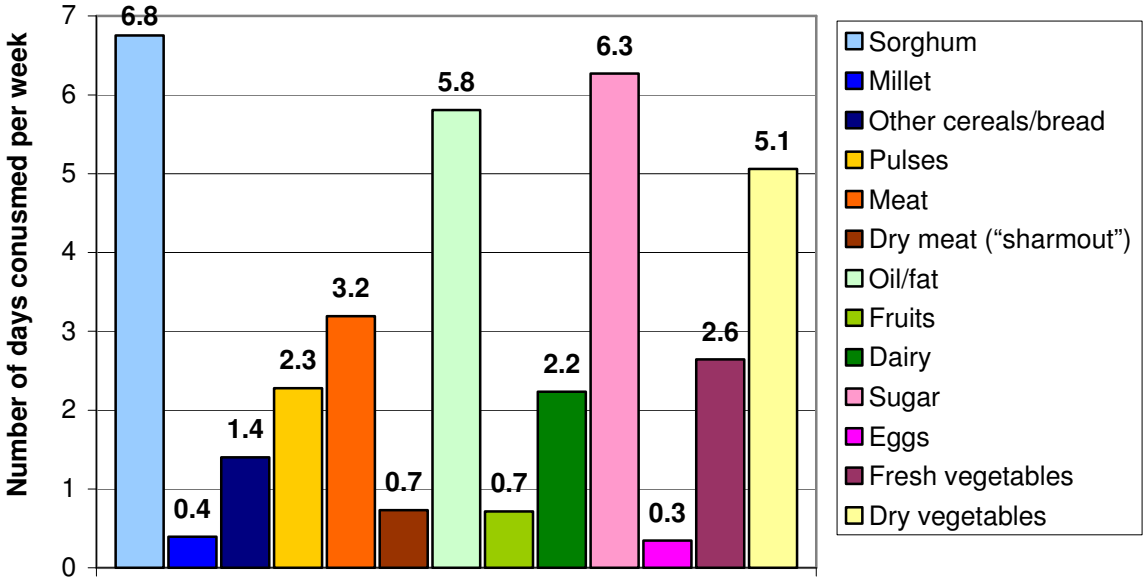
Figure 19: Indebtedness



4.6 Food consumption

Sorghum is the most commonly eaten food item in Blue Nile and is consumed by households every day of the week. Sugar, oil and dry vegetables are also eaten frequently. Foodstuff high on protein, meat, pulses and dairy is eaten three, two and two days per week respectively.

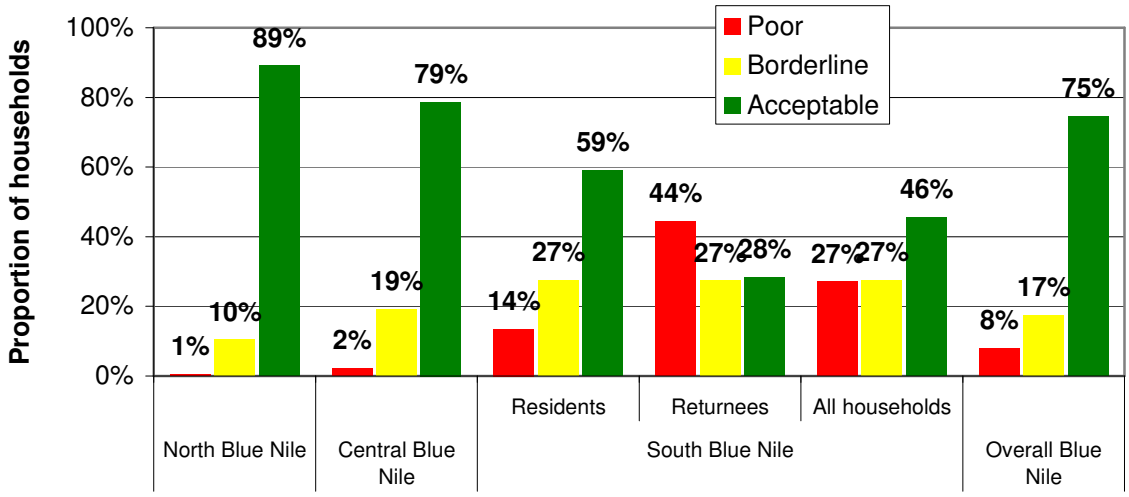
Figure 20: Dietary breakdown



The frequency and diversity of foods consumed in the one week preceding the assessment was converted into a food consumption score[13]. Based on their food consumption scores, households were divided into groups of poor, borderline and acceptable food consumption. Food consumption is good in north and central Blue Nile, with 89 percent and 79 percent of households, respectively, enjoying acceptable food consumption. Food consumption is much worse in southern Blue Nile, where less than half of households have acceptable food consumption. The situation is particularly difficult for returnees, of whom 44 percent have poor food consumption. The food consumption situation in north and central Blue Nile is similar to other generally food secure states in North Sudan (like Gezira, Sennar and White Nile).[14] The food consumption situation in the southern part of the state is similar to the more food insecure Southern Sudan.[15]

[13] Emergency Food Security Assessment Handbook, Second Edition, WFP. Standard thresholds of 21 and 35 were used to determine poor, borderline and acceptable food consumption.
[14] Comprehensive Food Security and Vulnerability Assessment, WFP, 2007.
[15] Annual Needs and Livelihood Assessment, WFP, 2009.

Figure 21: Food consumption

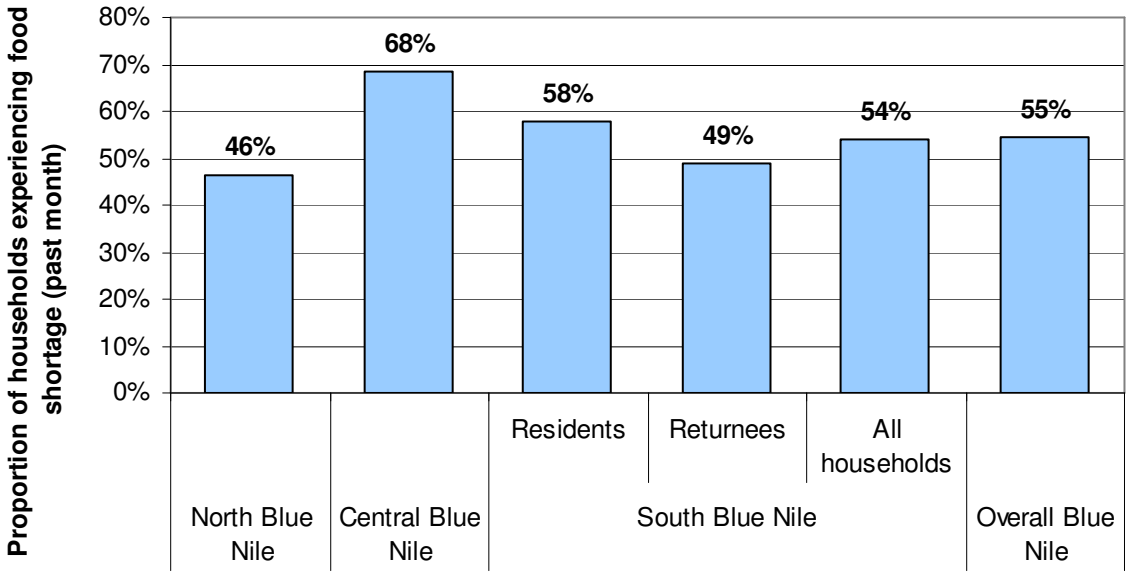


An emergency food security assessment conducted in the southern half of Kurmuk county by WFP in April 2008, found worse food consumption levels: 71 percent poor food consumption, 13 percent borderline food consumption and 16 percent acceptable food consumption. It is not clear why food consumption has improved from April 2008 to February 2010. This was however the year with the highest number of returning refugees and thus the re-establishment of livelihoods had yet not begun. Those who returned in 2007 were mainly spontaneous returnees who received very little humanitarian support. Even though their livelihood situation has not improved much it is still slightly less fragile in 2010 which might explain the improvement in food consumption.

4.7 Coping behavior

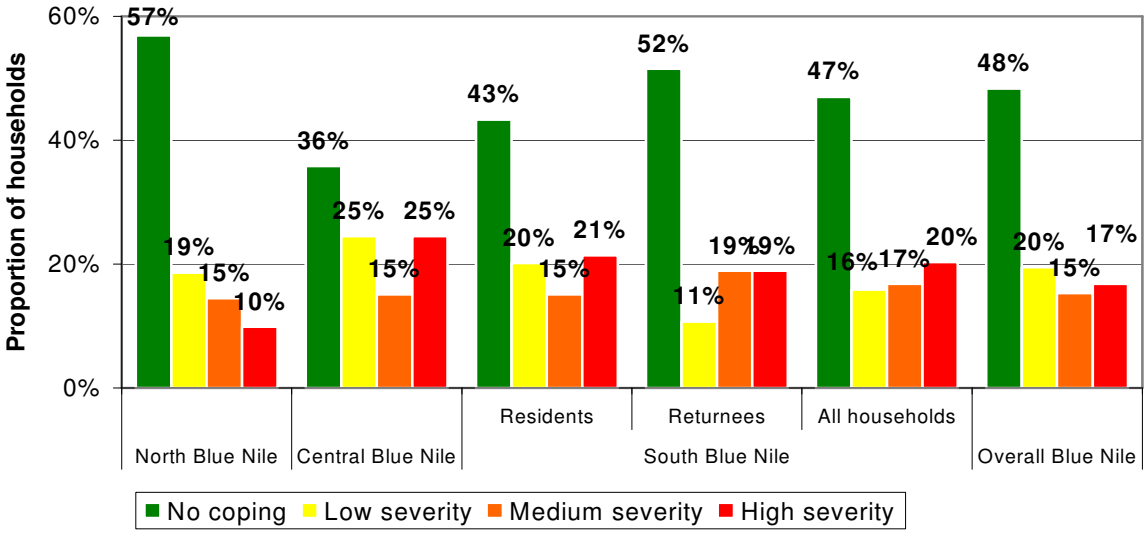
Fifty-five percent of households reported experiencing food shortage in the one month preceding the assessment. The proportion is higher than expected for northern and central Blue Nile, given good food consumption in these areas. It is widely believed that the questions on coping are more sensitive to misrepresentation than are other sections of the questionnaire, and given the good food consumption it is believed that the incidence of food shortage is exaggerated.

Figure 22: Food shortage



The strategies households employ to cope with food shortages are also more severe than was expected. Fifteen and 17 percent of households report employing strategies of medium and high severity[16], respectively.

Figure 23: Severity of coping behavior



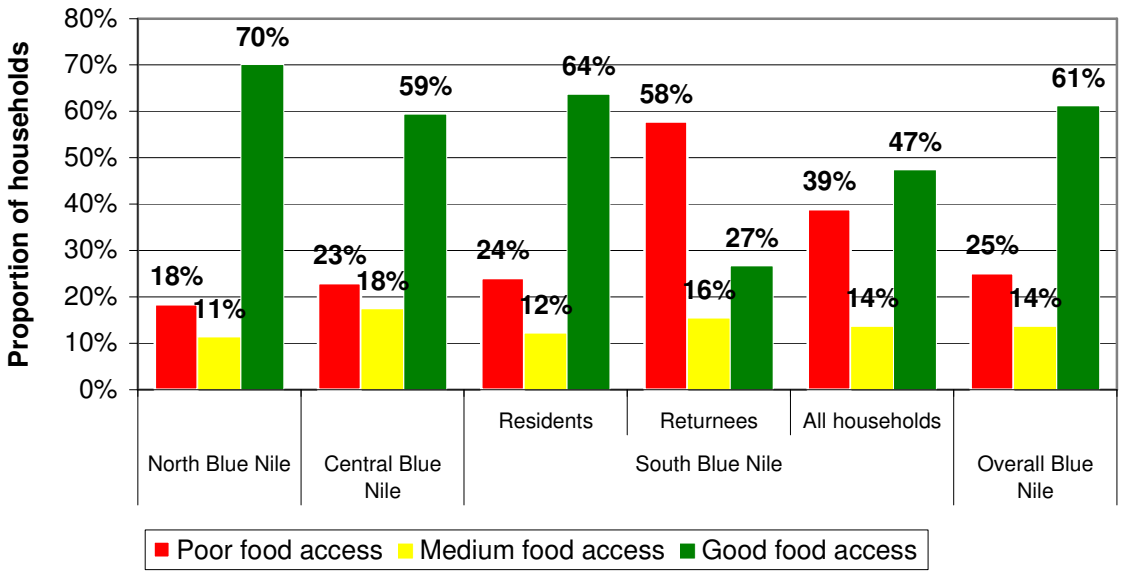
[16] As part of the household level questionnaire, households are asked to describe actions taken to mitigate food shortages. Depending on the severity of employed strategies, households are classified as having no food shortage, or low, medium, or high severity of coping behavior. See methodology annex for technical detail on the calculation of the coping strategies index, on which these classes are based.

4.8 Food access

Food access describes the ability of households to amass the amount of food they require, either through production, market purchase or other means. By combining information about production of cereals and other crops, size of livestock herds and cash income, households are classified as having poor, medium or good[17] access to food.

A large proportion (58 percent) of households in southern Blue Nile have poor access to food, while the corresponding figure for the northern and central part of the state is 18 and 23 percent respectively. For all areas, access to food is worse than food consumption. In addition, food access is a point estimation, describing access to food at the time of the assessment, which was in the post-harvest period. It is therefore probable that food access will deteriorate in the coming months as the lean season is approaching when food stock deplete and prices increase prior to the next harvest.

Figure 24: Food access



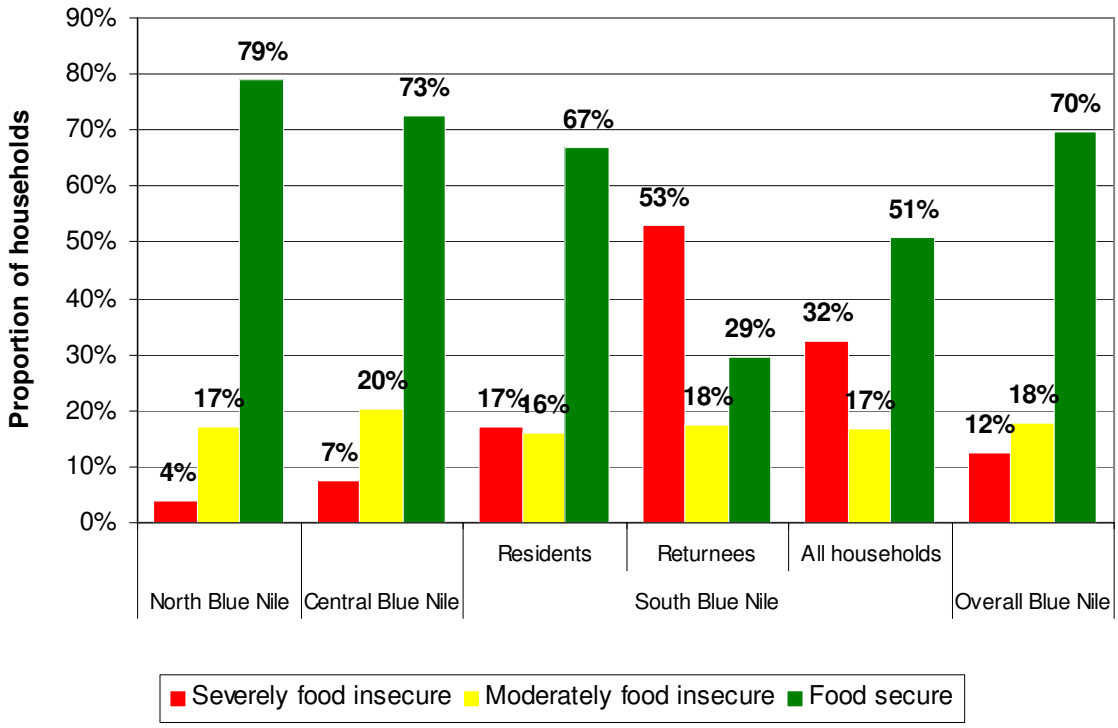
[17] See methodology annex for technical details about the construction of food access.

4.9 Food security

Food access and food consumption combine[18] to create classes of food security, the key vulnerability indicator for the WFP. Twelve percent of the population was classified as being severely food insecure, 18 percent moderately food insecure and 70 percent food secure.

The food insecure food population is unevenly spread across the state. Among the severely food insecure, the group of most immediate concern, 68 percent reside in south Blue Nile, or Kurmuk county. Kurmuk only represents 13 percent of the overall state population, which makes it over-represented among the severely food insecure. Returnees are similarly over-represented, accounting for 53 percent of the severely food insecure, but only 16 percent of the overall population. Households headed by females are also more food insecure than the average households, representing 30 percent of the severely food insecure population, and only 13 percent of the overall population.

Figure 25: Food security prevalence

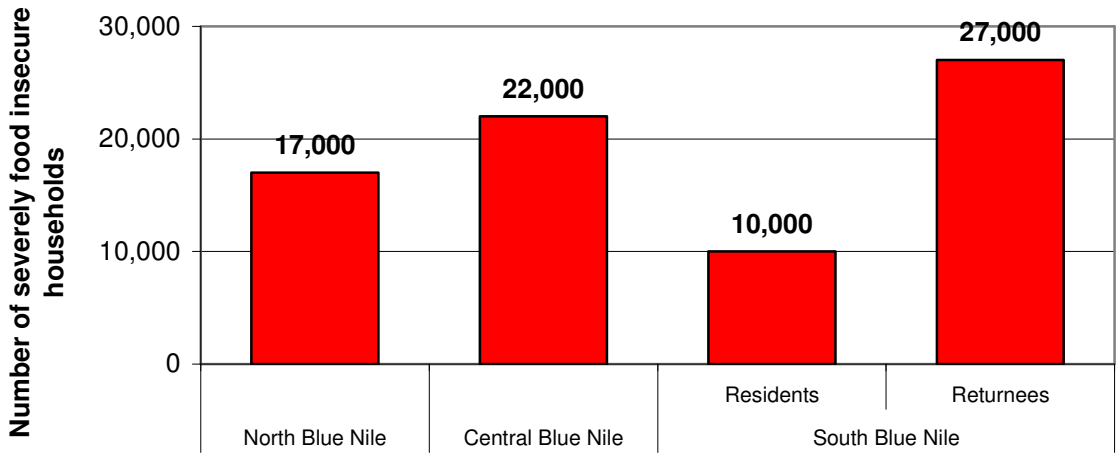


Although the prevalence of food insecure is much greater in Kurmuk county compared to other areas of Blue Nile state, the relatively greater population numbers outside Kurmuk mean that the number of severely food insecure households are

[18] See methodology annex for technical details about food security classifications.

considerable also in northern and central Blue Nile, as well as among residents in southern Blue Nile, as shown in Figure 26.

Figure 26: Geographical distribution of severely food insecure households



4.10 Nutrition

The last state-wide nutrition survey in Blue Nile, in 2006, reported global acute malnutrition (GAM) well below the emergency threshold of 15 percent, but the level of severe acute malnutrition (SAM) was reported at 3.8 percent, suggesting that action to prevent and treat severe cases of malnutrition was critical. While GAM rates from Kurmuk locality also have been consistently below the emergency threshold, the under-five mortality rates reached the alert level (2.84/10,000/day) in 2009, largely as a result of illness. In February 2009, the non-governmental organization GOAL reported a GAM of 10.7 percent and SAM of 1.2 percent in Kurmuk. Following reports of deterioration in the second half of 2008, a series of middle upper arm circumference assessments were conducted by the Ministry of Health (MOH) and the United Nations Children's Fund (UNICEF), indicating that localized pockets of malnutrition persist.

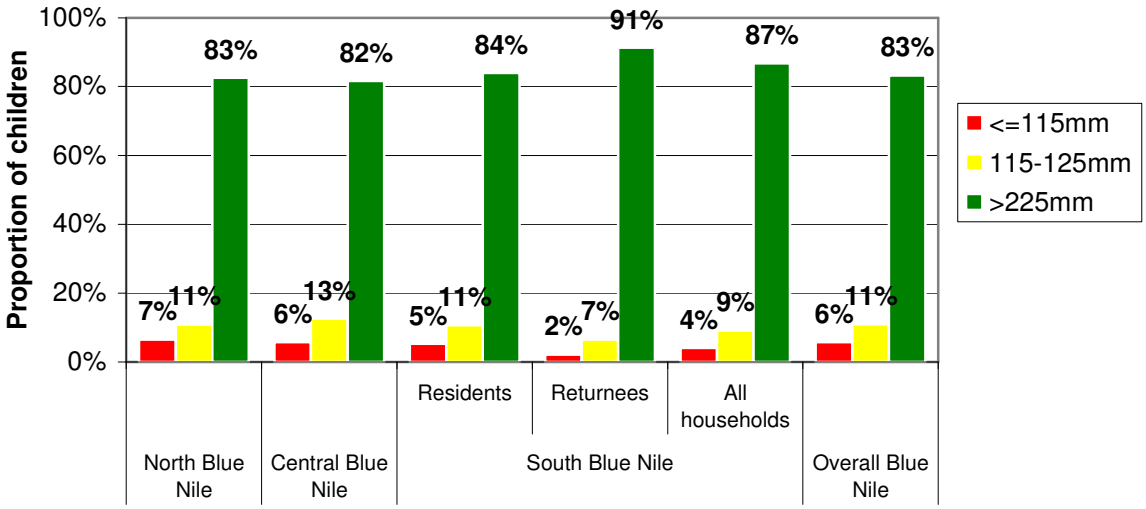
As part of this EFSA, MUAC was measured on 1,284 children between the ages of 12 and 59 months and 1,251 women between the ages of 18 and 45 years. The State Ministry of Health provided the training of the enumerators.

For children, the new international threshold for severe malnutrition of 115mm and 225mm for global malnutrition was used. For women, the MOH's threshold of 225mm was used instead of WHO's.

Results at the state level indicate that 6 percent of children are severely malnourished and 11 percent moderately malnourished. This is slightly higher than what has been reported in the past using weight for height. However, the two measurements are not inter-changeable and does indicate that the situation remain critical among severely malnourished children. No mortality data was collected in this assessment but as previously mentioned, both under five mortality and crude mortality was, in the 2009 GOAL Multiple Indicator Cluster Survey (MICS) in Kurmuk, above the Sphere Emergency threshold.

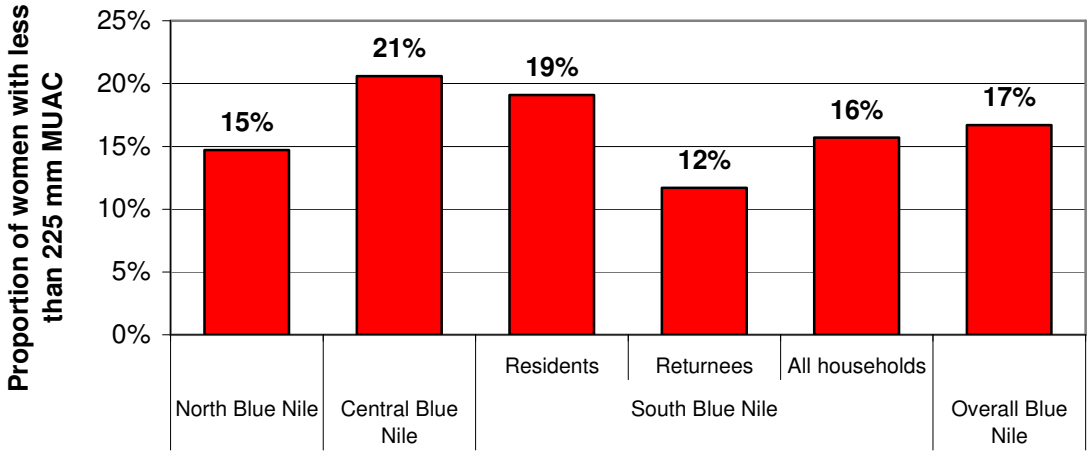
The proportion of malnourished children is slightly greater in north and central Blue Nile compared to southern Blue Nile. Also the most food insecure group, the returnees, has slightly better MUAC results than the other resident groups in the south. It is somewhat unexpected to see relatively higher malnutrition rates in relatively more food secure areas, although far from unusual due to the complex causalities of child malnutrition (particularly water/sanitation, health and caring practices). The 2009 MICS in Kurmuk showed that morbidity rate was 63.4 percent which was higher than in 2008 (52.3 percent); In addition, the sample size does not generate narrow enough confidence intervals to say with statistical certainty if GAM is lower in the south..

Figure 27: Children's middle upper-arm circumference



At the state level, 17 percent of women fall below the MUAC threshold and are thus considered as being malnourished. A similar pattern follows for children, with malnutrition levels being lower for returnees in southern Blue Nile compared to the other residential groups. As with children's MUAC, the sample size is too small to make the differences statistically significant. No international threshold exists to help with interpretation of MUAC findings for women. The threshold used here (Sudan MOH) is however higher than internationally used cut-offs and thus it is believed that these results are not alarming.

Figure 28: Women's upper middle-arm circumference

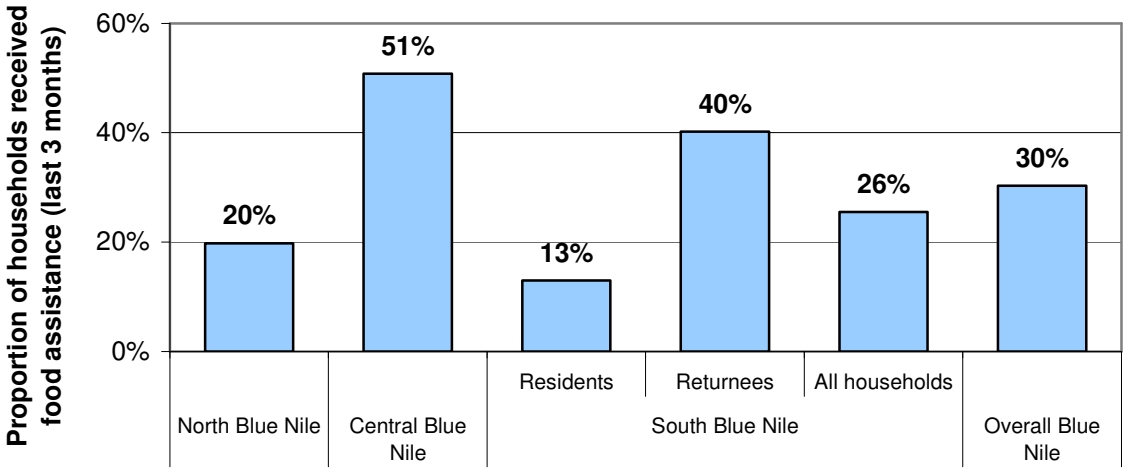


4.11 Food assistance coverage

WFP considers Blue Nile, as part of the three provisional areas, a priority state. Its food assistance operations are large and mainly channeled through school feeding. Adventist Development and Relief Agency (ADRA), an American non-governmental organization, also provides food assistance mainly in the form of school feeding.

Thirty percent of households in Blue Nile state had received food assistance in the three months preceding the assessment. The proportion is higher in central Blue Nile and among returnees than other areas and groups. The higher food assistance coverage in central Blue Nile is explained by a better network of schools in this area and by operational constraints in southern Blue Nile.

Figure 29: Food assistance coverage

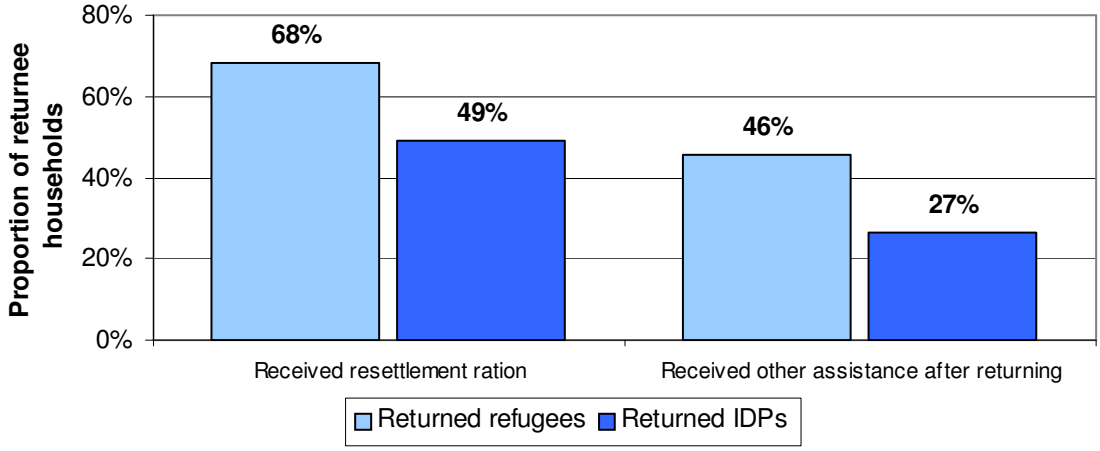


It is WFP policy to provide every returnee household with a three month food ration[19]. Most returned refugees received the resettlement ration that they were entitled too, but the coverage of returned IDPs was somewhat lower, reaching about half.

Although the United Nations assist households in returning, it is common for households to return on their own. These spontaneous returns are more difficult to track than organized returns, making them more difficult to assist with food assistance. The high rate of spontaneous returns in Blue Nile, particularly among the retuning IDPs, is one reason for the imperfect coverage.

Because the bulk of returnees returned several years ago, as was shown in Figure 5, their present food security situation will be only marginally affected by whether they received their returnee food assistance package.

Figure 30: Coverage of assistance to returnees



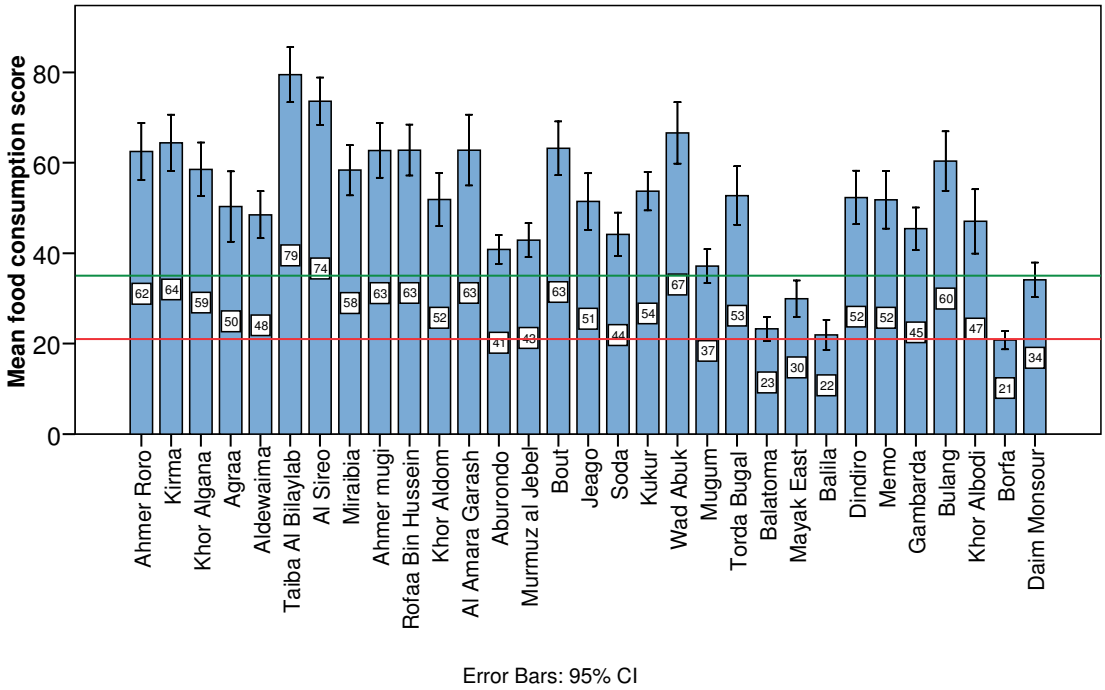
[19] The returnee resettlement package is 90 daily rations for each member of the household. The daily ration is 540 grams of food stuff, mainly sorghum, per person. For a typical family the resettlement package is a one-time distribution of 243 kg of food items.

4.12 Profiling of locations

Exploring assessment results at location level confirms the overall pattern of vulnerability described previously in the report. However, some variation within the groups of locations profiled above (north, central and south) becomes apparent.

Food consumption in Borfa, Balila and Balatoma is alarmingly poor. Immediate food assistance intervention is needed to avert a potentially catastrophic deterioration as the season changes from post-harvest to lean season.

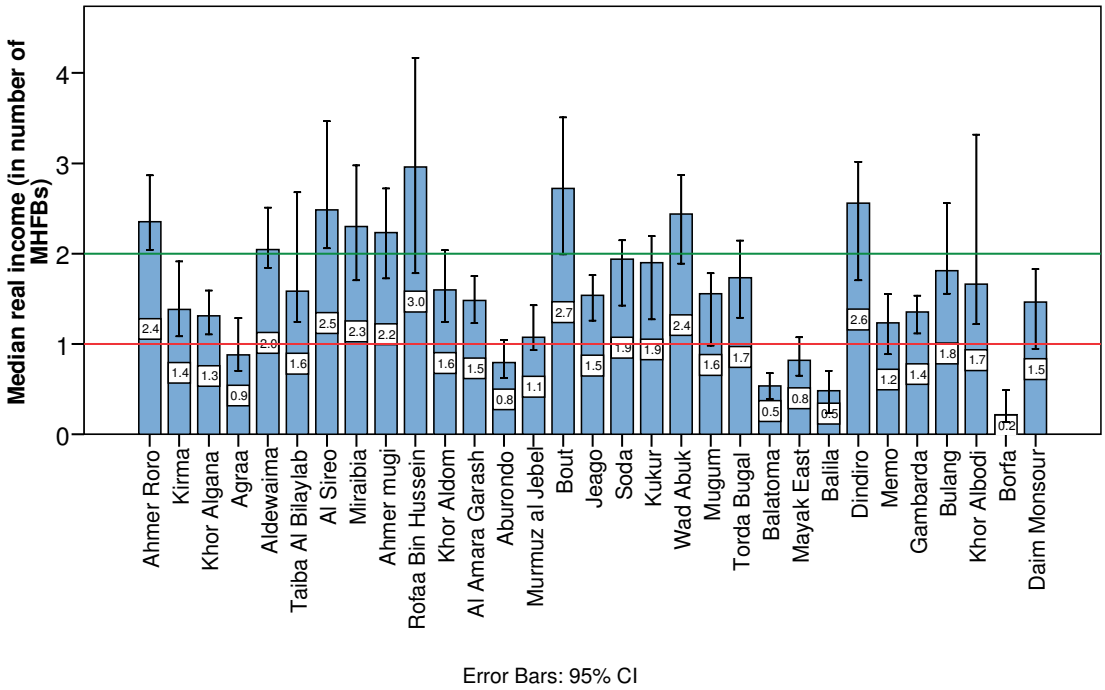
Figure 31: Food consumption score, by location[20]



[20] The red line, at 21 points, is the threshold between poor and borderline food consumption. The green line, at 35, is the threshold between borderline and acceptable food consumption.

Borfa, Balila and Balatoma are clearly the locations with the lowest median real income. In the relatively better-off center and north regions real income is low in Aburondo, Agraa, and Murmuz al Jebel. As the post-harvest period transits into lean season, the income generation situation in these locations could become problematic. However, the seasonality of income generating opportunities is complex[21] and it is difficult to predict how flows of income will change in the coming months.

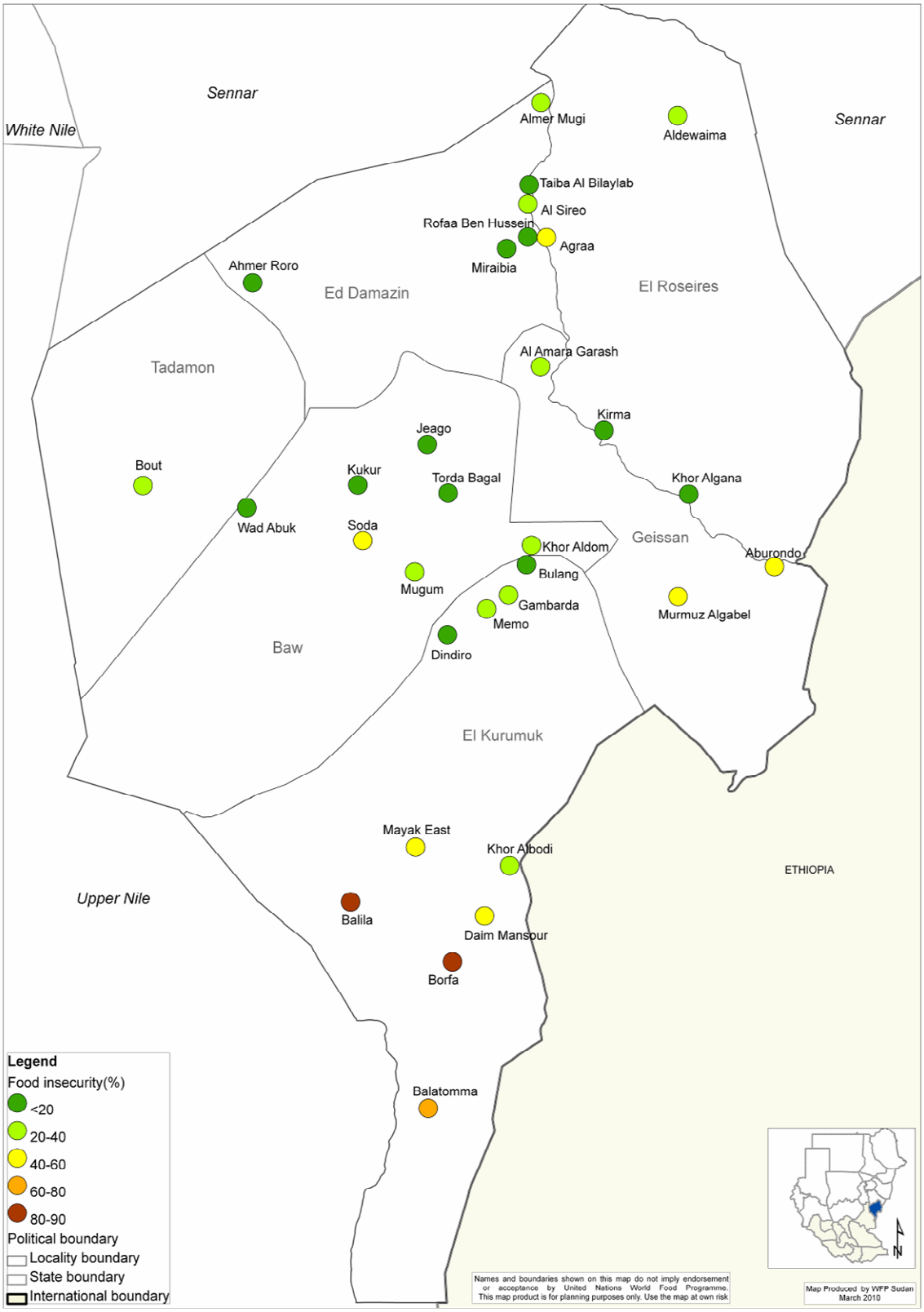
Figure 32: Real income, by location



[21] See seasonal calendar in the annex.

As shown in Figure 33, food security displays very similar geographic patterns as food consumption and income.

Figure 33: Food security map



5 Conclusion

The poor rainy season in large parts of Blue Nile state has impacted food security. This assessment focused on the impact on crop production and livestock – the two most important livelihood activities in the state – but it is likely that the overall economy also is impacted, given the large role of agriculture and livestock rearing in the state.

Crop producers have, so far, been worse hit than livestock rearers. The average farmer was only able to harvest half of the number of bags in this season (2009/2010) compared to the last season (2008/2009). Thirty-one percent of the sorghum cultivating households in Blue Nile state were not able to harvest anything at all. For those able to harvest, the average number of bags was five, which last five to seven months for an average-sized household.

Livestock herds have shrunk by 20 percent since November. Animal deaths appear to be normal to moderately above-normal, and the level of livestock sales is not alarming. Deteriorations in pasture and water availability is already seen in parts of Blue Nile and is expected to worsen and expand in the coming months.

Returnees in southern Blue Nile, predominately residing in the southern half of Kurmuk county, is dramatically less food secure than other population groups and areas. Some locations visited by the assessment team, particularly Borfa, Balila and Balatoma, are extremely worrying. Other locations in the area, not included in the sample, are likely to have similar food security conditions.

Food security levels are generally tolerable in north and central Blue Nile, although there may be pockets of food insecurity missed by the assessment teams. As the season progresses from post-harvest to the typical lean season, some locations may begin to experience food insecurity, therefore monitoring of the situation should continue.

Even though the impact of the poor rains is larger on households in northern and central Blue Nile, focus should remain on southern Blue Nile. In southern Blue Nile the recent return of the population, lack of cleared and prepared land, loss of farming knowledge during time of displacement, unavailability of agricultural inputs, inaccessibility, lack of agricultural services and general poverty makes the situation much more severe.

6 Recommendations

Immediate emergency food distributions is recommended for Borfa, Balila and Balatoma and other locations around and south of Kurmuk town experiencing similarly severe food security conditions. Given a normal rainy season and appropriate agricultural support in 2010, these areas should be able to harvest early crops, maize and early maturating sorghum, in August, by which time food assistance could be suspended.

Other areas in southern Blue Nile should be seriously considered for food assistance interventions in the coming months. As the season progresses from post-harvest to lean season, it will be particularly important to assist farmers to enable and encourage them to cultivate their own land, instead of seeking income by other work. The preferred food assistance modality for this intervention is food-for-work, with cultivating practices monitored by WFP or implementing partners. The timing of the intervention will depend on when planting conditions appear, which in turn depends on the progression of the rainy season, but is expected to be April to May for land clearing and June for planting.

Low income areas and/or production areas, such as Gambarda, Mayak East, Mugum, Soda, Murmuz al Jebel, Aburondo, Agraa, and similar locations, should be monitored until the lean season has passed. These areas may also be particularly suitable for safety net interventions, such as school feeding.

Livelihood support is required in large areas of Blue Nile state. Seed availability is poor, especially for improved seeds like the early maturating sorghum which is important to enable cultivating households to shorten the lean season by providing a small early harvest in August or September, instead of having to wait until the main harvest in November to December. Improved storage facilities are also greatly needed since post harvest losses are huge and an important factor in the overall food supply at household level. Seed shortage was an important limiting factor in the 2009/2010 agricultural season. Agricultural extension services to help farmers deal effectively with pests, and to adopt more productive agricultural techniques, is also required.

Annex 1: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Traditional sorghum, Southern Kurmuk	Harvest					Planting					Harvest	
Traditional sorghum, Rest of Blue Nile	Harvest						Planting				Harvest	
Early maturating sorghum (Rest of Blue Nile only)								Planting		Harvest		
Sesame						Planting				Harvest		
Groundnuts (Rest of Blue Nile only)						Planting				Harvest		
Maize, south						Planting		Harvest				
Maize, north							Planting		Harvest			
Cowpea, south						Planting				Harvest		
Cowpea, north							Planting			Harvest		
Okra, cultivated							Planting			Harvest		
Okra, wild										Collection		
Pumkin, cucumber, water melon							Planting			Harvest		
Tomato	Harvest						Seedling			Planting		Harvest
Fishing	Fishing									Fishing		
Casual work in agricultural schemes						Work						
Migrational non-agricultural work	Work											
Gum arabic collection	Collection										Preparation	
Grass cutting	Work											
Wild foods	Available										Available	
Gold mining	Poor availability					Good availability					Poor availability	
Charcoal	Work											
Wood cutting	Work											
Mat making	Work											
Lean season							Peak					
Rainy season, north					Rains							
Rainy season, south				Rains								
Flooding						Flooding						

Annex 2: Food access and food security classifications

Food access classification

				Duration of household food production	
				0-1 month	>1 month
Income	<1 basket	Share of expenditure spent on food	<50%		
			50-65%		
			>65%		
	1-2 baskets		<50%		
			50-65%		
			>65%		
	>2 baskets		<50%		
			50-65%		
			>65%		

Legend
Poor food access
Medium food access
Good food access

Food security classification

		Food consumption score		
		Poor	Borderline	Acceptable
Food access	Poor			
	Borderline			
	Good			

Legend
Severely food insecure
Moderately food insecure
Food secure

Annex 3: Minimum healthy food basket

Item	Gram per person per day	Price	Unit	Price per day per person
Sorghum	400	4	3	0.53
Vegetable oil	20	9	1	0.18
Sugar	30	3	1	0.09
Beans	70	5	1	0.35
Sesame seeds	15	200	90	0.03
Goat meat	5	110	12.5	0.04
Sum				**1.23**

Annex 4: Household questionnaire

SECTION 1 - GENERAL INFORMATION (fill in prior to the interview) القسم 1 – معلومات عامة		
Dateالتاريخ	|__|__| (Day), February 2010	Questionnaire number رقم الاستبيان |___|___|___|___|___|
اسم العداد Interviewer name		
رمز العداد Interviewer code	|___|___|	
اسم قائد الفريق Team leader name		
Localityالمحلية		
الوحدة الادارية Admin unit		
اسم الموقع Location name		
رمز الموقع Location code	|___|___|___|	
رقم الأسرة Household number	|___|___|	

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 household 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).
Please ask the household for their consent before proceeding.

نعني بالاسرة كل الأ فراد الذين ياكلون من حلة واحدة ويعيشون في نفس الحوش وقد يعيشون في أكثر من غرفة واحدة
رب الاسرة هو أحد أفراد الاسرة المسؤول عنها في ادارة الموارد واتخاذ القرارات(هو/هي المسؤول النهائي في اتخاذ معظم القرارات المتعلقة بادارة الموارد والدخل وما يجب ان تفعله الاسرة)

SECTION 2 – DEMOGRAPHICS القسم 2 – الديمغرافيا			
2.1	What is the sex of the household head? ما جنس رب الأسرة؟	1=Male, 2= Female |___|انتي= 2 ذكر، =1	
2.2	What is the age of the household head? ما عمر رب الأسرة؟	|___|___| years سنة	
2.3	How many people currently live in your household? كم عدد الأشخاص الذين يعيشون حاليا في أسرتك؟	|___|___| persons	
2.4	What is the marital status of the household head? ما هي الحالة الاجتماعية لرب الأسرة؟ ضع علامة صاح امام خيار واحد فقط	1= Married Monogamous, متزوج بواحدة 2= Married Polygamous, متعدد الزوجات 3=Divorced مطلق 4=Living apart not divorced منفصل وليس مطلق 5=Widow or widower أرملة أو أرمل 6=Never married غير متزوج	|___|
2.5	What is the residence status of the household? ما هو وضع اقامة الأسرة؟ ضع علامة صاح امام خيار واحد فقط	1= Resident مقيمة 2= Refugee returnee لاجئين عائدين 3= IDP returnee نازحين. عائدون 4= Nomad رحل	|___|

Skip to section 3 if the household is not a returnee انتقل الى القسم 3 اذا كان رب الأسرة .من غير العائدين

2.6	How many years were you displaced? كم عدد السنوات التي أمضيتها كنازح؟	|___|___|
2.7	What year did you return? في أي سنسة عدت؟	|___|___|___|___|
2.8	Did you receive a resettlement ration when you first returned? هل تلقيت حصة اعادة توطين عند عودتك؟	|___|___|
2.9	Did you receive any other assistance in the years after returning? 0=No, 1=Yes هل تلقيت أي مساعدة أخرى بعد العودة؟ 0= لا، 1 = نعم	|___|

SECTION 3 – LIVESTOCK AND AGRICULTURE القسم 3 – المواشي والزراعة				
Ask questions **column by column** اطرح الاسئلة كل عمود لوحده		A) Cattle	B) Sheep, goats and pigs	C) Poultry
3.1	**How many of these animals** do you **CURRENTLY** own? كم من الحيوانات التالية تملك حاليا ؟	|___|___|	|___|___|	|___|___|
3.2	**How many of these animals** did you own 3 months ago? كم من الحيوانات التالية كنت تملك قبل ثلاثة شهور؟	|___|___|	|___|___|	|___|___|
3.3	Have you **sold any animals** during the **past 3 months**? **0**= No / **1**= Yes هل بعت أي ماشية خلال الثلاثة شهور الماضية؟ 0 = لا / 1= نعم	|___|	|___|	|___|
3.4	If yes, have you sold **reproductive females**? **0**= No / **1**= Yes اذا كانت الاجابة نعم، هل بعت الاناث المنتجة؟ 0=لا/ 1= نعم	|___|	|___|	|___|

3.5	What was the **main reason for selling animals** (reproductive or not)? ماهو السبب الرئيسي لبيع المواشي (منتجة وغيرها) **1=** Need for money الحاجة الى المال **2**= Old age/sickness كبر السن/المرض **3**= Infertility عدم الخصوبة **4**= Lack of water عدم توفر المياه **5**= Lack of fodder/animal feed/pasture عدم توفر العلف/المرعى **6**= Other reason *specify* (اذكره) سبب آخر _____	|___|	|___|	|___|
3.6	Did you **sell more animals than usual** at this time of the year? هل بعت عدد من المواشي أكثر من المعتاد في هذا الوقت من العام؟ **0**= No / **1**= Yes =1 /لا=0 نعم	|___|	|___|	|___|
3.7	How many animals have died in the last 3 months compared to normal? هل نفقت بعض المواشي خلال الثلاثة شهور الماضية؟ **1**=Fewer, 2=Same as normal, 3=More 1- قليل 2-نفس الشيء كالعادة 3- أكثر	|___|	|___|	|___|
3.8	What was the **main cause of death**? ما هو السبب الرئيسي للنفوق؟ **1**= Old age/sickness/miscarriage كبر السن/المرض/الاجهاض **2**= Injury الاصابة 3= Lack of water عدم توفر المياه 4= Lack of fodder/animal feed عدم توفر العلف **5**= Theft السرقة **6**= Other reason *specify* (اذكره) سبب آخر _____	|___|	|___|	|___|

	What are your **main difficulties with animal raising**? ما هي الصعوبات الرئيسيى في تربية المواشي؟	**0**= No **1**= Yes
3.9	Lack of money to buy animals عدم توفر المال لشراء المواشي	|___|
3.10	Lack of water عدم توفر المياه	|___|
3.11	Lack of pasture/ Animal feed expensive عدم توفر المرعى/ غلاء علف المواشي	|___|
3.12	Lack of shelter for animals عدم توفر مأوى للمواشي	|___|
3.13	.Animal diseases / Lack of veterinary services أمراض المواشي/ عدم توفر الخدمات البيطرية	|___|
3.14	Lack of manpower to look after animals عدم توفر القوى العاملة لرعاية المواشي	|___|
3.15	Lack of market to sell animals/products عدم وجود أسواق لبيع المواشي/ المنتجات	|___|
3.16	Thefts / Lootings السرقة/النهب	|___|
3.17	Money received from selling animals are low النقود المستلة من بيع الحيوانات قليله	|___|
3.18	Other constraint (specify) _____ عوائق أخرى (اذكرها)	|___|

			Attempted cultivation	Area cultivated, in feddan	Production, in number of 90 kg bags	How many months will your current stock last for your family? كم شهرا تستطيع العائلة الاكتفاء من المحصول
3.19	Maize ذرة تيماش	This season	|___|	|___|___|	|___|___|___|.|___|	|___|___| months
		Last season	|___|	|___|___|	|___|___|___|.|___|	
3.20	Sorghum ذرة	This season	|___|	|___|___|	|___|___|___|.|___|	|___|___| months
		Last season	|___|	|___|___|	|___|___|___|.|___|	
3.21	Groundnuts لوف ينادوس	This season	|___|	|___|___|	|___|___|___|.|___|	
		Last season	|___|	|___|___|	|___|___|___|.|___|	
3.22	Sesame مسمس	This season	|___|	|___|___|	|___|___|___|.|___|	
		Last season	|___|	|___|___|	|___|___|___|.|___|	
3.23	Cowpeas ايبول	This season	|___|	|___|___|	|___|___|___|.|___|	
		Last season	|___|	|___|___|	|___|___|___|.|___|	

SECTION 4 – INCOME SOURCES		القسم 4 – مصادر الدخل					
What are your household's main income activities in the LAST 30 DAYS? ما هي أنشطة الدخل الرئيسية لأسرتك في الثلاثين يوما الماضية؟		A) Activity type (use codes) أ – نوع النشاط (استخدم رموز)	B) Relative contribution to total income of each activity ب – المساهمة النسبية لكل نشاط في اجمالي الدخل	C) Unit of sale (bag, hours etc.) ج – وحدة البيع (جوال، ساعات)	D) Per unit income (SDG) د – دخل الوحدة بالجنيه	E) Number of units sold ج- عدد الوحدات المباعة	F) Share of income spent on food هـ - حصة الدخل التي صرفت على الغذاء
4.1	**Main** الرئيسي	|__|__|	|__|__|__| %		|__|__|__|	|__|__|__|	|__|__|__| %
4.2	**Second** الثاني	|__|__|	|__|__| %		|__|__|__|	|__|__|__|	|__|__|__| %
4.3	**Third** الثالث	|__|__|	|__|__| %		|__|__|__|	|__|__|__|	|__|__|__| %
4.4	**Fourth** الرابع	|__|__|	|__|__| %		|__|__|__|	|__|__|__|	|__|__|__| %
100%							

4.5	**What was your major income generating activity 3 months ago? (Use the codes below)** ماهو نشاطك الأساسي المدر للدخل قبل ثلاثة أشهر؟ (استخد الرموز أدناه)	|___|___|

Income activity codes رموز نشاط الدخل

01 = sale of cereals
بيع حبوب
02 = sale of livestock
بيع مواشي
03 = wage labor (agriculture)
عمل بأجر (زراعة)
04 = skilled labour
عمالة ماهرة
05 = salaried work
عمل بمرتب
06 = sale of other agricultural products
بيع منتجات زراعية أخرى
07 = sale of animal products
بيع منتجات حيوانية
08 = casual labour (non-agricultural)
عمالة مؤقتة (زراعة)
09 = firewood/charcoal sales
بيع حطب الوقود/الفحم
10 = petty trade/small business
تجارة هامشية/مشروع تجاري صغير
11 = kinship
الأقرباء
12 = borrowing
استلاف
13 = remittances
الحوالات
14 = gold mining
تعدين الذهب
15 = fishing
صيد الأسماك
16 = grass sales
بيع العشب
17= brewing
بيع الخمور
18= handicraft (mats, brush, rope)
أعمال يدوية (سجادات، بروش، حبال)
19 = begging
التسول
20 = food aid sales
بيع الاغاثة الغذائية
21 = Others,_____ أخرى _

Is the main source of income **temporary/casual, seasonal or stable?** **1**= Temporary/casual **2**= Seasonal **3**= Stable هل مصدر الدخل الرئيسي مؤقت، موسمي أم ثابت؟ 1= مؤقت 2= موسمي 3= ثابت	Currently حاليا		3 months ago قبل 3 شهور	
	4.6	|__|	4.7	|__|

4.8	Do you have members of the household who are not working but **currently actively looking for work**? هل لديك أفراد أسرة لايعملون ولكنهم حاليا يبحثون بنشاط عن العمل؟ **0**= No / **1**= Yes 0 = لا/ 1= نعم	|__|
4.9	Has your **income changed in the past 3 months**? **1**= No change / **2**= Decreased / **3**= Increased هل تغير دخلك في الثلاثة شهور الماضية؟ 1= لا تغيير / 2= نقص / 3= زاد	|__|
4.10	**By how much** has it changed (either decreased or increased)? *Estimate the proportion (in %) – Use proportional piling if needed* كم تبلغ نسبة التغيير (اما بالنقصان أو بالزيادة)؟ قدر النسبة (بالنسبة المئوية) استخدم التكويم النسبي اذا كانت هناك حاجة.	|__|

SECTION 5 – EXPENDITURES		القسم 5 – المصروفات	
In the Past 30 days how much money have you spent to acquire each of the following FOOD for your family consumption? في الثلاثين يوما الماضية ما هو المبلغ الذي صرفته للحصول على كل واحد من الأطعمة التالية لاستهلاك أسرتك؟			
If not bought: write 0 اذا لم تشتر: أكتب 0		In NEW POUNDS spent last 30 days (round up decimal number) المبلغ الذي صرف في الثلاثين يوما الماضية بالجنية الجديد (قرب الكسور العشرية الى اعداد صحيحة)	
5.1	Cereals (sorghum, millet, maize, wheat)	الحبوب (ذرة، دخن، ذرة شامية، قمح)	|__|__|__|__|__|
5.2	Cooking oil	زيت طعام	|__|__|__|__|
5.3	Meat/eggs/fish	لحم/بيض/سمك	|__|__|__|__|
5.4	Groundnuts/beans/pulses	فول سوداني/لوبيا/بقوليات	|__|__|__|__|
5.5	Sugar	سكر	|__|__|__|__|
5.6	Milk/yoghurt/cheese	حليب/زبادي/جبنة	|__|__|__|__|
5.7	Dry okra, dry tomatoes, dry onions	ويكة، صلصة ناشفة، بصل ناشف	|__|__|__|__|

5.8	Cooked/processed food eaten at home or outside by the familyطعام مطبوخ/مصنوع أكل في البيت أو خارجه بواسطة الأسرة	|__|__|__|__|
5.9	Drinking water مياه الشرب	|__|__|__|__|
5.10	Other food items (fresh vegetables, fruits, coffee, tea, pasta etc.) مواد غذائية أخرى (خضروات طازجة، فواكه، بن، شاي، مكرونة الخ)	|__|__|__|__|

	In the past 30 days, how much money have you spent to acquire each of the following items or services? Write 0 if no expenditureكم أنفقت من المال في الثلاثين يوما الماضية للحصول على كل واحدة من المواد أو الخدمات التالي ة؟ أكتب 0 اذا لم تكن هناك نفقات.	
5.11	Agricultural tools, seeds معدات زراعية، بذور	|__|__|__|__|
5.12	Hiring labour استئجار العمالة	|__|__|__|__|
5.13	Medical expenses, health care مصروفات علاجية، رعاية صحية	|__|__|__|__|
5.14	Education, (school fees/uniforms) التعليم، (رسوم/زي مدرسي)	|__|__|__|__|
5.15	Clothing, shoes ملابس، أحذية	|__|__|__|__|
5.16	Veterinary expenses مصروفات بيطرية	|__|__|__|__|
5.17	Animal feed / fodder علف المواشي	|__|__|__|__|
5.18	Firewood/Fuel for cooking حطب الوقود/وقود للطبيخ	|__|__|__|__|
5.19	Celebrations, social events, funerals, weddings احتفالات، مناسبات اجتماعية، تعازي، أعراص	|__|__|__|__|
5.20	Fines / Taxes غرامات /ضرائب	|__|__|__|__|
5.21	Debts ديون	|__|__|__|__|
5.22	Construction, house repair بناء، اصلاح المنزل	|__|__|__|__|
5.23	Milling طحن	|__|__|__|__|
5.24	Transportation/communication مواصلات/ اتصالات	|__|__|__|__|
5.25	House rent ايجار المنزل	|__|__|__|__|
5.26	Other non-food expenditures نفقاتت أخرى غير غذائية	|__|__|__|__|

5.27	**Bartering** – ask the household if **any bartering** took place in the last **30 days,** If yes, try to estimate together the monetary value of these items in pounds المقايضة – اسأل الأسرة عن ما اذا تمت أي مقايضة في الثلاثية يوما الماضية.. اذا كانت الاجابة نعم حاول معهم تقدير القيمة النقدية لتلك المواد بالجنية	**جنيه** SDG|___|___|___|___|

5.28	Have your current expenditures changed compared **to this time last year**? **1**= No change **2**= Decreased **3**= Increased هل تغيرت منصرفاتك الحالية مقارنة بنفس الفترة في العام الماضي؟ 1= لا تغيير 2= نقصت 3= زادت	|__|

If yes, how has your expenditures have changed? ماهي المنصرفات التي تغيرت؟ **1**= No change 1= لم تتغير **2**= Decreased 2= نقصت **3**= Increased 3= زادت	5.29	Food الغذاء	|__|
	5.30	Energy (cooking, heating, lighting) الطاقة (الطبخ، التدفئة، الاضاءة)	|__|
	5.31	Housing السكن	|__|
	5.32	Health الصحة	|__|
	5.33	Education التعليم	|__|
	5.34	Transportation المواصلات	|__|

5.35	Do you have any **debt or credit to repay** at the moment? **0**= No, **1**= Yes هل عليك أي ديون أو ائتمان يتعين عليك سداده حاليا؟	|___| ***→ If No, go to section 5*** اذا كانت الاجابة لا، انتقل الى القسم 5
5.36	Have you contracted **new debts or credit in the past 6 months**? **0**= No, **1**= Yes هل حصل على ديون أو ائتمانات جديدة في الستة شهور الماضية؟	|___| ***→ If No, go section 5*** اذا كانت الاجابة لا، انتقل الى القسم 5.

5.37	What was the **main reason for new debts or credit**? ماهو السبب الأساسي للديون أو الائتمانات الجديدة؟ **1**= To buy food **2**= To cover health expenses **3**= To pay school, education costs **4**= To buy agricultural inputs (seed, tools...) **5**= To buy animal feed, fodder, veterinary **6**= To buy animals **7**= To buy or rent land **8**= To buy or rent a flat/house **9**= To buy clothes, shoes **9**= To pay for ceremonies **10** = to pay ticket/cover travel for migration **11**= Other reason (specify)_____ 1= لشراء الغذاء 2= لتغطية المنصرفات الصحية 3= لدفع تكاليف المدرسة والتعليم 4= لشراء المدخلات الزراعية (بذور ومعدات) 5= لشراء علف المواشي والخدمات البيطرية 6= لشراء المواشي 7= لشراء أو استئجار أرض 8= لشراء أو استئجار شقة/بيت 9= لشراء ملابس، أحذية 10= للدفع في المناسبات 11= لشراء تذكرة/تغطية نفقة السفر للهجرة 12- أسباب أخرى (حدد)	|__|
5.38	Who is the **main source of credit**? من هو المصدر الرئيسي للسلفية **1**= Relatives (excluding 'free' remittances from migrants abroad) 1= الأقرباء (باستثناء الحوالات المجانية من المغتربين بالخارج) **2**= Traders/shop-keeper 2= التجار – اصحاب الدكاكين **3**= Bank/ Credit institution/Micro-credit project 3= البنوك/مؤسسات التسليف/مشروع التمويل الصغير **4**= Money lender 4= أحد المقرضين **5**= Landlord (more than 1 month behind in rent) 5= مالك البيت (متأخر ايجار لما يزيد عن شهر) **6**= Other (*specify*) _____ 6= مصدر آخر (حدد)	|__|
5.39	**In how many months** do you think you will be able **to repay** your debts or credit? في كم شهر تعتقد أنك ستتمكن من سداد ديونك أو سلفيتك؟	|__| شهور months

SECTION 6 - FOOD SOURCES AND CONSUMPTION القسم 6 – مصادر واستهلاك الغذاء				
	Adults الكبار		**Children 1-5 years** أطفال من سن 1-5 سنوات	
Yesterday, how many meals were eaten by: كم وجبة تم تناولها أمس بواسطة:	6.1	|__|	6.2	|__|
How does this compare to usual? **1**= Less / **2**= Same / **3**= More كيف يتشابه ذلك مع الوضع الاعتيادي؟ 1= أقل 2= مشابه 3= اكثر	6.3	|__|	6.4	|__|

How many days in the <u>past WEEK</u> has your household eaten the following food items, and what was the main source of each food item consumed

كم يوما في الاسبوع الماضي تناولت أسرتك المواد الغذائية التالية، وما هو المصدر الرئيسي لكل مادة غذائية تم استهلاكها؟

	Food item *المادة الغذائية*	b) **Main food source** (Where do you get it from?) Insert code from below *ب- مصدر الغذاء الرئيسي (من أين حصلت عليه؟) ادخل رمز من الرموز أدناه*	a) **Number of days** when the food was eaten last week (0 to 7) *أ- عدد الأيام التي تم فيها تناول الطعام في الاسبوع الماضي (0 الى 7)*
6.5	Sorghum ذرة	|___|	|___|
6.6	Millet دخن	|___|	|___|
6.7	Other cereals Wheat/ bread, Maize حبوب أخرى، قمح/ رغيف/ ذرة شامية	|___|	|___|
6.8	Groundnuts, pulses (beans, lentils) فول سوداني، بقوليات (لوبيا، عدس)	|___|	|___|
6.9	Meat/chicken, bush meat, etc. لحم/دجاج، لحم صيد، الخ.	|___|	|___|
6.10	Dry meat ("sharmout") لحم ناشف (شرموط)	|___|	|___|
6.11	Cooking oil/fats زيت طعام/دهون	|___|	|___|
6.12	Fruits (including common wild types) *فواكه (بما فيها الأنواع البرية)*	|___|	|___|
6.13	Milk (including powder milk), yoghurt, cheese, etc حليب (بما فيه حليب بودرة)، زبادي، جبنة، الخ	|___|	|___|
6.14	Sugar سكر	|___|	|___|
6.15	Eggs *بيض*	|___|	|___|
6.16	Fresh Vegetables (including green leafy vegetables, tomatoes, onions etc) *خضروات طازجة (بما فيها الخضروات الورقية، الطماطم، البصل، الخ)*	|___|	|___|
6.17	Dry vegetables (okra, tomatoes, etc) خضروات ناشفة (ويكة، طماطم، الخ)	|___|	|___|

Food Source codes رموز مصادر الغذاء		
1 = Own production (crops, animals) 1= انتاج خاص (محاصيل، مواشي)	4 = Exchange labor/items for food 4= مقايضة العمل/المواد مقابل الغذاء	7= Food aid (NGOs, WFP 7= اغاثة غذائية (منظمات، برنامج الاغذية العالمى
2 = Market purchases 2= شراء من الأسواق	5 = Borrowed 5= دين	8= Other (specify)_ -------- 8= أخرى (حدد)
3= Hunting, fishing, gathering 3= صيد بري، صيد أسماك، جمع	6 = Gift (food) from family/relatives 6= منحة (غذاء) من الاسرة/الاقرباء	

How much of the cereal consumed in the household come from each of the food sources below? ما مقدار الحبوب التي استهلكت في الأسرة جاءت من كل مصدر من المصادر الغذائية التالية؟		
6.18	Own production انتاج شخصي	|__|__|__| %
6.19	Market الأسواق	|__|__|__| %
6.20	Other أخرى	|__|__|__| %
		100%

SECTION 7 – COPING STRATEGIES		
In the past 30 days were there times when you did not have enough food or money to buy food? هل كانت هناك أوقاتا في الثلاثين يوما الماضية لم يكن لديك فيها طعاما كافيا أو مالا لشراء الطعام؟	1= Yes 1= نعم	0= No (Go to Section 7) **0= لا (انتقل الى القسم 7)**

If yes, how often has your household had to: اذا كانت الاجابة نعم، كم مرة تعين على اسرتك القيام ب:	Number of days in the past 30 days: 0-30 عدد الأيام في الثلاثين يوما الماضية: 0-30
1. Rely on less preferred and less expensive foods? الاعتماد على طعام أقل افضلية وأقل تكلفة؟	|__|__|
2. Borrow food or rely on help from friends or relatives استلاف الغذاء أو الاعتماد على المساعدة من الاصدقاء أو الاقارب	|__|__|
3. Limit portion size at mealtimes? تقليص حجم الوجبة	|__|__|
4. Restrict consumption for adults in order for small children to eat? تقييد استهلاك الكبار حتى يتمكن الصغار من الأكل.	|__|__|
5. Reduce number of meals eaten in a day? تخفيض عدد الوجبات في اليوم	|__|__|

SECTION 8 - FOOD AID	القسم 8 - العون الغذائي
8.1 Did you (your Household) receive food aid in the past three months? (Tick only one option) هل تلقيت (أسرتك) اغاثة غذائية في الثلاثة شهور الماضية؟	Yes |__| نعم No |__| لا (**go to section 8** انتقل الى القسم 8

A) Under which programme did/does the HH receive food? If no food aid received, go to Section 8. **0=No, 1=Yes** من خلال أي برنامج حصل/يحصل رب الأسرة على الغذاء؟ (ضع علاة اختار الاجابة المناسبة . اذا لم يتم تلقي اغاثة غذائية، انتقل الى اقسم 8)			B) When did you receive the last ration? متى تلقيت آخر حصة غذائية؟
8.2.1	GFD التوزيع العام للغذاء	|__|	|__|__|__| days ago أيام مضت
8.2.2	FFR/FFW/FFT لغذاء مقابل العمل/الغذاء مقابل التدريب	|__|	|__|__| days ago أيام مضت
8.2.3	SFP ية	|__|	|__|__| days ago أيام مضت
8.2.4	School feeding التغذية المدرسية	|__|	|__|__| days ago أيام مضت

8.3 After you received the food aid, how did you utilize the food aid? بعد استلامك للاغاثة الغذائية، كيف استعملتها؟	Consumed استهلكت	Shared اقتسمت	Exchanged/swapped/ traded/sold استبدال – بيع - تجارة	Total المجموع
1. CEREAL حبوب	|__|__|__| %	|__|__|__| %	|__|__|__| %	100%
2. OIL زيت	|__|__|__| %	|__|__|__| %	|__|__|__| %	100%
3. Pulses بقوليات	|__|__|__| %	|__|__|__| %	|__|__|__| %	100%

4. CSB خلطة الذرة والصويا	|__|__|__| %	|__|__|__| %	|__|__|__| %	100%

SECTION 9 – MUAC

9.1 Please measure MUAC on all children of the age of 12 months to less than 5 years (59 Months) in the household.

أرجو إجراء قياس (المواك) لكل الأطفال الموجودين بالأسرة من عمر 12 شهر وحتي 59 شهراً (أي دون 5 سنوات)

عمر الطفل **Age of child**	قياس (المواك) **MUAC measurement**	في خلال الشهر الماضي ، هل تم إدراج طفل ضمن برنامج التغذية الإضافية / العلاجية ؟ نعم (1) ، لا (0) **Was the child enrolled in Supplementary/Therapeutic Feeding programme in the last month?** Yes = 1=نعم No = 0=لا
1. |__|__| months**شهر**	|__|__|__| mmملم	|__|
2. |__|__| months**شهر**	|__|__|__| mm**ملم**	|__|
3. |__|__| months**شهر**	|__|__|__| mmملم	|__|

9.2 Measure MUAC on all adult female in the household preferably the mother. (18-45 years of age)
قم بقياس مواك لكافة النساء الراشدات في الأسرة ويفضل الأم. (18-45 سنة في العمر)

	A) Age of the adult female عمر الأم	**B) MUAC measurement** **قباس المواك**	**C) Tick if the woman is pregnant** **ضع علامة صاح اذا كانت المرأة حامل**
1	|__|__| years	|__|__|__| mm **ملم**	☐
2	|__|__| years	|__|__|__| mm **ملم**	☐
3	|__|__| years	|__|__|__| mm **ملم**	☐
4	|__|__| years	|__|__|__| mm **ملم**	☐

Annex 5: Community questionnaire

Section 1: Before the interview	
Village name	
Location code	
Name of interviewer	
Date of interview	

Section 2: Population	
How many households live in this community?	

Section 3	What are the four main **livelihood groups** in this village/camp?	
	First group	**Second group**
Group		
How many households are there in these groups?		
What are the main **constraints to income/food generation**?		
What are the main **shocks in the last three months**?		
How long time will it take to **recover**?		

Section 3 (cont.)	What are the four main **livelihood groups** in this village/camp?	
	Third group	**Fourth group**

Group		
How many households are there in this groups?		
What are the main **constraints to income/food generation**?		
What are the main **shocks in the last three months**?		
How long time will it take to **recover**?		

Section 4	Which four **groups face difficulties** with procuring their food?	
	First group	**Second group**
Group		
What are the difficulties?		
Are the **difficulties different from previous once**? If so, how?		
If different, when was the **last time a similar crisis happened**?		

What are the **priorities** for the village to prevent future crisis?		
What type of **support are they currently receiving**?		
What **additional assistance** is required?		
How are these groups **coping** with their difficulties?		
Are **coping behaviours different** from previous periods of difficulty? How?		

Section 4 (cont.)	Which **groups face difficulties** with procuring their food?	
	Third group	**Forth group**
Group		
What are the difficulties?		
Are the **difficulties different from previous once**? If so, how?		
If different, when was the **last time a similar crisis happened**?		

What are the **priorities** for the village to prevent future crisis?		
What type of **support are they currently receiving**?		
What **additional assistance** is required?		
How are these groups **coping** with their difficulties?		
Are **coping behaviours different** from previous periods of difficulty? How?		

Section 5: Market prices

What is the retail price of the following foods		سعر الوحدة قبل عام جنية **c- Price/unit 12 months ago (*SDG*)**	السعر الحالي للوحدة جنيه **b- Current price/unit (*SDG*)**	وحدة التجزئة كجم **a-Retail Unit (*kilograms*)**	**ما هو سعر التجزئة للأطعمة الآتية ؟**	
19	Millet	|___|___|___|___|	|___|___|___|___|	|_____|	**الدخن**	19
20	Sorghum (traditional)	|___|___|___|___|	|___|___|___|___|	|_____|	**الذرة** (المنتج محلياً)	20
21	Sorghum (food aid)	|___|___|___|___|	|___|___|___|___|	|_____|	**الذرة (إغاثة)**	21
22	Maize	|___|___|___|___|	|___|___|___|___|	|_____|	**لذرة الشامية**	22
23	Groundnuts	|___|___|___|___|	|___|___|___|___|	|_____|	**الفول السوداني**	23

24	Cooking oil (non food aid)	|___|___|___|___|	|___|___|___|___|	|_____|	زيت الطعام (غير الاغاثة)	24
25	Cooking oil (food aid)	|___|___|___|___|	|___|___|___|___|	|_____|	زيت الطعام (الاغاثة)	25
26	Sugar	|___|___|___|___|	|___|___|___|___|	|_____|	السكر	26
27	Water (one jerry can)	|___|___|___|___|	|___|___|___|___|	|_____|	جركانة الماء الواحدة	27

Annex 6: Assessment team members

Key personnel

Anders Petersson, WFP – assessment design, fieldwork coordination, data analysis and report writing

Mudather Osman, WFP – operational support, fieldwork team leader and community interviewer

Huzaifa El Sayed, FAO – fieldwork team leader and community interviewer

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Hafiz Ibrahim, WFP – fieldwork team leader and community interviewer

Yvonne Forsen, WFP – technical guidance and report revision

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Jonathan Rhodes, WFP – report revision

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